Audit of Timber Harvesting and Associated Planning

Western Forest Products Inc.

Tree Farm Licence 6

FPB/ARC/94

January 2008

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Board Commentary

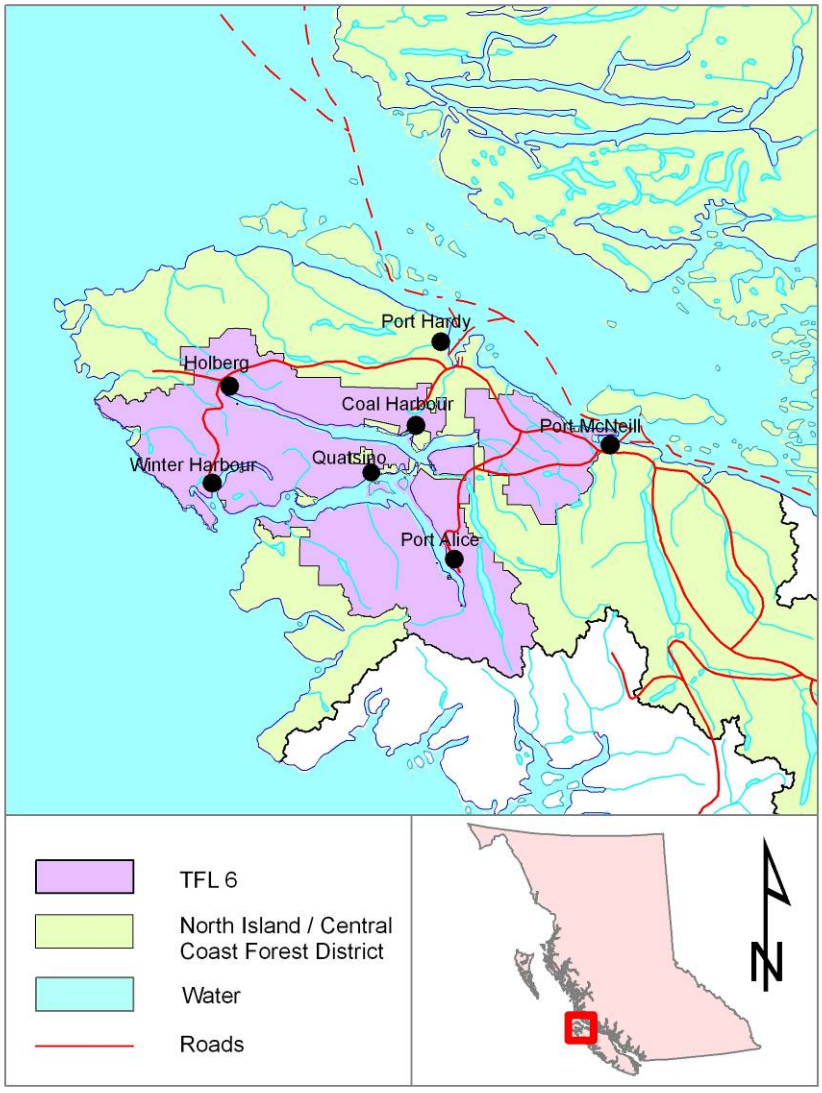
In summer 2007, the Board conducted a limited scope compliance audit of Western Forest Products Inc., (WFP) Tree Farm Licence 6. The tree farm licence is located on northern Vancouver Island within the North Island-Central Coast Forest District (see map on page 4), and has an allowable annual cut of more than 1.4 million cubic metres.

The audit assessed timber harvesting activities and obligations, including associated operational planning, for 159 cutblocks harvested between June 1, 2005 and June 1, 2007. The audit found that planning and harvesting practices undertaken by WFP complied with legislative requirements in all significant respects.

The audit identified windthrow (trees blown down by wind) as being prevalent on the land base. WFP assesses the likelihood of windthrow for every cutblock, assesses cutblocks post-harvest, and has been monitoring windthrow impacts for several years. WFP continues to modify its management practices to mitigate impacts of windthrow on forest values through cutblock design and practices such as topping and pruning. When windthrow does occur, WFP is proactive in assessing impacts and mitigating them where practicable. WFP has committed to an innovative management strategy regarding windthrow, specifically around S3 streams, and has included this commitment in its approved forest stewardship plan.

The Board recognizes the measures that WFP has taken to monitor and improve its windthrow management and notes this as a good example of adaptive management.

Audit of Timber Harvesting and Associated Planning and Practices
Western Forest Products Inc. - TFL 6



Audit Results

Background

As part of the Forest Practices Board's 2007 compliance audit program, the Board selected Western Forest Products Inc.'s (WFP) Tree Farm Licence (TFL) 6 in the North Island-Central Coast Forest District for audit.

The Board randomly selected the North Island-Central Coast Forest District for a limited scope audit in 2007. WPF was selected because of its size and the presence of numerous and varied resource features within the TFL, and not on the basis of location or past performance. Information about the Board's compliance audit process is provided in Appendix 1.

The TFL covers 198,113 hectares of land on the northern portion of Vancouver Island within the North Island-Central Coast Forest District, which is based in Port McNeill. Principal communities within or near the TFL include Port Hardy, Port McNeill and Port Alice. Smaller communities within the TFL are Holberg, Winter Harbor, Quatsino and Coal Harbor. The Quatsino, Kwakiutl and Tlatiasikwala First Nations traditional territories cover much of the TFL 6 landbase.

The tree farm licence area is exposed to the open Pacific Ocean.

Most of the forests in TFL 6 are within the coastal western hemlock biogeoclimatic zone. Hemlock leading forests are most common in the TFL; also present are western red cedar, true firs, Sitka spruce, Douglas fir and red alder. A wide range of wildlife is found on the TFL, including black-tailed deer, elk, black bear, wolf, cougar, marbled murrelet and eagles.

The annual allowable cut for this licence is 1,460,000 cubic metres.

The Board's audit fieldwork took place from June 25 to 29, 2007.

Audit Approach and Scope

The Board conducted a "limited scope" audit, which means that only harvesting and associated planning were examined. These activities were assessed for compliance with the *Forest Practices Code of British Columbia Act* (the Code), the *Forest and Range Practices Act (*FRPA)[i] and related regulations. Harvesting activities that took place between June 1, 2005 and June 1, 2007 were included in the scope of the audit.

The Board's audit reference manual, *Compliance Audit Reference Manual, Version 6.0, May 2003,* and the addendum to the manual for the 2007 audit season, set out the standards and procedures that were used to carry out the audit.

Higher Level Plans[ii]

In February 2000, government released the Vancouver Island Summary Land Use Plan (VISLUP). Although this plan was not initially designated as a higher level plan, portions of the VISLUP were designated as higher level plans through the Vancouver Island Higher Level Plan Order, which took effect on December 1, 2000. The VISLUP included the spatial definition of several special management zones (SMZs), and associated objectives with the SMZs.

The SMZs that fall within TFL 6 are:

- SMZ-2 West Coast Nahwitti Lowlands, primarily scenic and recreational values; and
- SMZ-4 Koprino, primarily retention of old forest and associated wildlife habitat, as well as mature and old forest connectivity.

Certification Status

WFP participates in two certification schemes, both of which are voluntary: Canadian Standards Association's (CSA)[iii] certification system, and International Standards Organization (ISO)[iv] certification.

To meet CSA requirements, a sustainable forest management plan (SFMP) was developed, which outlines how the area is to be managed to meet a variety of sustainable forestry criteria. When auditing certified companies, it is the Board's policy to place some reliance, where possible, on the work of the licensee's external verification auditors to reduce the extent of field testing required. This approach can reduce the cost of the audit, without compromising audit standards. In this case, as the focus of the audit was harvesting practices on the ground, the auditors determined that it would be more cost-effective to conduct a standard Board compliance audit and not place reliance on the external auditor's work.

Planning and Practices Examined

WFP's operations in TFL 6 are approved under its forest stewardship plan (FSP) for North Vancouver Island Region Forest Operations. The FSP was approved in May 2007. The population of cutblocks harvested during the audit period, which were subject to audit, are described in Table 1. The audit work on selected cutblocks included assessment of the specific site plan and ground-based procedures, as well as assessments from the air using a helicopter.

Table 1: Audit population and sample of cutblocks audited during the audit period.

Location of Operations	Population of Harvest Blocks	Sample of Harvest Blocks	Percent of Coverage
Port McNeill	40	9	22.5
Holberg	68	17	25.0
Jeune Landing	51	13	25.5
Total	**159**	**39**	**24.5**

During the helicopter overview, the audit also assessed the integrity of reserve areas not directly associated with harvest areas. This included legally designated ungulate winter ranges[v] and wildlife habitat areas[vi] as well as old-growth management areas[vii] as per approved landscape unit plans.

Findings

The audit found the integrity of the reserve areas to be intact, and that the harvesting activities and associated planning undertaken by WFP on TFL 6 complied in all significant respects with the requirements of the Code, FRPA and related regulations.

Windthrow[viii] Management

The TFL is on the northwestern portion of Vancouver Island. The TFL 6 operating area is exposed to strong fall and winter winds from the Pacific Ocean. Although the harvesting practices comply with legislation, the audit did identify that windthrow is occurring on the land base.

Retained trees being topped to improve their ability to withstand the toppling forces of the wind.
Photo courtesy of Western Forest Products Inc.

A distant photo of manual tree topping.
Photo courtesy of Western Forest Products Inc.

Winds are a natural disturbance in the area's forests, which means windthrow of standing timber is both common and expected. The effects of windthrow can be positive–creating wildlife trees, adding large woody debris to streams and the forest floor, and mixing soils. On the other hand, it can also affect forest health, complicate management of many forest resources and destabilize terrain.

Windthrow can be caused by both endemic winds, (occurring every three to five years), which can be managed to some extent, and catastrophic winds, (occurring infrequently), which cannot be managed. An example of a catastrophic wind is the December 2006 storm that uprooted or broke several thousand trees in Vancouver's Stanley Park.

Since wind is prevalent on the TFL 6 land base, consideration of windthrow becomes an important factor in the design and management of harvesting cutblocks. In September 2007, WFP completed its draft Windthrow Management Strategy for North Vancouver Island Region. This document provides WFP's foresters with a windthrow management strategy that includes both windthrow risk assessment procedures as well as windthrow management techniques.

The document is a result of extensive monitoring of edge treatments, and review of WFP's previous procedure. In conjunction with this strategy, WFP has also developed innovative trial strategies for windthrow management near S3[ix] streams and for terrain risk management, which also contain effectiveness monitoring clauses and protocols. Implementation of these strategies demonstrates WFP's commitment to adaptive management, emphasized by its inclusion of, and therefore legal commitment to, the S3 stream strategy in its approved forest stewardship plan.

A close-up photo of manual tree topping. Note how the worker uses a grapple to swing to the next tree rather than climbing down and back up.
Photo courtesy of Western Forest Products Inc

Harvest design is used in conjunction with on-ground treatments to minimize impacts of windthrow. The large retention area in the middle of this block was kept in order to reduce "fetch distance" to the edge of the harvest block, which is adjacent to a provincial park.

Complete elimination of the threat is not possible, but substantial reduction can be achieved through management intervention. WFP has actively been considering the risk of windthrow in its harvest planning and practices, and is adjusting management strategies for blocks with high risk of windthrow. Part of this strategy is to attempt to make the trees that remain after harvesting more resistant to windthrow. This can be done through a variety of methods—by topping and pruning the trees (either manually or by helicopters), or by planning the block to reduce fetch[x] distance. Examples of these practices are shown in the accompanying photos.

Audit Opinion

In my opinion, the timber harvesting and associated operational planning, carried out by Western Forest Products Inc. on Tree Farm Licence 6 for the period June 1, 2005 to June 1, 2007, complied in all significant respects with the requirements of the *Forest Practices Code of British Columbia Act,* and the *Forest and Range Practices Act* and related regulations as of June 2007.

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.

Without qualifying my opinion, I draw attention to the *Windthrow Management* section of this report that describes the ongoing challenges and adaptive management regarding windthrow that is taking place on the land base.

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 the Code, and FRPA.

Christopher R. Mosher CA, CEA(SFM)
Director, Audits
January 4, 2008

[i] 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 auditee were the requirements of the Code.

[ii] 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.

[iii] Western Forest Products Inc. applies the Canadian Standards Association's Sustainable Forest Management (CSA SFM) standard to forestry operations in the TFL 6 area. Under the CSA SFM standard, sustainable forest management can be verified by addressing the Canadian Council of Forest Ministers' six criteria for sustainable forest management. Local values, goals and indicators to address the criteria were developed in consultation with a public advisory group.

[iv] The International Organization for Standardization (ISO) is a non-government worldwide federation of national standards bodies. ISO 14001 is the international standard defining the requirements for implementing environmental management systems. It does not specify environmental performance criteria, but provides a framework for an organization to set the criteria together with objectives and targets plus auditing and reporting systems.

[v] An ungulate winter range (UWR) is an area containing habitat that is necessary to meet the winter habitat requirements of an ungulate species. UWRs are based on the current understanding of ungulate habitat requirements in winter, as interpreted by the Ministry of Environment (MOE) regional staff from current scientific and management literature, local knowledge, and other expertise from the region. Sections 9 and 12 of the *Government Actions Regulation* of the *Forest and Range Practices Act* outline the regulatory authority for establishing UWR.

[vi] A wildlife habitat area (WHA) is a mapped area of Crown land containing critical habitat, such as breeding, feeding, and denning habitat, crucial to identified wildlife. WHAs help protect species and plant communities at risk by specifying mandatory practices called general wildlife measures.

[vii] Old-growth management areas (OGMA) are areas that contain, or are managed to replace, specific structural old-growth attributes and that are identified and treated as special management areas.

[viii] Windthrow (also called blowdown) describes a tree or trees felled or broken off by the wind.

[ix] 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.

[x] Fetch distance is a measure of exposure related to the opening size, and is generally defined as the uninterrupted distance the wind travels across an opening before hitting an edge.

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. (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.

Forest Practices Board

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NEWS release

January 15, 2008

Windthrow Management on Vancouver Island Recognized in Audit

VICTORIA – Western Forest Products Inc. received a clean audit for operations in Tree Farm Licence 6 on northern Vancouver Island, the Forest Practices Board reported today.

The board audited Western's timber harvesting and associated planning activities for 159 cutblocks on the northern portion of Vancouver Island, and found Western was in compliance with legislative requirements. The audit covered the period from June 1, 2005 to June 1, 2007.

Windthrow is prevalent on this area of the coast and did occur on many of the cutblocks audited.

"Windthrow is a big risk factor in this area and the board noted Western's efforts at assessing and monitoring windthrow, continually improving its practices to minimize the occurrence of windthrow, and mitigating the impacts where it does occur," said board chair Bruce Fraser. "Western has demonstrated a creative and adaptive approach to managing windthrow."

The audit area is near the communities of Port Hardy, Port McNeill and Port Alice.

The Forest Practices Board is B.C.'s independent watchdog for sound forest and range practices, reporting its findings and recommendations directly to the public and government. The board:

- audits forest and range practices on public lands;
- audits appropriateness of government enforcement;
- investigates public complaints;
- undertakes special investigations of current forestry issues;
- participates in administrative appeals; and
- makes recommendations for improvement to practices and legislation.

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This news release and more information about the board are available on the Forest Practices Board website at www.fpb.gov.bc.ca or by contacting:

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