Audit of Forest Planning and Practices

MaMook Natural Resources Limited
Tree Farm Licence 54

FPB/ARC/145
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Board Commentary

In July 2011, the Board conducted a full-scope compliance audit of forest planning and practices of MaMook Natural Resources Limited’s (MaMook) Tree Farm Licence (TFL) 54.

TFL 54 is an area-based licence located on the west side of Vancouver Island in the Clayoquot Sound region near Tofino and Ucluelet as well as near the First Nations communities of Ahousaht, Esowista, Opitsaht, Hot Springs Cove, and Itatsoo (see map on page 2). MaMook works in a complex planning environment and must address the Land Use Objectives for Clayoquot Sound, in addition to the Forest and Range Practices Act and the Wildfire Act.

Auditors assessed operational planning on 12 harvest blocks; examined over 150 kilometres of roads and 49 bridges; looked at more than 40 silviculture blocks; and also assessed 12 blocks for fire protection activities. The audit identified a significant non-compliance relating to road, bridge, and box culvert maintenance, as well as a significant non-compliance with the reporting of silviculture obligations.

The Board feels that the types of problems relating to road and structure maintenance found in this audit are often avoided through proactive management of the licence. This involves knowledge of the roads and structures for which the licensee is responsible, and a process to ensure that the obligations on these roads and structures are met.

The Board acknowledges that MaMook is taking steps to address the outstanding silviculture obligations on TFL 54, although it will take time.
Map of TFL 54 operating area – MaMook Natural Resources Ltd.
Audit Results

Background

As part of the Forest Practices Board’s 2011 compliance audit program, the Board randomly selected the South Island District as the location for a full scope compliance audit. Within the district, the Board selected Tree Farm Licence (TFL) 54 for audit.

Since March 2007, this licence has been held by MaMook Natural Resources Limited (MaMook), owned by a partnership of the Ahousaht, Hesquiaht, Tla-o-qui-aht, Toquaht and Ucluthaht First Nations called the MaMook Development Corporation.

TFL 54 is an area-based licence that covers 49,298 hectares. It is located on the west side of Vancouver Island in the Clayoquot Sound region near Tofino and Ucluelet, as well as the First Nations communities of Ahousaht, Esowista, Opitsaht, Hot Springs Cove, and Itatsoo (see map on page 2). The varied landscape of Clayoquot Sound consists of mountains, valleys, ocean inlets, lakes, rivers, islands and forests. The forests are predominantly old-growth forests comprised of western redcedar, western hemlock, and amabilis fir.

Clayoquot Sound was the focus of intense international attention during the 1980s and 1990s due to public concern regarding the sustainability of forest management in the area. The Clayoquot Sound land use planning processes and ensuing Clayoquot Sound Land Use Decision (CSLUD 1993), Clayoquot Sound Science Panel (CSSP 1995), Clayoquot Sound Watershed Plans (CSWP 2002 to 2006), and Clayoquot Sound Land Use Order (2008) have resulted in a unique management regime for much of TFL 54. Approximately 93 percent of TFL 54 lies within Clayoquot Sound.

For the most recent allowable annual cut (AAC) determination, the previous licensee applied to the chief forester to include TFL 54 in the AAC trial program under the Tree Farm Licence Area-based Allowable Annual Cut Trial Program Regulation. As a result, TFL 54 has an area-based AAC of 320 hectares for the five-year period starting September, 2008. During the 13-month period of this audit (July 1, 2010, to July 22, 2011), MaMook harvested 498 hectares (106,600 cubic metres) from TFL 54.

The audit fieldwork took place from July 18 to 22, 2011.

Additional information about the Board’s compliance audit process is provided in Appendix 1.
Land Use Planning

In addition to objectives set by government in the *Forest and Range Practices Act* (FRPA) and related regulations, forest stewardship on TFL 54 is also guided by the *Order Establishing Land Use Objectives for Clayoquot Sound (LUOCS)*, dated May 28, 2008. LUOCS incorporates all of the watershed plans that were prepared by the Clayoquot Sound Technical Planning Committee and requires the contents of the watershed plans to be reflected in forest stewardship plans under FRPA.

The watershed plans for Fortune Channel, Kennedy Lake, Hesquiaht, Cypre, and Bedingfield cover the harvest operations during the audit period. The watershed plans place more restrictions on planning, harvesting and road construction operations than FRPA requirements do.

The watershed plans include spatial reserves for:

- hydroriparian resources;
- sensitive soils and unstable terrain;
- red-and blue-listed plant and animal species;
- forest-interior conditions in late-successional forest; and
- reserves to protect cultural values, such as cultural heritage values, and recreation/tourism values.

With all of the above reserve area mapped, the remaining area outside of reserves is designated as harvestable area. But even so, harvesting and road building must be consistent with the Clayoquot Sound Science Panel Recommendations (CSSPR) and harvested with the variable retention silviculture system designed to preserve attributes of the original stands. The CSSPR require numerous site-level assessments by qualified professionals to establish reserves and management regimes related to riparian areas, archaeological values, cultural resources, wildlife, visuals, terrain, red/blue listed species, sensitive soils, etc.

Within the harvestable areas, overlapping special management zones have also been identified spatially where additional conditions and limits are imposed on harvesting. Special management zones include scenic areas, culturally significant areas, and reserves for recreation and tourism zones.

Rate of cut requirements by watershed and sub-basin, and permanent access limits of five percent by watershed are also requirements of the Clayoquot Sound watershed plans.

Audit Approach and Scope

The Board conducted a full scope compliance audit, which includes all harvesting, roads, silviculture, fire protection activities, and associated planning, carried out between July 1, 2010, and July 21, 2011. These activities were assessed for compliance with the *Forest and Range Practices Act* (FRPA), the *Wildfire Act* (WA), and related regulations; and certain transitional elements of the *Forest Practices Code of British Columbia Act* (the Code).
The Board’s audit reference manual, *Compliance Audit Reference Manual, Version 6.0, May 2003*, and the addendum to the manual for the 2011 audit season, set out the standards and procedures that were used to carry out this audit.

**Planning and Practices Examined**

**Operational Planning**

MaMook conducted its activities under the 2006-2011 *Iisaak/MaMook Clayoquot Sound Forest Stewardship Plan* (FSP) (approved June, 2007), and the *Multi-licensee Forest Stewardship Plan: Arrowsmith* (approved June, 2006), and three subsequent amendments. Only the Iisaak/MaMook FSP and site plans for the 12 sampled harvest blocks were examined for compliance with the planning requirements of FRPA.

**Harvesting**

During the audit period, MaMook harvested 13 cutblocks with a gross area totaling 498 hectares. The audit examined 12 of these cutblocks totaling 496 hectares. Harvesting was conducted predominantly with ground-based systems, with some cable harvesting.

**Road and Bridge Construction, Maintenance and Deactivation**

MaMook constructed 22 kilometres and deactivated 7.5 kilometres of road, and was responsible for maintaining approximately 172 kilometres of active and wilderness roads during the audit period. As a TFL holder, MaMook was also responsible for maintaining the stability of 62 kilometres of deactivated roads that were previously permitted roads. MaMook constructed three new bridges, and was responsible for maintaining 75 bridges and an unknown number of box culverts. No bridges were removed during the audit period.

Auditors assessed 19.2 kilometres of the new road construction, 81 kilometres of road maintenance, 3 kilometres of recent road deactivation, as well as 48 kilometres of previously deactivated roads. In addition, all three new bridges, 46 of the bridges with maintenance obligations, and 6 of the box culverts were examined.

**Silviculture Obligations and Activities**

Within the audit period, MaMook planted 26 blocks, brushed 1 block, and was responsible for 19 blocks with regeneration obligations and 26 blocks with free-growing obligations.

The Board audited 9 planted blocks, 1 brushed block, 19 blocks with regeneration obligations, and 19 blocks with free-growing obligations.

**Fire Protection Activities**

During the audit, four active harvesting sites were encountered and the fire preparedness requirements of the *Wildfire Act* were audited on three of these sites. The board audited the assessment and abatement of the fire hazard on 12 cutblocks.

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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 that, with two exceptions, the planning and field activities undertaken by MaMook on TFL 54 complied, in all significant respects, with the requirements of FRPA, WA, and related regulations, and certain transitional elements of the Code, as of July 2011.

The audit identified a significant non-compliance relating to road, bridge and box culvert maintenance. The concern is discussed in the Road, Bridge and Box Culvert Maintenance section below.

The audit also identified a situation of significant non-compliance relating to the reporting of silviculture obligations on TFL 54. This non-compliance and related concerns are discussed in the Silviculture Obligations section below.

Road, Bridge and Box Culvert Maintenance

Several sections of FRPA, including sections 72, 79 and 81 of the Forest Planning and Practices Regulation (FPPR) establish requirements for road maintenance. These FPPR sections state that the person responsible for a road or bridge must ensure that the road and structures are structurally sound and safe for industrial users, and that they are not adversely affecting a forest resource. This means that the person must take positive steps to “make certain” of these outcomes, including putting a system of checks and balances in place.

Given the proximity of TFL 54 operations to high resource values and steep, unstable slopes, as well as high precipitation levels encountered in the area, one would expect a high level of diligence in this area.

MaMook’s information with respect to road, bridge and box culvert maintenance was dated and of little value in confirming what sections of road and which bridges MaMook was responsible for. Although the auditors were able to utilize old records and government databases to confirm the populations, the fact that MaMook did not have a system in place to track their roads and bridges is a concern.

Although no significant issues were identified on the ground with respect to road, bridge, and box culvert maintenance on roads held by MaMook within TFL 54, the lack of information regarding the location of MaMook’s roads and structures, as well as the lack of proactive management with respect to roads and structures is a significant non-compliance with FRPA requirements. MaMook was not able to ensure that roads and structures were structurally sound and safe for industrial users, or that these structures were not adversely affecting a forest resource.

Silviculture Obligations

Section 69(1)^1 of the Forest Practices Code of British Columbia Act (the Code) lays out the requirement for a licensee to establish a free-growing stand of trees for blocks harvested under the Code. Section 462 of the Timber Harvesting and Silviculture Practices Regulation (THSPR) and section 86(3)^2 of FPPR establish reporting requirements when Code blocks have met the

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1 Refer to Appendix 2: Relevant FRPA Legislation
2 Refer to Appendix 2: Relevant FRPA Legislation
regeneration or free-growing obligation, and when there has been a change in forest cover, respectively.

When a party takes over a licence, they not only take over responsibility for future operations but they also inherit, and are responsible for, any outstanding obligations. Some of the outstanding obligations inherited by MaMook include regeneration delay and free-growing obligations. Sixteen of the 19 blocks with regeneration delay obligations did not comply with the reporting requirements of FPPR or THSPR, while 14 of the 19 blocks sampled for free-growing obligations under the Code were also non-compliant with reporting requirements.

However, regeneration delay and free-growing obligations for these blocks have most likely been met on the ground, given the productive growing sites and recent fill-planting of a number of these blocks. But, MaMook’s lack of reporting is still a non-compliance, and more significantly, silviculture obligations on TFL 54 were not actively managed by MaMook between 2007 and March 2010, when a contractor took over management responsibilities on behalf of MaMook.

Upon becoming aware of the deficiencies, and prior to the start of the audit, the management contractor, on behalf of MaMook, began a review of all of the blocks with silviculture obligations to determine which blocks required corrective actions to meet the obligations. In the spring of 2010, financial resources were directed to begin addressing the outstanding silviculture obligations.

While the audit fieldwork was underway, the management contractor submitted a letter to the South Island district manager, dated July 11, 2011, self-reporting non-compliance on 19 blocks where reporting for free growing obligations was overdue. This letter identifies an action plan to be completed by May 31, 2014 to address MaMook’s overdue reporting requirements for TFL 54.

**Operational Planning**

The audit found that MaMook incorporated the objectives set by government as well as the requirements of the watershed plans (which later became the LUOCS) into their FSP. Site plans were evaluated and found to be consistent with the FSP.

The site plans for the harvested blocks are very site specific and cover all of the requirements of the LUOCS. MaMook was diligent in ensuring that visual requirements were met, and was responsive to new information that came to light during harvesting as demonstrated by the case of a large boundary change that was necessary when a goshawk nest was located.

**Harvesting**

In general, the blocks were harvested according to the site plan. Roads, boundaries, reserves, and hydoriparian features were all properly located and identified on the maps.

MaMook operates in a very complex planning environment and must meet stringent requirements to be in compliance with the LUOCS. These requirements include managing for the following values:

- minimizing windthrow
- archaeological values
- rate of cut and limited permanent access structures, by watershed and sub-basin
• cultural heritage
• visuals
• wildlife habitat
• soil conservation
• riparian and fisheries values based on the Clayoquot Sound classification system
• high retention levels

The audit found that MaMook was meeting these stringent operating requirements.

**Landslides**

The audit noted one area of concern with a small landslide in a recently harvested block. Given the high rainfall levels on the west coast, high fisheries values, and steep terrain that MaMook operates on in some areas within TFL 54, this self-reported incident highlights the need to be extra vigilant in following rainfall shutdown guidelines when cable harvesting on steep slopes. In this incident, there was no material adverse effect on the riparian resource, as the landslide did not reach the stream.

**Road and Bridge Construction**

New roads, the majority being in-block roads, were generally constructed as planned. Roads were well constructed with effective ballast and minimal running surface widths.

**Road Deactivation and Maintenance of Deactivation**

*Road Deactivation*

Some in-block roads were deactivated to a semi-permanent level to effectively address road prism stability and maintenance of natural drainage patterns. No concerns were identified with road deactivation completed during the audit period.

*Maintenance of Deactivation*

Several deactivated roads were sampled where the TFL holder, MaMook, is responsible for maintaining the stability of the area that was deactivated if the road was used under a road permit or cutting permit after the Code came into effect in 1995. No concerns were identified with the long-term road deactivation completed prior to the audit period.

**Silviculture Activities**

There were no concerns with planting and brushing activities undertaken during the course of the audit period.

**Fire Protection Activities**

MaMook had a current fire-preparedness plan and operators had assessed fire-danger classes appropriately. The three active sites that were sampled were found to have sufficient fire tools on site for the low fire hazard at the time of the audit. Fire hazard abatement assessments and fire hazard abatement activities (spreading coarse woody debris around the block) are appropriate to the fire hazard on TFL 54 and were appropriately conducted.
Audit Opinion

In my opinion, except for the road, bridge and box culvert maintenance, and silviculture obligations issues discussed below, the operational planning; timber harvesting; road construction and deactivation; silviculture; and fire protection activities carried out by MaMook Natural Resources Limited on Tree Farm Licence 54 between July 1, 2010, and July 21, 2011, complied in all significant respects with the requirements of the Forest and Range Practices Act, the Wildfire Act and related regulations, as well certain transitional elements of the Forest Practices Code of British Columbia Act (the Code,) as of July 2011.

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 Road, Bridge and Box Culvert Maintenance section of the report, the audit identified a significant non-compliance relating to MaMook’s failure to ensure that roads and structures were structurally sound.

As described in the Silviculture Obligations section of the report, the audit identified a significant non-compliance relating to the lack of reporting on regeneration and free-growing obligations, as well as concerns with the overall management of silviculture obligations on TFL 54.

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, WA, and the Code.

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Victoria, British Columbia
June 13, 2012
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 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.
Appendix 2:
Relevant FRPA Legislation

Section 69.1 of the Forest Practices Code of British Columbia Act:

Reforestation for areas under a site plan:

69.1 (1) In this section:
  "commencement date" means
  (a) for a site plan under section 21.1 (1) to (5), the date when timber harvesting,
      excluding road and landing construction, begins on the area under the plan,
  (b) for a site plan under section 21.1 (6), the date the harvesting begins on the area,
      and
  (c) for a site plan required under section 35 (2) or (2.2), 36 (4) or 37 (1) or prepared
      under section 38 (2), the date on which a professional forester signed the site
      plan;
  "free growing date" means the prescribed date by which the requirements of
  subsection (4) (d) must be met;
  "regeneration date" means the prescribed date by which the requirements of
  subsection (4) (c) must be met;
  "well spaced trees" means trees that meet the prescribed minimum allowable
  horizontal distance.

(2) If
  (a) the district manager or holder of a timber sale licence is required to prepare a site
      plan, and
  (b) the commencement date has passed,

the government must establish, in accordance with the regulations and standards, a
free growing stand on the net area to be reforested.

(3) If the holder of a major licence is required to prepare a site plan and the
  commencement date has passed, the holder must establish, in accordance with the
  regulations and standards, a free growing stand on the net area to be reforested.

(4) Without limiting subsection (2) and (3), the person who is required to establish a free
  growing stand on an area under a site plan prepared in accordance with section 11.1
  must do all of the following:
  (a) create the prescribed post harvest stand structure and prescribed site conditions;
  (b) use seed, seedlings and vegetative propagules only in accordance with the
      regulations and standards;
  (c) by the regeneration date, meet, and after that date maintain, the prescribed
      stocking requirements for that date;
  (d) by the free growing date, establish a free growing stand that meets the
      prescribed stocking requirements;
(e) if the density of trees exceeds the prescribed maximum number of coniferous
trees allowed per hectare, carry out a spacing treatment before the free growing
date to reduce the density of trees to within the prescribed density range;
(f) carry out surveys at the times and in the manner specified in the regulations and
standards;
(g) submit reports at the times and in the manner specified in the regulations and
standards.

(5) Despite this section, if all or part of the area under a site plan has been included in a
Provincial protected area referred to in section 70 (7), the district manager may
cancel a site plan and impose conditions the district manager considers necessary or
desirable, and the person whose site plan is cancelled must comply with the
conditions.

(6) On cancellation of a site plan under subsection (5), the person whose site plan is
c Cancelled is relieved of the requirement to establish a free growing stand on the area
under the site plan.

Section 46 of the Timber Harvesting and Silviculture Practices Regulation:

Format and timing of reporting

A holder of an agreement under the Forest Act who is required to establish a free
growing stand on an area must submit to the district manager, on or before May 31 each
year, the following reports:

(a) for cutblocks where harvesting was completed for the entire cutblock in the
preceding year ending March 31, the completion of harvesting has not yet been
reported, and the allowable annual cut is on a volume basis, a report including
(i) Form A identifying the standards that apply to the area contained in a forest
development plan,
(ii) Forms B and C, and
(iii) a map containing the information referred to in section 48 (1) (a) to (h);
(a.1) for areas within a cutblock that are subject to an area based allowable annual cut
and that were harvested to any extent in the preceding calendar year, a report
including the information referred to in paragraph (a);
(b) for areas within a cutblock that are completely harvested and that have received
silviculture treatments in the preceding year ending March 31, a report in Form B
describing the silviculture treatments and area treated;
(c) for areas which have met the regeneration date stocking requirements during the
preceding year ending March 31, a report in Form C with a map containing any
changes in the information referred to in section 48 (1) (a) to (h) from that which was
submitted under paragraph (a);
(d) for areas which have met the free growing stocking requirements during the
preceding year ending March 31, a report in Form C with a map containing any
changes in the information referred to in section 48 (1) (a) to (h) from that which was
submitted under paragraph (c).