

A photograph of a forest with tall pine trees and a clear blue sky. The trees are green and dense, with some taller trees in the background and shorter ones in the foreground. The sky is a clear, bright blue.

Mazinaw-Lanark Forest

**Independent Forest Audit
April 1, 2009 – March 31, 2016**

FINAL REPORT

**ArborVitae Environmental
Services Ltd.**

January 17, 2017

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1.0 EXECUTIVE SUMMARY

This audit has reviewed the management of the Mazinaw-Lanark Forest for the period April 1, 2009 to March 31, 2016, a period that covered the implementation of the last two years of the 2006 FMP and the first five years the 2011 FMP, as well as the preparation of the 2011 Phase I and Phase II plans. Both Mazinaw-Lanark Forest Inc (MLFI or the Company), the holder of the Sustainable Forest Licence (SFL) for the Forest, and the Ministry of Natural Resources and Forestry (MNRF), were auditees. Bancroft District is the lead MNRF District, however parts of the Forest also fall within the Kemptville and Peterborough Districts.

The 2011 Forest Management Plan (FMP) is a well-crafted document that was developed through a robust planning process. The audit team was very impressed with the high turnout of Aboriginal community representatives on the management planning teams, as well as the level of dedication exhibited, as evidenced by good attendance levels and important contributions to the plan content. Despite this impressive showing, two related recommendations were issued; one related to which Aboriginal communities are invited by MNRF to participate in planning and the second related to the need for greater effort to work with Aboriginal communities to increase the economic benefits they receive from forest management.

The FMP incorporated new measures for the protection of two species at risk which are widely distributed on the Forest – American ginseng and Blanding’s turtle. The impact of these new measures led to a decline of almost 1/3 in the level of harvest activity on the forest, as some operators opted to shift some or all of their operations to private land. Several of the recommendations in this audit are related to species at risk and the tools that are available under the legislation.

The diminished harvest level, during a time of robust demand for wood in the area, is having impacts on the ability of the company to meet a number of management objectives that are dependent on harvest levels. With approximately 85% of the harvest conducted using partial cutting approaches that are based on periodic entries every 20 – 30 years, one can foresee it becoming difficult to adhere to the planned schedules. Recommendations were made that are intended to support increased harvesting on the Forest and to use a realistic planned level of harvest in the next FMP.

A key concern that emerged during the audit is the decreasing effectiveness of MNRF due to staff and resourcing challenges. There has been a very high level of turnover within all levels of MNRF during the past 3-4 years and this has affected the Bancroft District. Continuity of staffing and vacancies at key positions, as well as on-going adjustments to the MNRF Transformation Initiative, have combined to hinder MNRF’s ability to undertake its responsibilities and ensure that processes operate smoothly and on schedule. The strains have shown up in a number of areas and were a key topic of discussion during the audit.

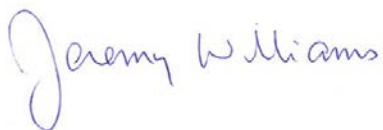
The audit reviewed and inspected operations on the Forest and, despite the stresses and strains described above, their overall level of quality is high. Overall compliance is average but, if the performance of one recalcitrant operator is excluded, the results are excellent. The audit team appreciates that these are substantial accomplishments, given the complex nature of the forest and regulatory environment and the numerous operators on the forest. Renewal is keeping pace with harvesting and the health of the Forest is good. The

Company is keeping up to date with its monitoring activities and continues to have a strong field presence. These positive findings are attributable to the diligence of the Company staff and the District MNRF.

The audit team developed 20 recommendations, in addition to the licence extension recommendation, which are described in detail in Appendix 1. This is perhaps a slightly higher than average number of recommendations from an IFA and reflects, among other things, some of the singular challenges facing the forest. Seven of the recommendations were directed towards the MNRF Bancroft District, five towards the Company, two to the next Planning Team and four jointly to the Company and either the District or Region. The remaining four recommendations were directed towards the Corporate level of MNRF; the recommendations directed to Corporate MNRF reflect the fact there are needs and opportunities to address forest management issues which occurred on the Mazinaw-Lanark Forest that also have broader implications for management of the Province's forests. Another factor contributing to the high proportion of recommendations directed to District and Corporate MNRF is that recent changes related to MNRF's Transformation Initiative still need some fine-tuning to provide consistent direction and support to forest managers.

The overall results of this audit are favourable and the level of performance was high during the audit period. The Company has substantially met the obligations in its SFL and is adhering to the direction in the FMPM. Management of the Mazinaw-Lanark Forest as implemented by MLFI and Bancroft District MNRF is found by this audit to be sustainable and in compliance with the Crown Forest Sustainability Act.

The audit team concludes that management of the Mazinaw-Lanark Forest was generally in compliance with the legislation, regulations and policies that were in effect during the term covered by the audit, and the Forest was managed in compliance with the terms and conditions of the Sustainable Forest Licence held by Mazinaw-Lanark Forest Inc. Forest sustainability is being achieved, as assessed through the Independent Forest Audit Process and Protocol. The audit team recommends the Minister extend the term of Sustainable Forest Licence 542621 for a further five years.



Jeremy Williams
Lead Auditor

2.0 TABLE OF AUDIT FINDINGS

A description of the background information, related discussion and conclusions of recommendations is found in Appendix 1.

Recommendation on Licence Extension	
The audit team concludes that management of the Mazinaw-Lanark Forest was generally in compliance with the legislation, regulations and policies that were in effect during the term covered by the audit, and the Forest was managed in compliance with the terms and conditions of the Sustainable Forest Licence held by Mazinaw-Lanark Forest Inc. Forest sustainability is being achieved, as assessed through the IFAPP. The audit team recommends that the Minister extend the term of the licence by five years.	
Recommendations Directed to the SFL Holder/MNRF District	
1.	Bancroft District MNRF shall strengthen its administrative support of the LCC and review the frequency, times and ways in which meetings are held.
2.	Corporate and District MNRF shall ensure that the test provided in the FMPM is used to determine which Aboriginal communities are eligible to receive an offer of customized consultation under Section A Part 4.
3.	The Planning Team for the next FMP (expected in 2021) shall consider all aspects of natural disturbance when setting disturbance cycles for the MLF.
4.	The Planning Team for the next FMP (expected in 2021) shall fully consider the risk that a continuation of the historic underharvest will compromise the achievement of that plan's objectives.
5.	Bancroft District MNRF shall maintain its commitment to ensuring completion of ESA listed Species At Risk surveys for blocks that are likely to be included in upcoming AWS's. The delivery mechanism for the values surveys should be reviewed and the use of alternate service providers such as external companies or SFL companies should be considered.
7.	Bancroft District MNRF shall review and speed up its processing of FMP amendment requests and the submitted amendments to bring its turnaround time in line with the targets in the 2009 FMPM.
8.	MLFI shall increase the range of stands that it prescribes for clearcutting and increase the intensity of its partial harvesting in stands where appropriate.
9.	MLFI's management and shareholders shall increase the amount of tendered sales that are conducted on the MLF.
10.	MLFI shall follow through with its stated intent to apply for a permit under Endangered Species Act <i>section 17</i> to determine whether this avenue is viable. MNRF should be prepared to promptly respond to this application and assist in suggesting options for "mitigation of an adverse effect" and provision of an "overall benefit", consistent with permits that have been issued in other business sectors.
13.	Bancroft District MNRF shall address the deficiencies found with regard to information management and document control, and should consider utilizing guidance outlined in the Ministry's existing policies and procedures.
14.	MLFI shall share its analysis of the previous year's compliance record with the overlapping licensees and review relevant parts of the Operations Binder with overlapping licensees on a regular basis.
15.	Bancroft District MNRF and MLFI shall work jointly to encourage E. Schutt and Sons Ltd to improve its compliance performance.
16.	MLFI shall submit draft Annual Reports on time.
17.	Bancroft District MNRF and MLFI shall strengthen their efforts to provide meaningful opportunities for Aboriginal communities to obtain benefits provided through forest management planning.
19.	MLFI and Bancroft District MNRF shall decide how to address outstanding obligations related to the X, Y, Z lands on the Mazinaw-Lanark Forest, the Company shall promptly undertake the agreed-upon actions and the MNRF shall sign off upon completion of this responsibility.
20.	MLFI and Regional MNRF shall prepare the action plan and status report for this audit within the prescribed timeframes.
Recommendations Directed to Regional or Corporate MNRF	
2.	Corporate and District MNRF shall ensure that the test provided in the FMPM is used to determine which Aboriginal communities are eligible to receive an offer of customized consultation under Section A Part 4.
6.	Corporate and Regional MNRF shall inform MLFI how they can make their operations comply with the

ESA through the FMP, as an instrument of the ESA (section 18).
11. Corporate MNRF shall support the development of a long-term management approach for the Taylor Lake seed orchard and complete its review of policy to manage seed and stock movement in the province.
12. Corporate MNRF shall develop and implement approaches to increase the retention of staff and promote staffing stability in within the District-level of the organization and/or find other ways to restore the effectiveness and functionality of the organization.
18. Corporate MNRF shall work with the Company to review the special conditions on the SFL and consider revising or removing unnecessary and out-dated requirements.

3.0 INTRODUCTION

3.1 AUDIT PROCESS AND CONTEXT

The Crown Forest Sustainability Act (CFSA), and one of its Regulations (160/04), directs the Minister of Natural Resources and Forestry (MNR) to conduct regular audits of each of the province's managed forests. These audits assess compliance with the CFSA, the Forest Management Planning Manual (FMPM), the forest management plan (FMP) and whether the licensee has complied with the terms and conditions of its Sustainable Forest Licence (SFL). The effectiveness of operations in meeting plan objectives and improvements made as a result of prior IFA results are also to be evaluated. The guiding document which describes the precise manner in which audits are to be carried out is the Independent Forest Audit Process and Protocol (IFAPP), which is produced by the MNR (available online through the MNR web site (<http://www.ontario.ca/ministry-natural-resources-and-forestry>)). Consistent with the CFSA, the IFAPP requires the audit team to provide a conclusion regarding the sustainability of the Crown forest and, where applicable, a recommendation regarding extension of the term of the SFL.

An important characteristic of the IFAs is that they review the performance of both the MNR and the SFL-holder, which is Mazinaw-Lanark Forest Inc. (referred to in this report as MLFI or 'the Company'). The MNR has many responsibilities related to forest management, including review and approval of key documents (including the FMP, annual reports, annual work schedules, etc.), overseeing management of non-timber resources, undertaking compliance inspections, etc. In other words, the activities and accomplishments of both parties with forest management responsibilities are covered by the audit.

This audit covers a seven-year period from April 1, 2009 – March 31, 2016 which encompasses that last two years of the 2006 FMP and all five years of the first phase of the 2011 FMP. The audit examined all forest operations that occurred within that period as well as the processes of developing both the Phase I and the Phase II of the 2011 FMP. ArborVitae Environmental Services Ltd. (AVES) undertook this IFA using a five-person team. Profiles of the team members are provided in Appendix 6.

3.2 MANAGEMENT UNIT DESCRIPTION

The Mazinaw-Lanark Forest is the southernmost forest management unit in Ontario. The Forest was created through the 2001 amalgamation of the Lanark and Mazinaw Crown Management Units, followed by the issuance of SFL #542621 effective April 1, 2002. The forest is administered by MNR's Bancroft District Office, located within MNR's Southern Region. Parts of the Forest also lie within the Peterborough and Kemptonville Districts, however most of the Crown land portion of the MLF is in the Bancroft District – the forests in the other two districts are largely owned privately.

Two-thirds of the area within the boundaries of the FMU is privately owned, and is not subject to management by the Crown or MLFI. In addition, there are also nearly 34,000 ha of Crown land classed as conservation reserves and parks, the largest of which is Bon Echo Provincial Park. These lands are not subject to this audit. Instead, this audit covers the Managed Crown landbase, which is broken down in Table 1 by productivity class. A significant amount (54,493 ha) of the Managed Crown productive forested land is considered to be unavailable for forestry due to a variety of reasons including withdrawals of Areas of Natural and Scientific Interest

(ANSI's) and candidate old growth protection areas. Once these reductions are accounted for, the available area of the Crown productive forest land base is only 135,324 ha. Although the Forest covers a large geographic area, it is amongst the smallest forests in Ontario in terms of Crown managed area and harvest volume.

Table 1. Managed Crown Land in the Mazinaw-Lanark Forest (From Table FMP-1, Phase 1 2011 FMP)

Land Class	Managed Crown Land (ha)
Water	51,367
Non-forested Land	2,643
Non-productive Forest ^a	29,049
Productive Forest ^b	189,817
Total	272,876

a – areas incapable of growing commercial trees, such as muskeg, rock, etc.

b – forest areas capable of growing commercial trees.

The town of Cloyne is in the approximate centre of the forest, and this is where the Company's office is located (See Figure 1). Some of the better known communities within the Forest include Tweed, Lanark, Perth, and Madoc, and there are many smaller communities. The traditional territory of the Algonquins and perhaps of other First Nations overlaps the Forest.

Figure 1 also shows that Highway 7 crosses the forest on an east-west gradient, and highway 41 extends north from Highway 7 through the middle of the Forest, with Highway 62 forming another main north-south artery in the western part of the MLF. Counter-intuitively, the forest is generally well-roaded while many parts in its central zone are quite remote.

The Forest is of great value to the local communities, contributing immeasurably to their identity. Virtually all residents use the forest in a way that is important to them, including a wide range of recreational activities. There are many cottages and camps in the forest, and the Madawaska Highlands draws tourists from afar. The importance of these uses is evidenced by the fact that the 2011 FMP separated out deer management emphasis areas, moose emphasis areas, Enhanced Management Areas (EMA's) from the Ontario's Living Legacy and the portion of the Madawaska Highlands Land Use Plan (MHLUP) area within the MLF. The MHLUP provides "higher-level" direction that does, in some respects, influence strategic direction, although it is treated primarily as an operational consideration. This is discussed further in section 4.3.2.

Most of the operators on the Forest are family-owned enterprises that have long histories in the area and very strong ties to their traditional operating areas. In 2011, there were 21 shareholders, including sawmill owners, a pulpmill, and a group of independent operators. Many of these operators also have harvest allocations in neighbouring Crown forests, and they frequently operate on and buy wood from private land.

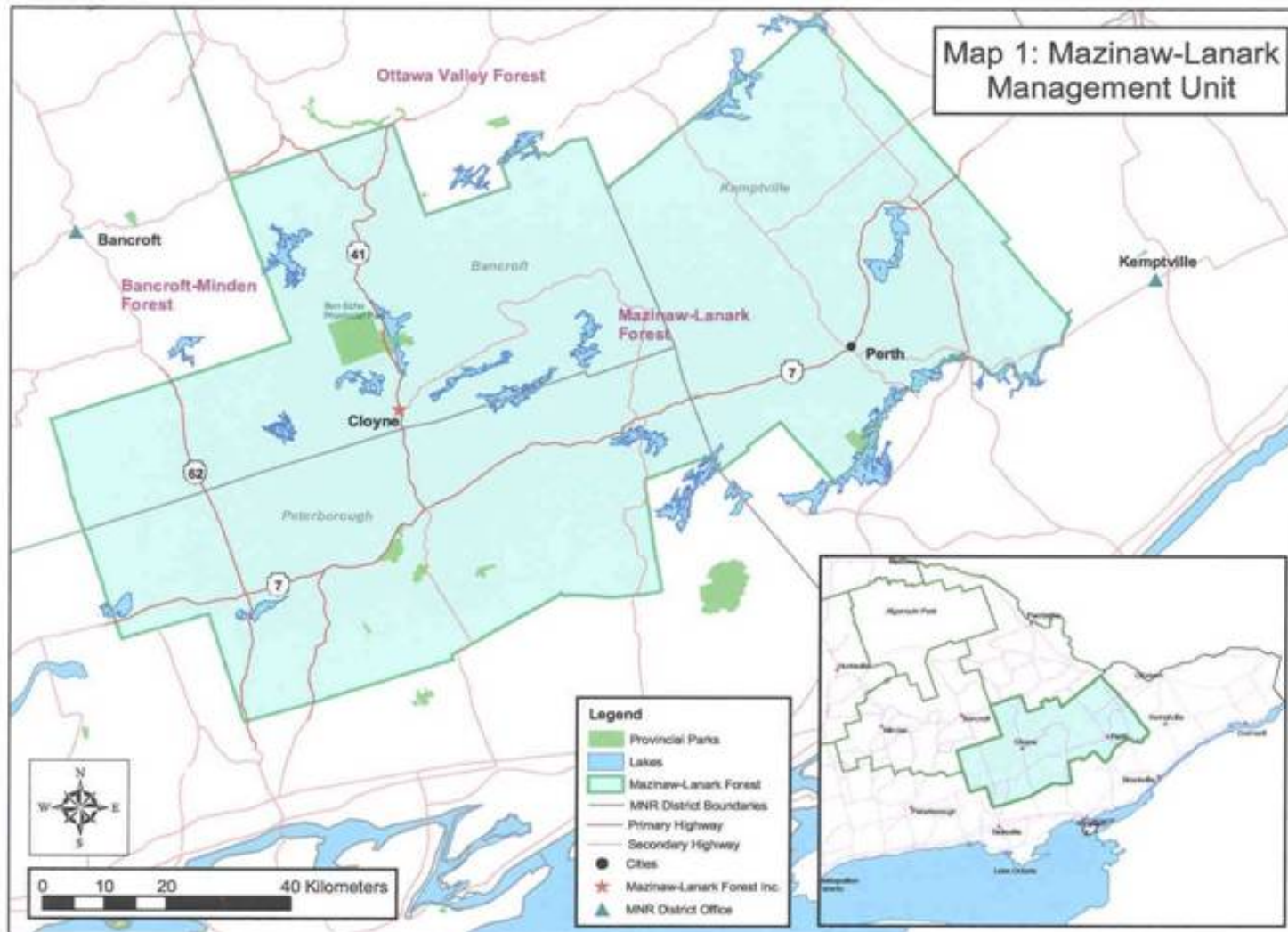


Figure 1. Map of Mazinaw-Lanark Forest.

The forest is primarily of the Great Lakes-St. Lawrence Forest type. In Figure 2, the Hardwood Sel and Hardwood Sw are forest types that are dominated by hard maple, and these account for 41% of the Forest. The white pine forest unit accounts for 17.5% of the forest area and the red oak forest type accounts for 14.5%. The red pine forest type is very small however it is the species most in demand. The MLF has been harvested many times, first by the loggers taking large white and red pine, then by harvesters looking for large white spruce and high-valued hardwoods. In the 1920's, hemlock was harvested extensively for its tannin, used in tanning leather, and during the 1930's and 1940's, yellow birch veneer was sought for manufacturing airplanes, including planes used during WWII.

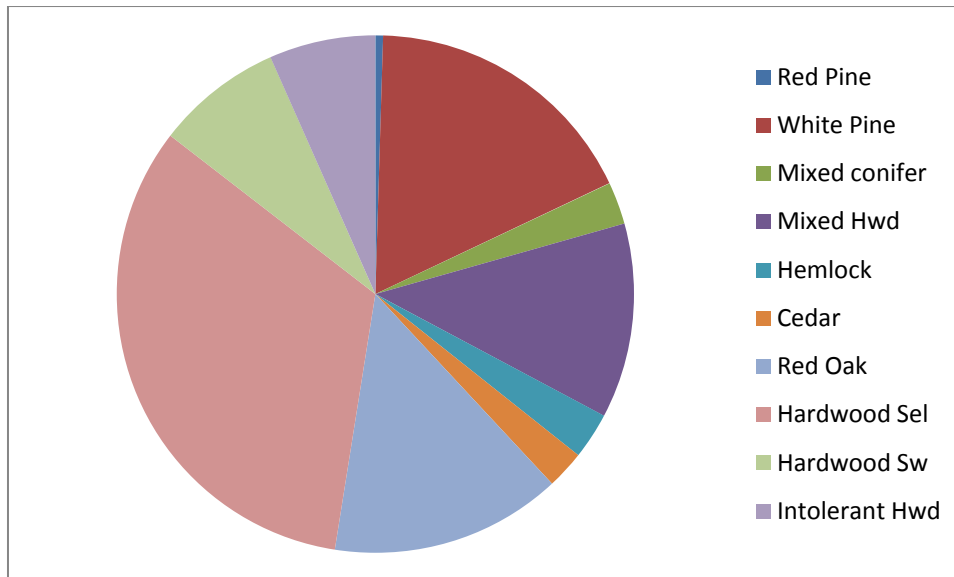


Figure 2. Proportion of Available Managed Crown forest area by Forest Unit type.¹

As a result of this history, and the lack of widespread stand destroying fires or other disturbances, the forest tends to have a high level of variability. Forest types managed under the selection system are multi-aged stands, while those managed according to the shelterwood system generally develop two or three cohorts. With the caveat that in many stands in a Great Lakes-St. Lawrence zone forest, a single stand age has little meaning, the 2011 FMP reports that 42% of the available forest area is between 81-100 years and another 29% is between 61-80 years of age. Less than 5% of the forest is younger than 40 years. From the air, the forest looks virtually unbroken.

Like all Ontario forests, the Mazinaw-Lanark Forest supports a variety of wildlife species that depend on a mosaic of habitats. Many of the species common to the Forest are highly valued for providing recreational opportunities such as hunting and viewing. However, as discussed in Sections 4.3.4 and 4.3.6, forest management is most strongly influenced by species at risk, especially Blanding's turtle (Great Lakes /St. Lawrence population) and American ginseng.

¹ The mixed conifer forest type consist primarily of stands with high proportions of white spruce, balsam fir, cedar and white pine while the mixed hardwoods (Mixed Hwd) tend to be dominated by poplar and have high levels of red and /or white pine. Hardwood Sel stands have high proportions of hard maple and are managed using the selection system while Hardwood Sw have somewhat lower abundance of hard maple and are managed using the shelterwood system. Intolerant Hwd stands tend to be mixtures of poplar, birch and red maple.

which are classified as threatened and endangered, respectively, by the Committee on the Status of Endangered Wildlife in Canada (COSEWIC).

The Forest's proximity to large populations and presence in an ecosystem that is relatively small in Canada contributes to the large number of listed species found on it. The 2011 FMP reports that 25 species at risk listed by the Committee on the Status of Species at Risk in Ontario (COSSARO) have been identified as being present on the forest, and another four species are potentially found on the Forest. Some of these other wildlife species at risk known or believed to occur on the Forest include five species of turtle (in addition to Blanding's), three snakes, several warblers (cerulean, Kirtland's and golden-winged), red-headed woodpecker, and whip-poor-will. The pale-bellied frost lichen, listed as endangered, is also abundant throughout the forest, which has management implications.

3.3 CURRENT ISSUES

Several issues stood out during this audit as being particularly relevant to the performance of the auditees:

3.3.1 *Reduced Level of Harvest /Protection of Species at Risk*

During the first four years of the 2011 FMP, the actual harvest area has declined to 39% of the planned level of harvest, compared with 60% during the term of the previous plan. The primary reason for the decline is the timing restrictions on timber harvesting as protection measures for American ginseng and Blanding's turtle were enacted in the 2011 FMP. The nature of these restrictions is discussed in section 4.4.1 of the audit report and issues with the application of the protective measures are discussed in section 4.4.2. The 2014-15 Annual Report notes that the challenges associated with conducting operations on Crown land have driven many contractors to increase their level of activity on private land at the expense of Crown land. It was noted by the auditors that levels of protection for these species at risk are much lower on private land, and also that other forest users, including some that use heavy equipment, do not appear to be subject to the same timing and access restrictions that the forest industry experiences. Both of these observations significantly diminish the overall amount of protection being afforded to species at risk.

3.3.2 *Low Rate of Silvicultural Success*

While the Company has had good success in regenerating its harvest areas, MLF has had some difficulties renewing some forest types to the intended new forest types, especially in the case of red oak, which accounts for roughly 15% of the harvest area. In areas that are in proximity to deer wintering yards, deer browsing restricts the growth and development of many of the renewing oak. (Hemlock is also strongly affected by browsing, however very little hemlock area was scheduled to be harvested during the next several years.) Table 7 in the Year 3 AR reports that during the first three years of the 2011 FMP, silvicultural success was 12% for area in the ORus forest unit – this issue is discussed further in section 4.4.3.

The Company has also had difficulty renewing the mixed hardwood forest unit (MXHcc) to the targeted forest type, recording 9% silvicultural success rate. However, since the planned and actual harvest in this forest unit is less than 1% of total harvesting, this is less of a concern.

3.3.3 MNRF District Staffing

Starting about 2012, there has been a very high level of staff turnover throughout MNRF, and it was noticeable in this audit at the Bancroft District. Some of the factors leading to the turnover had been present for time prior to 2012, including an elevated level of retirement as the large cohort of MNRF staff hired in the 1970's and 1980's reached retirement age, opening up positions. The reduction in the number of Districts and administrative funding for District operations also contributed to staffing flux, as people were forced to re-locate in order to continue working for MNRF. However, the MNRF's Transformation Initiative, announced in the 2012, heralded a heightened level of staffing turnover as the MNRF was re-structured. This is perhaps best exemplified by the observation that only one of the five MNRF staff listed as planning members of the 2011 FMP planning team was a member of the Phase II planning team (and she had moved from a District office to the Regional office), whereas both Company staff, the chair of the Local Citizens Committee, and five of six Aboriginal representatives participated on both planning teams.

3.4 SUMMARY OF CONSULTATION AND INPUT TO AUDIT

The majority of the input into the audit was provided by the two auditees, especially MNRF staff from the Bancroft District and staff from the Company. One of the principle issues discussed by these and most stakeholders concerned the impacts of protection measures applied to species at risk, as outlined in the preceding section. Company operations, including renewal, were also much discussed, as were the other issues outlined in section 3.3.

The audit team advertised in local newspapers and sent out notices to a randomized sample of 100 people on the Bancroft District FMP mailing list in an effort to solicit public input. Four submissions were received. One respondent expressed disappointment at a timber harvest block, especially the amount of "waste" left. Unfortunately it could not be determined whether the block was on private or Crown land. A second respondent was unable to provide an opinion regarding the sustainability of forest management however did express concern at the clearing of forest for agriculture (this would be on private land). A third respondent provided advice and a fourth described the frustrations of a stakeholder group that maintains a network of hiking trails on the forest.

The audit team contacted the Chiefs of 11 First Nations with interests on the Forest, as well as the Algonquin consultation office located in Pembroke. In the weeks prior to the site visit, the audit team became aware that there were additional First Nations and Aboriginal communities with interests, and these were also contacted. Aboriginal consultation is described in more detail in section 4.2.3. A more detailed discussion of input into the audit can be found in Appendix IV.

4.0 AUDIT FINDINGS

4.1 COMMITMENT

Because the Mazinaw-Lanark Forest is certified under the Forest Stewardship Council's Great Lakes-St. Lawrence standard, this principle is considered by the IFAPP to have been met and was not assessed during this audit.

4.2 PUBLIC CONSULTATION AND ABORIGINAL INVOLVEMENT

4.2.1 Public Consultation Process

The Public Consultation process for the FMP Phase II was followed. A review of the Supplementary Documentation Phase II Part G, Public Consultation indicated that all requirements for the public consultation process were met (notification, open houses, and records of comments received, etc.). There were no requests for Issue Resolution or for Independent Environmental Assessments for Phase II of the FMP.

4.2.2 Local Citizens Committee

The MNRF Bancroft District Manager appointed LCC members to the Mazinaw-Lanark Local Citizens Committee (LCC). Letters of appointment of each member were on file and were reviewed.

Terms of Reference (ToR) for the LCC have been revised and in effect since February 24, 2015 for the Phase II of the 2011 Mazinaw – Lanark FMP. The ToR are very detailed and specify the purpose of the committee, participation in the planning team, frequency of meetings, alternates, achieving consensus for recommendations, allowing minority reports, etc. The LCC has been a standing committee, meeting regularly during the development of Phase I and Phase II of the Forest Management Plan (meetings ranged from monthly to quarterly during these periods) and twice yearly when planning was not active. The LCC activities, frequency of meetings, etc. are consistent with the ToR and the requirements of the FMPM. First Nations were invited to participate in the LCC, and one of the Algonquin communities (the Shabot Obaadjiwan First Nation) accepted the invitation and has a representative on the LCC.

As observed through the minutes and through interviews with LCC members, MNRF staff, and company staff, the LCC was able to comment and make recommendations on issues pertaining to the planning process. The LCC chair participated as a member of the Planning Team (PT), attending every PT meeting during the Phase II planning process, and he brought issues back to the full LCC for review and comment. The LCC requested and got information from the Company on proposed AOCs or amendments to the plan. Overall the LCC participated actively in the planning process and there were no disagreements amongst members resulting in minority opinions or recommendations. The LCC was also provided with the opportunity to review AWSs and ARs.

Through the review of membership, the meeting minutes, and interviews, it became evident that there are gaps in representation. Recruitment of new members has been a concern throughout the audit period. The minutes reflect discussions on gender balance as well as filling up the gaps in representation identified (naturalists, tourist outfitters, cottagers). The LCC and MNRF have decided to begin to recruit members ahead of the development of the next FMP (2021-2031) to allow new recruits time to move up the learning curve. To that effect, the LCC and MNRF have developed a list of potential candidates that will be approached in the near future. The Audit Team encourages MNRF and the LCC to continue with their recruitment efforts to strengthen membership in the LCC for the next planning cycle. The following suggestions are being made:

- Seek out potential candidates in line with the gaps in representation identified, and through discussions determine the type of logistical arrangements that will better suit potential LCC members;

- Implement logistical arrangements to suit the potential new members (the low frequency and time of meetings (i.e. all day) were often mentioned during interviews as a barrier to attract new members);
- Explore opportunities to use communications technology (webcasts, videoconferencing, etc.) for LCC meetings instead of depending exclusively on “in person” meetings;
- Propose activities and/or learning opportunities to make participation in the LCC more attractive; and
- Outreach communication needs to be carefully worded to attract candidates.

While the conduct of the LCC was consistent with the requirements of the FMPM, MNRF administrative support could be improved. **Recommendation # 1** has been issued.

LCC meeting minutes showed that MNRF attendance had diminished recently. Of the nine meetings held in the 2013 – March 2016 period, MNRF senior staff attended less than 50 % of them and, in the most recent four meetings within the audit period, there was only one MNRF staff person in attendance (down from two or more previously), who was not part of senior District management. The audit team also observed that the District Manager attended only one LCC meeting during the audit period. The audit team feels strongly that it would be beneficial if the DM attended LCC meetings with some frequency. The LCC is the District Manager’s committee and the auditors feel that it is important for the DM and the LCC to have some rapport, which is unlikely to develop if the DM does not attend. When other senior staff also attend infrequently, it could be taken to imply a lack of appreciation for the LCC. The auditors suggest that the DM attend a reasonable number of LCC meetings and that, more generally, senior staff attend more frequently.

4.2.3 Aboriginal Participation

The level of interest and involvement on the part of Aboriginal communities in the development of the Phase I and Phase II FMP was very high. Representatives from seven different communities, as well as the Algonquin consultation office, were actively involved on the planning team. Three communities and the consultation office had representatives at eight or more of the eleven Phase II planning team meetings, and the other four communities had representatives at from 3 to 6 meetings. This is an extraordinarily high level of engagement. Interviews with Aboriginal leaders were positive in terms of the FMP and the implementation of forest activities.

During Phase II planning, MNRF did not contact the Mohawks of Bay of Quinte, the Kawartha Nishnawbe or the Métis Nation of Ontario to offer a customized consultation process or a seat on the Planning Team (as per Section A Part 4 of the FMPM). The two First Nations communities each expressed an interest in the Forest to the auditors. The auditors were informed by MNRF District staff that the assessment of the existence of an “established or credibly asserted Aboriginal or treaty right” was a factor used to determine which communities would be contacted under Section A Part 4 of the FMPM for Phase II. The auditors observe that the test in the 2009 FMPM regarding which communities should be contacted is different and less stringent. The auditors believe that MNRF used a more stringent test than the one in the 2009 FMPM to decide which communities should be offered customized consultation and are concerned that this represents a significant risk; **Recommendation # 2** has been issued to address this concern.

4.3 FOREST MANAGEMENT PLANNING

4.3.1 *Planning Team Activities*

The planning team for the Phase I FMP functioned very well and ensured that the development of the plan proceeded smoothly, navigating various sources of delay as they emerged. The Planning Team (PT) held 26 meetings on nearly a monthly basis over the course of the planning process (September 2008 – March 2011). The 13-member PT was comprised of representatives from MLFI and MNRF, five from First Nations, and the chair of the LCC. Attendance by core PT members was generally very good, and attendance by other members was fairly consistent. Member turnover was very low. Curiously, there was no representation from the overlapping licensees, of which 18 operate on the MLF, leading to a suggestion that the next planning team consider including a representative of the OLL's on the Forest.

Individuals on the PT worked cooperatively and were mutually supportive. The PT meeting minutes and interviews with PT members suggest that the tone of the meetings was harmonious and congenial and conducted in a professional manner.

As three contiguous Forest Management Units in the Southern Region were simultaneously producing FMPs for 2011 (Mazinaw-Lanark, Bancroft-Minden, and Ottawa Valley Forests), a *2011 FMP Efficiencies Action Plan* was commissioned in order to make the 2011 forest management planning efforts across the three units more efficient and consistent. Southern Region should be commended for taking this proactive measure for improving the efficiency of plan production across the three Forests.

A comparison of the plan production schedule with the actual dates of achievement shows that the planning schedule experienced delays from the start that grew progressively greater. The first stage, the production of the planning inventory, was two months late and by the time the Base Model was produced, the schedule was 6.5 months in arrears. Delays in the planning process can be attributed to unforeseen events and circumstances. For example, some difficulties were encountered with the use incorporating the new requirements of the Landscape Guide for the Great Lakes – St. Lawrence Forest, as well as the application of the Stand & Site Guide. Another significant delay can be attributed to posting notification to the Environmental Bill of Rights (EBR) website, which was a common issue during this time period but has since been rectified by MNRF. The auditors believe that the PT did the best they could under these circumstances and suggest that more time be allocated to the earlier strategic stages of the planning process when new guides are introduced.

The draft version of the 2011 FMP (Phase 1) was submitted on 3/Sept/2010. A copy of the certification page could not be located to confirm that the plan was signed and sealed by the plan author.

In the end, the planning schedule was compressed in the latter stages to ensure that the FMP was approved by early April 2011. Interviews with the Plan Author, other members of the Planning Team, and review of the Supplementary Documentation all confirm that the nature of the changes and revisions to the draft Planned Operations were generally minor in nature. Some operational changes (AOC layouts, block layouts, harvesting prescriptions, and some road locations) were made to the Draft Plan to accommodate concerns voiced by cottagers at Shabomeka Lake and Skootamatta Lake.

Submission of the final FMP was delayed further by two Issue Resolution Requests involving cottaging lakes that were not resolved, leading the submission of two Individual Environmental Assessment (IEA) Requests being submitted to the Ministry of Environment. The IEA requests resulted in further delays in final approval of the FMP. A request for concurrence was sent by MNRF to the IEA Requestors, asking their approval to allow operations on the SFL to proceed on the balance unaffected by the IEA requests. Concurrence was received and operations were allowed to proceed on areas outside of the IEA requests on June 20, 2011. MOECC eventually decided that Individual Environmental Assessments were not required, thus rendering full approval of the 2011 FMP on September 7, 2011.

The Phase II planning process is shorter since it is usually the case, as it was for the MLF, that the LTMD remained valid. The Year 3 AR justified the conclusion that the LTMD remained valid on the basis of the arguments that the low level of harvest did not negate the LTMD and that the approach identified in the FMP yielded the intended and desired results. The RD approved the Year 3 AR on February 12, 2015 – by this time, planning was already well underway as the first PT meeting was held Sept 14, 2014, and there had been six meetings by Feb 12, 2015.

The PT has generally the same structure as the PT for Phase I planning – there were again many First Nations represented and the LCC was actively involved through the chair as a PT member. In many cases, there was good continuity in the actual participants, which benefitted the process. Company staff, the LCC chair, and many First Nations representatives on the Phase II PT also participated on the Phase I PT. The exception to this broad conclusion is the MNRF participation – only one of the five MNRF members on the Phase I PT returned for Phase II. The two co-chairs (one MNRF and one Company staff person) attended all of the 11 PT meetings, as did the LCC chair. The second Company staff person and two First Nations reps attended 9 meetings and a second Aboriginal person attended 8. Several District and Regional MNRF staff were present at 6-7 meetings. The presence of a regularly attending core of PT members also assisted the process.

The Stage I Information Centre was held on March 28, 2015, two weeks later than scheduled and the process continued to run two weeks behind until its conclusion. There were no requests for issue resolution or IEA's.

4.3.2 Phase I Production

The Forest Resource Inventory was updated, reviewed, and approved for use in developing the LTMD for the 2011 FMP, as described in the Supplementary Documentation of the FMP. The FRI updating process described above began in the summer of 2008, with the approval of Checkpoint 1 being achieved on February 13, 2009. According to MLFI staff, the FRI is reasonably accurate; however, the Company finds that the attributes of approximately 60% of the stands require some adjustment. The Mazinaw-Lanark Forest is expected to receive a new "eFRI" before the end of 2016, which is based on 2008 imagery.

The plan document is very well-written and meets the 2009 FMPM requirements. It contains 23 objectives and 113 indicators which are intended to enable the assessment of the effectiveness of forest management activities in achieving plan objectives. For each indicator, a corresponding desirable level and target (usually quantitative) have also been identified. The following is a summary of objective achievement in the LTMD:

- The desirable level was achieved in 26 out of 42 indicators (62% of the time).
- The objective target was achieved in 37 out of 42 indicators (88% of the time).

- The indicator was within, moving towards or exceeding the target in 40 out of 42 indicators (95% of the time).

Throughout the course of the scoping analysis, the PT was required to make trade-offs for conflicting management objectives or where the MLF land base could not support the achievement of the desired levels among multiple indicators. The current forest condition as well as the process itself of balancing achievement of multiple objectives led to shortfalls in the achievement of desired levels. These shortfalls were not considered critical and do not compromise the ability of the FMP to provide for forest sustainability in the long term. In conclusion, the objectives, indicators and targets established in the 2011 FMP appear reasonable and appropriate. The accompanying socio-economic assessment is complete and meets the requirements of the FMPM.

As befits a complex forest, four types of operational management zones were identified on the Forest:

1. Deer Wintering Emphasis Areas (DWEA)
2. Moose Emphasis Areas (MEA)
3. Madawaska Highlands Land-Use Planning Area (MHLUP)
4. Enhanced Management Areas (EMA)

There were specific objectives for each operational management zone that have had the effect of placing constraints (e.g., accessibility, wildlife) on forest operations. Conditions on Regular Operations (CRO's) have been developed for each of the deer yards, for the MEA's and for forestry operations within the MHLUP area.

4.3.3 Phase II Planned Operations Production

Since the LTMD from the Phase I FMP was considered to be valid for Phase II, much of the PT work related to operational issues. A great deal of time was spent on revising, updating and adding Areas of Concern. Revisions were made to 52 AOC prescriptions however only in the case of 11 values were there changes to direction – in the other 41 cases, text was revised to provide greater clarity. AOC's were added for three new values – Cultural Heritage Landscape Features, Streams with Low Potential Sensitivity to Forest operations and Ponds with Low Potential Sensitivity to Forest Operations. The Algonquins worked with the Planning Team to develop a new Condition on Regular Operations for Cultural Heritage Values – nine different types of values are mentioned explicitly, including material gathering sites, culturally modified trees, and historic trails.

A total area of 23,555 ha is available for harvest in Phase II, which includes 9,686 ha of area carried over from Phase I since it was not cut, and another 781 ha of new Phase II allocations, as well as the 13,088 ha originally allocated for Phase II in the Phase I FMP. More discussion and a recommendation related to the planned harvest levels can be found in section 4.3.4.

MLFI elected to re-write and revise the entire Monitoring and Assessment section from the Phase 1 version, as the Ten-Year Forest Compliance Strategy in the Phase 1 document was prepared under the guidance of the 2008 version of the *Forest Compliance Handbook*. These revisions are intended to conform with the requirements of the 2014 edition of the *Forest Compliance Handbook*. However, the basic thrust and organization of MNRF's District compliance program has not changed significantly since Phase 1.

4.3.4 Harvest Planning

The determination of the planned harvest in the 2011 FMP met the requirements of the 2009 FMPM. Harvest planning was governed not only by the Long-Term Management Direction (LTMD) but also by the requirements of the Stand and Site Guide (SSG)² and the Landscape Guide for the Great Lakes-St. Lawrence Forest. The forest units were significantly revised in the 2011 FMP to better align them with the units used in the Landscape Guide. This was done through the establishment of a joint task team to develop common forest units that would apply to the Mazinaw-Lanark, Bancroft-Minden, and Ottawa Valley Forests. A total of ten forest units were developed for the MLF, with four forest units being managed through the clearcut silviculture system, three using the shelterwood system, and another three being managed using the selection silviculture system.

Landscape direction to increase the presence of young forest patches helped to drive the planning of clearcuts. Block level planning was affected by the Stand and Site Guide (e.g. the Company used the Evaluate Forest Residual Tool (EFRT) to assess whether sufficient residual was left post-harvest to meet SSG requirements). Areas of Concern for water quality and species at risk, as discussed in section 4.3.6, significantly influenced harvest planning in the 2011 FMP period. The disturbance rate used to model natural depletions was based primarily on fire and reflected an expectation that fire suppression would be almost always successful in confining burns to small areas. Fire return times used in the LTMD ranged from 1500 to 2500 years, which is unrealistically long. **Recommendation # 3** is issued to the next planning team to consider other disturbances and a more realistic disturbance cycle time.

In the 2011 FMP term, the planned harvest consisted of approximately 12% clearcutting, 12% commercial thinning, 36% shelterwood and 40% selection harvesting. The commercial thinning was planned for juvenile stands of red pine and all three shelterwood harvest forest units. The annualized Available Harvest Area (AHA) calculated for the current plan period is 2,740 ha/yr, an increase from the AHA in the 2006 FMP (2,623 ha/yr) and 2001 FMP (2,416 ha/yr). These increases in AHA are partly driven by area moving into the eligible age classes and, in the 2011 FMP, by the desire to increase the harvest in the ORus forest unit to meet a plan objective.

The AHA is projected to increase further to 3,920 ha/yr by 2031, and to gradually rise thereafter to peak in 2081 at 4,018 ha/yr. In the current plan, the area of planned harvest in the HDsel forest unit was capped at 1,000 ha/yr in order to improve the balance of the allocated harvest and recognize the limited level of industrial demand. The removal of the cap in subsequent periods contributes to the rising harvest, as does the increasing age of the forest.

The Trend Analysis illustrates that the actual harvest area in the MLF has tended to be more or less 60% of the planned area up until the start of the 2011 FMP, when it has declined to 36% during the first three years of the plan period. The decline in the current plan period is primarily caused by increased restrictions due to species at risk protection measures – the added cost, complexity and uncertainty associated with harvesting on Crown land has driven some of the harvest onto private land, where there is less regulation and less enforcement of what regulations exist.

The habitually low level of harvest on this forest suggests that the planning approach, which throughout the province is driven by the perspective that the planned harvest should equate to the full available harvest area, is unrealistic and antithetical to the sound management of the

² The full title is the Forest Management Guide for Conserving Biodiversity at the Stand and Site Scales.

forest. Even if 60% of the planned harvest was cut, the degree to which many of the management objectives will be achieved is limited, and the disparity between the actual and projected outcomes only widens as one looks further into the future. The current basis for planning also limits a forest manager's ability to optimize the production of non-timber benefits and services, and to reduce costs by removing from consideration a number of the blocks that are less desirable and more expensive to access, harvest and renew. **Recommendation # 4** is issued to the planning team for the next FMP, expected in 2021.

4.3.5 Silvicultural Planning

Forecast renewal, tending and protection operations, renewal support, forecast of revenues and expenditures, Silvicultural Ground Rules (SGRs) and Conditions on Regular Operations (CROs) for the Phase II FMP were reviewed. The planned levels were found to be sufficient to meet FMP targets and objectives.

During Phase II planning, the *Forest Management Guide to Silviculture in the Great Lakes-St. Lawrence and Boreal Forest in Ontario* was released. This resulted in two additions to several SGRs to allow for a) full tree logging in shelterwood forest units and, b) the use of irregular shelterwood³ as a harvest method. All of the elements of silvicultural planning reviewed were consistent with the requirements of the FMPM and applicable silvicultural guides. Small changes were required to the CRO's from the Phase I to Phase II FMP, to provide consistency with new direction in the Endangered Species Act (ESA), new science and new values identified by the Algonquins of Ontario.

4.3.6 Areas of Concern

Both the Phase I and Phase II plans contained prescriptions for Areas of Concern (AOC's) based on forest management guides prepared by the MNRF, especially the *Forest Management Guide for Conserving Biodiversity at the Stand and Site Scales (a.k.a. the Stand and Site Guide)*. AOC prescriptions for species at risk were developed to be consistent with policy direction under the provincial Endangered Species Act (ESA). The values maps and "implications to natural resources features" were well presented on maps and accurate, based on site visits to a number of the AOCs and boundaries.

As a result of strong legislation, the ESA and the CFSA, forestry operations must accommodate and protect forest values. Public scrutiny of values collection and planning makes it the lynchpin of forestry operations in central Ontario. The audit requires a review of the "... sources of information on the values maps ...". This includes the following three classes of values: 1) Wildlife other than Species at Risk (SAR); 2) Wildlife SAR and 3) non Wildlife.

For both SAR and non-SAR wildlife, MNRF created a values survey strategy document in 2016, called "Fish and Wildlife Values Collection and Mapping in Forest Management Planning: A Southern Region Strategy". This describes the basic requirements and responsibilities of wildlife values surveys. This document was a good consolidation of the various approaches and helpful in demonstrating progress.

The auditors found the current values survey approach for non-SAR wildlife (1) is being well administered and delivered. MNRF and the Company provide accurate locations on maps and

³ Irregular Shelterwood typically creates a multi-aged future stand, the regeneration period is >20% of the intended rotation, and the final removal may be delayed or absent.

the system for updating maps works promptly. Maps of AOC's for wildlife and other values are easy to interpret. Field visits confirmed that values were located correctly and buffers were appropriate. The audit reviewed the list of surveys in the Values Collection Strategy and confirmed the strategy is being completed as it was designed.

The strategy for collecting and planning for non-wildlife values (3) is less structured; a more flexible approach is appropriate since these are more varied human values. Values such as Land Use Permits or Native values are mapped after consultation and prescriptions are more subjective. The auditors found the approach to non wildlife values to be appropriate.

However the collection of SAR values (2) was challenging. The FMP identifies 25 species that are determined to be at risk by COSSARO and which are known to occur on the MLF. For most, little is known about the extent and quality of their habitat or their population status over the Forest. For some species, including the West Virginia white butterfly, Kirtland's warbler, and yellow rail, the quality and extent of potential habitat has never been assessed. This makes collecting values information very difficult and time-consuming

Some of the sensitive values significantly affect when and where forestry activities may take place, so a timely values collection program has a meaningful impact on the operations and costs of the Company and its shareholders. The audit team was informed that the Company often received values information for a block after operational roads and landings had been constructed, and/or after the block had been marked. In these situations, the additional values provided by MNRF sometimes caused major timing restrictions and not infrequently necessitated major changes to access that had been planned and constructed. In more extreme cases, blocks effectively became infeasible to harvest or harvesting was delayed, sometimes for so long that the block had to be re-marked, which also imposed unnecessary costs on the Company and operators. These occurrences were part of the reason that operators have been shifting more of their operations to private land.

Survey lag was a problem in the previous IFA and got worse when the requirement for SAR surveys ramped up, early in the term of this audit period. In 2015, MNRF Region added a special survey crew to reduce the backlog. MNRF has made progress and reduced the length of the lag, however some of the blocks allocated in the 2016-17 AWS did not have Species at Risk values information. Based on the current trends there will still be a gap at the end of this year when the added survey resources will no longer be provided. **Recommendation # 5** is made based on the need to fully address the lag in values collection and project the future resourcing needs of this work.

For more than seven years, the Company has been interested in the pursuit of an overall benefit permit (section 17 of the ESA) or overall benefit through use of the FMP as an instrument of the ESA (section 18). A recommendation in the 2009 IFA related to section 18 has not been addressed and is revised and re-issued as **Recommendation # 6**.

A document control issue was encountered when the audit team reviewed the sources of information for values that were available for open houses during plan preparation. Normally this documentation is kept until an audit reviews it. Due to the long time frame of this audit, going back to 2009, maps from the development of the Phase I FMP were not kept. In fact they were recycled just before the audit occurred. There were no electronic copies of those maps as backup. The auditors note that there were no complaints about the open houses, and final plan maps (which were based on the open house maps) are maintained and on line. This finding

was part of the support for **Recommendation # 13** which is related to document management at MNRF.

4.3.7 Access

The Phase II FMP meets the prescribed requirements for confirming the access plan in the forest. The supplementary documentation for the plan includes the confirmation of primary and branch road corridors. MLF has a mature road system throughout the forest with only a small number of new roads being constructed each plan period. There is little flexibility on new road locations, so they tend to be short and constrained by AOC requirements and MHLUP direction. In keeping with the audit protocol, the plan supports development of the unit over time and that all roads planned are required.

The documentation provides a brief but reasonable rationale for each road, environmental analysis of alternative locations, public comments and meets the other FMPM requirements.

4.3.8 Plan Amendments

There were 18 amendments to the 2011 FMP during the audit period. This is a relatively low number of amendments for a forest as complex as Mazinaw-Lanark, and one that has a considerable number of small operators. In our experience, the presence of these factors often leads to a relatively large number of amendments. One amendment was minor, the others were administrative. Seven related to harvesting, including two for salvage harvesting, six concerned access, three were revisions to the FMP text and two were for renewal and tending. The minor amendment involved the removal of twelve blocks totaling 826 ha, the shift of 507 ha (six blocks) into Term 1 from contingency area or bridging area, 78 ha being added and 421 ha being swapped from Term 1 to Term 2 and vice-versa. The amendments were appropriately categorized.

The 2009 FMPM states that MNRF will normally decide whether to approve an amendment request within 15 days of its receipt, including deciding how it should be categorized. MLFI submitted amendment requests for 16 of the 18 amendments of the 2011 FMP during the audit period, and the average processing time was 47 days. Moreover, more recent performance was slower, as the average processing time for the last six amendment requests submitted was 91 days. **Recommendation # 7** is concerned with the unacceptably slow amendment processing times and **Recommendation # 12** is related to MNRF's more general human resources challenges (See section 4.5).

4.3.9 Annual Work Schedules

There were seven (7) Annual Work Schedules (AWS) prepared during the audit period. All of the AWS's met the minimum requirements of the FMPM and were found to be complete and well done. Forest Operation Prescriptions (FOPs) were completed for all operational areas and were very detailed, complete and well organized.

The number of revisions submitted during the AWS operating year was reasonable and warranted. It is worthy to note that the AWS binders, for the SFL, included all of the revisions for that operating year and were organized consecutively making them easily accessible to all staff. The MNRF District revision documentation was contained in two separate binders and was found to be deficient in a number of aspects such as missing reviewer pages, revision numbering inconsistencies with actual revision number, and separate signed approval pages

(District Manager/Area Resource Manager and Plan Author). This issue is addressed under **Recommendation # 13**.

4.4 PLAN ASSESSMENT AND IMPLEMENTATION

The extensive amount of private land creates very significant impacts on the implementation of the FMP (as well as on its development). Key issues include difficulty accessing timber resources due to the patterns of private land ownership and other land use types that render Crown land areas unavailable for forest management (e.g., parks and conservation reserves). Other withdrawals from the available land base, such as ANSI's, areas unsuitable for forest management due to site conditions, and candidate old growth areas add further complexity to managing the landbase.

4.4.1 Harvest

The actual harvest level achieved during the 2006-11 FMP was 62% on an area basis but under the 2011 FMP, the actual harvest was only 36%. Planned versus actual volume proportions were similar to the area-based metrics in both periods. As discussed in sections 4.3.6 and 4.4.2, this drop-off was largely caused by planning measures that were incorporated into the 2011 FMP for two species at risk in particular. The map for block 56 (**Figure 3**) provides a good illustration of the impacts caused by requirements for these species at risk and Table 3 provides the area data of the different types of reserves.

AOC	Protection measure	Area (ha)	% of Block
Small Ginseng Patch	No harvest reserve	2.3	1
Large Ginseng Patch	No harvest reserve	5.2	2
Large Ginseng Patch	Modified harvest MMZ1 – No harvest from April 1 – Nov 30 i.e. no harvest 67% of the year	12.1	4
Blanding's Turtle	No harvest reserve	41.8	14
Blanding's Turtle	Modified harvest MMZ1 – No harvest from May 1 – Oct 15 i.e. no harvest 46% of the year	111.0	36
Blanding's Turtle	Modified harvest MMZ2 – No harvest from June 1 – 30	28.4	9
No Restriction	N/A	107.6	35
SUM		308.4	100

Table 2. Area and Proportion of Block 56 by Protection Zone Type.

Only 35% of the block has no restriction and 17% of the block area must not have any activity or traffic on it. Another 4% is only accessible for four months of the year and 36% for 6.5 months. Moreover, because these AOCs are spread throughout the block they create logistical and operational challenges.

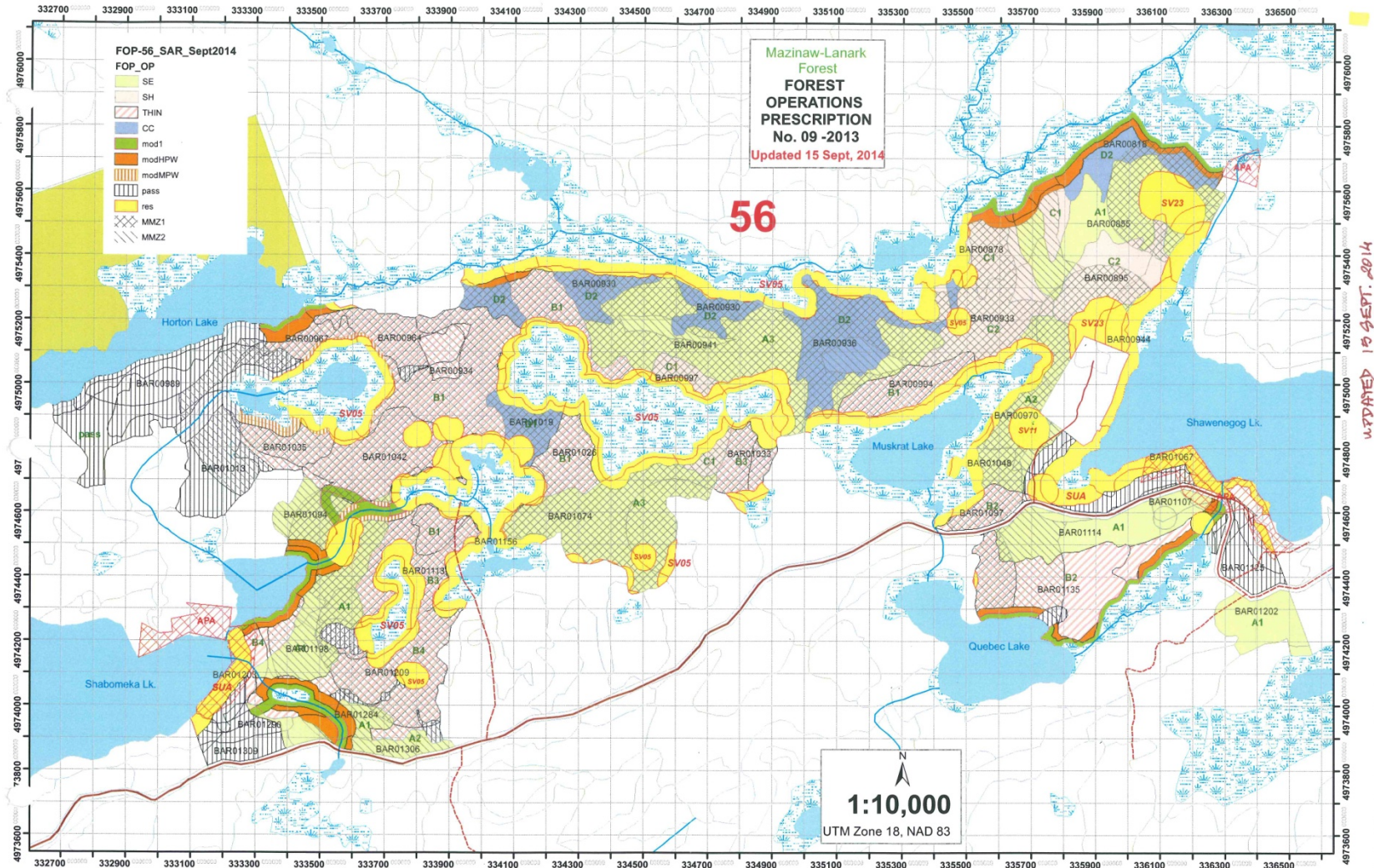


Figure 3. Harvest Block 56 with Reserves and Timing Restrictions Due to American Ginseng and Blanding’s Turtle.

There has been an economic impact associated with the implementation of protective measures for these two species. In particular, ginseng prefers productive hardwood sites and so its presence removes some of the best stands from harvest eligibility. The auditors were informed that these restrictions are part of the reason that some operators moved largely or exclusively on private land – this seems to be an unintended outcome yet it follows from the logic that where regulations and /or enforcement are weaker, and therefore risk and costs are lower, then producers will move to those options. This accounts for a significant part of the decline in actual harvest experienced since the 2011 FMP came into effect. This is all the more remarkable in that the MLF manager informed the auditors that Norampac is actively looking for wood and will take all the wood it can get from the MLF.

The harvest operations themselves were undertaken to a high standard. The auditors saw very few instances of damage to residuals, slash and debris management is not an issue due to the nature of the harvesting and utilization was good. Essentially no site damage was observed and efforts are being made to reduce the damage to renewal associated with subsequent harvest entries.

One observation that the audit team made was that the partial harvesting could have removed about 5-10% more timber on many sites. The tree markers do a very good job adjusting their prescriptions to the variability of the forest but Company staff and contractors all acknowledged that there is a bias towards caution. The auditors also think that the Company would benefit by increasing the range of stands that it allocates for clearcutting. Low to mid grade tolerant hardwood stands merit consideration, and some of the oak and white pine stands that have relatively low proportions of these species could be cut using a clearcut with standards prescription. In a forest where it is difficult to create young forest and challenging to attract operators, a somewhat more intensive harvest would provide some gains in these respects.

The SFL for the MLF has a special condition that requires the company to make available for tendered sales 20% of the available volume from the former Lanark Forest and 7% of the volume from the former Mazinaw unit. Between 2009-10 and 2014-15, the Company successfully held seven tendered sales, which handily exceeds the number of tendered sales in the rest of the province. A total of 11,867 m³ was harvested as a result of these sales.

This is an excellent result. Yet there appears to be an opportunity for the Company to hold more sales – the 2011 FMP forecasted an average volume of almost 4,000 m³/yr sold through tendered sales whereas the actual achievement has been closer to 1,500 m³/yr.

Recommendation # 9 is provided to encourage the Company and its shareholders to consider how more tendered sales could be facilitated.

4.4.2 Areas of Concern

The audit team inspects values in the field to ensure that the required conservation measures are followed during forestry operations. During this audit the team viewed a total of 55 AOC's or other conservation related activities in the field and found that overall implementation was good.

Layout of the boundaries of the sensitive areas, especially the areas where timing restrictions apply, was very challenging and operators showed the audit team some of the apparent inconsistencies. At the time of the audit, revised prescriptions were being amended into the plan for two of the values. These revisions were intended to expand the opportunities for

operations. There is concern but guarded optimism that the extent of the current limitations will be reduced. No recommendation was made because the issue is being addressed.

MLFI may have to write the most complex AOC prescriptions in Ontario, due to the site specific and time dependent prescriptions for the sensitive species in the area. The Company has been proactive and fully cooperative in the application of the ESA. Some special value prescriptions significantly constrain forestry operations and have economic impacts. As was discussed in the previous audit report seven years ago, the Company has been interested in the pursuit of an overall benefit permit (section 17 of the ESA).

More recently, MNRF has been publicly supportive of the Company's interest in completing a section 17 c permit application and has put resources in place to assist in reviewing the application. Meetings have been held to discuss some of the Company's strategies, including an operational trial of a new prescription. Although MNRF is supportive, MNRF has in place an application process that is daunting to a small company with no technical biological expertise on staff. Recent discussions between MNRF and the Company about SAR were positive but left the Company feeling that it did not have the capacity to be successful in an application. The Company feels it has made no appreciable progress. Accordingly, a recommendation is being issued (**Recommendation # 10**).

4.4.3 Silvicultural Operations

Table 3 presents a comparison of planned and actual harvest and renewal activities for the last two years of the previous plan period (2009-2011) and the first four years of the 2011 FMP (2011-2014). The figures presented in Table 3 illustrate MLFI's efforts to increase artificial regeneration to improve the rate of silvicultural success on the MLF. In response to a recommendation from the 2004-2009 IFA, MLFI has reduced its reliance on natural regeneration in favour of assisted regeneration. Overall regeneration efforts exceed actual depletion levels for the first 4 years of the 2011 plan period. The higher figure is the result of the time lag between harvest and renewal activities. The total regeneration figure in Table 3 for both plan periods demonstrates that silviculture efforts are keeping pace with harvest levels. The amount of mechanical site preparation has increased since the previous plan. MLFI is testing the use of heavy mechanical site preparation (straight blade, excavator with chopper flail) to control ironwood, which competes with red oak and it is not economically feasible or practical to manually tend. Tending figures represent manual chemical spray and ground chemical applications. Tending has increased from the previous plan period in response to an IFA recommendation from 2009. The figures presented in this table are supported by the observations that the auditors made in the field.

Red oak renewal success has been the subject of recommendations in the prior two IFAs on the MLF. This issue was a focus during this audit and there was much discussion around the issues surrounding red oak renewal including:

- The appropriateness of the MHLUP red oak target,
- Impacts of SAR management on the silviculture "toolbox",
- The low silvicultural success in the ORus forest unit, and;
- The impact of repeated wildlife browsing on red oak and maple regeneration and achievement of silvicultural success in those forest units.

Renewal Activities	2009-2011 FMP Planned	2009-2011 FMP Actual	2009-2011 FMP Actual/Planned	2011 P1 FMP Planned	2011 P1 FMP Actual	2011 P1 FMP Actual/Planned
Natural Regeneration	1739	1026	59.0%	2,037	830	40.7%
Planting	352	120	34.1%	169	114	67.4%
Seeding + Scarification	91	14	15.4%	45	29	64.4%
Total Artificial Regeneration	443	134	30.2%	214	143	66.8%
Total Regeneration	2182	1160	53.2%	2251	973	43.2%
Site Preparation (mechanical)	309	100	32.4%	237	129	54.4%
Site Preparation (chemical)	32	9	28.1%	55	7	12.7%
Site Preparation (prescribed burn)	33	1	3.0%	49	1	2.0%
Tending (cleaning)	447	172	38.5%	187	175	93.6%
Spacing, pre-commercial thinning, improvement cut (even-aged*)	355	112	31.5%	50	20	40%
Spacing, pre-commercial thinning, improvement cut (uneven-aged**)	568	162	28.5%	269	101	37.5%
Harvest	2524	1573	62.3%	2,759	1,006	36.5%

NB: * includes shelterwood and clearcut harvest systems

** includes selection harvest system

Table 3. Planned vs. actual renewal, silvicultural activities, 2009-2014 (annualized).

The auditors viewed numerous sites with red oak regeneration during the audit and concluded that red oak is regenerating but the challenge is to get the regeneration to reach FTG status. Browsing is the main culprit. The audit team observed that the amount of browsing decreased with greater distances from the deer yards. Based on discussions with the auditees and MLFI's efforts to address and/or comply with all of the above, the audit team believes MLFI and the District MNR have employed significant efforts (i.e. reviewed the science in the U.S. as well as obtaining assistance from MNR Science section) to address the low level of red oak renewal success on the MLF. Additionally, MLFI is tracking the level of browsing in its surveys and monitoring the impact on silvicultural success. The auditors further conclude, based on document review and sites viewed that: a) MLFI has met the intent of the MHLUP by maintaining the level of red oak on the landscape through current management practices while exceeding the *Landscape Guide* estimate of historical levels of red oak in Southern Region and, b) efforts to regenerate red oak in the central part of the Forest will continue to be hampered because of the proximity of deer yards resulting in heavy browse on red oak and maple. Additionally, timing restrictions on forest operations for SAR has hampered the timing of harvesting and silviculture treatments adding another hurdle to achieving silvicultural success in the red oak forest unit. The auditors commend the efforts of MLFI in using a variety of silvicultural and harvest techniques (heavy mechanical site preparation, prescribed burning, seed tree groups, manual and chemical ground cleaning) to improve the success of red oak renewal and the overall silvicultural success on the MLF. The audit team suggests that, for the next FMP, MLFI align silviculture prescriptions and renewal standards with lessons learned on oak renewal success, match those expectations with historic levels of red oak on the MLF, and tailor efforts to renew red oak to areas further from the deer yards.

4.4.4 Renewal Support

At the start of Phase II, MLFI's nursery seed supply of some species was not sufficient to provide for planned renewal to the end of the current FMP. Much of the seed in inventory was collected in the 1970's and its viability is questionable. MLFI has been depleting this old seed to supplement natural regeneration areas resulting in a substantive reduction in seed inventory from 11 million to 3.2 million. However, MLFI has embarked on a seed collection program and also plans to purchase the balance of seed required for stock production. Between these two measures, it is anticipated that the Company will be able to meet its requirements for seed during the balance of the current FMP and beyond.

There is a white pine seed orchard (Taylor Lake) within the MLF boundaries that was established in the 1990's by MNRF to service a variety of agencies. The Forest Gene Conservation Association, on behalf of MNRF with funding from Forestry Futures, conducts maintenance however the orchard needs additional effort to regain a level of production. Prior efforts to develop a long-term plan to manage the orchard were not completed and are suspended. A considerable investment was made in this seed orchard and the orchard can be potentially beneficial to many forest owners if it is better managed; **Recommendation # 11** has been issued.

4.4.5 Access

During field visits the auditors travelled on numerous roads and also viewed them from helicopter. Various types of activities were examined: water crossings, road maintenance and decommissioning on primary, secondary/branch and tertiary/operational roads constructed during the five-year period of the audit. The roads were of very high quality. Water crossing installations were exemplary. A few small issues noted in the field were being addressed. MLFI performs to a high standard in road construction and maintenance. Aggregate pits followed the 2009 FMP manual requirements; there were two issues being addressed by MNRF at the time of the audit.

The relatively busy forest roads are accessible to a large population base in major cities a few hours away, so their care is important. As well, the company operates within the MHLUP area where access control is an important part of the access management strategy.

Notable was the extensive use of large rocks to stabilize and "naturalize" water crossings. Some recent crossings had the appearance of much older structures due to the careful and extensive use of rocks and boulders. Decommissioning of one area of the MHLUP zone was a text book example of how to discourage motorized users while minimizing the impact on the aesthetics.

The financial statements of the Company for the Ontario SFL roads funding program were reviewed. Ontario receives good value for the roads money spent in the MLF.

4.5 SYSTEM SUPPORT

4.5.1 Human Resources

Because the Mazinaw-Lanark Forest is certified under the Forest Stewardship Council's Great Lakes-St. Lawrence standard, this criterion is considered by the IFAPP to have been met. However, during this audit, the auditors observed a number of areas where MNRF's staff

resourcing challenges have led to poor performance and caused unacceptable delays in important processes, leading to inefficiencies and higher costs to the Company and its shareholders. As described under **Recommendation # 12**, Bancroft District MNRF has undergone a tremendous amount of staffing turnover, especially from 2012 and continuing to this present day. Fiscal restraint on the part of the provincial government, the lead up to and implementation to a major re-organization of how MNRF does business, and demographics have all played a role in creating staffing challenges.

4.5.2 Document and Record Quality Control

The auditors examined the information management systems maintained by Mazinaw-Lanark Forest Inc. and MNRF Bancroft District, related specifically to the forestry programs.

MLFI is not certified to a management certification standard (e.g. ISO or EMS) which would require the managing entities to employ formal procedures for identifying individuals responsible for preparing, maintaining, and revising relevant procedures, schedules, documentation, and work instructions. Although MLFI does not maintain any formalized procedures related to document control, it became evident through the office inspection and interviews with staff that Company personnel are well-organized and are able to locate documentation readily. The auditors were confident that all Company information needed for conducting a thorough audit was available or could be made available in reasonably short order.

The only deficiency uncovered by the auditors was the lack of a procedure for backing up emails. MLFI does not maintain its own email server, meaning that each employee's email storage resides on his/her computer and is not copied to the corporate server. Each employee does not necessarily back up the contents of their own computer, therefore, is at risk of loss. Since emails often contain vital information and attachments that may not necessarily be copied over to the server, it is suggested that the Company addresses this deficiency.

MNRF Bancroft District's document control system was found to be satisfactory, but is in need of improvement. Although many documents necessary to effectively conduct the audit were available online through the Ministry's corporate internet-accessible databases (e.g., through MNR's Forest Operations Inspection Program, the Forest Information Portal, or the Find a Forest Management Plan website), some of the other documents that are not stored online could not be readily located.

During the field inspection, the auditors were informed that the Ministry has a relatively new process for standardizing their filing system and documentation retention schedules/procedures (both digital and hard copy) that the District is in the process of implementing. Implementation has been slow to date due to the Ministry's recent major re-organization and transformation process, which has led to a high level of turnover at the District office. With the transformation process now winding down, the auditors believe that the District should be able to address **Recommendation # 13**, which is to remedy the deficiencies found with information management and document control at the District office.

4.6 MONITORING

4.6.1 Compliance Planning and Monitoring

The compliance programs of the Company and the Ministry were generally effective and well-co-ordinated during the audit period. During the audit term, Bancroft and Kemptonville Districts

jointly prepared and approved ACOPs that cover operations on the MLF. Both Districts have certified compliance inspectors on staff who conduct inspections on the MLF, with Bancroft as the lead district since most of the forest management activities takes place within its jurisdiction.

There is good communication between the two Districts on compliance matters involving the MLF. Evidence collected through the audit team's inspection of field sites and compliance reports suggests that the level of monitoring being conducted by MNRF is sufficient to ensure that the SFL Holder and overlapping licensees are meeting the legislative requirements and their obligations. However, during the site inspections, the audit team observed several incidents of municipal and Ontario Hydro staff or contractors performing maintenance of roadways and trails in MLF area where and when SAR restrictions were applicable. The audit team suggests that the MNRF review the consistency of its application and enforcement of species at risk protective measures in the Crown managed forest.

MLFI prepared a ten-year Compliance Plan for the 2011-2021 period in conjunction with the 2011 FMP. The ten-year plan met all of the requirements outlined in the 2009 FMPM and MNR's 2008 Forest Compliance Handbook, which were in effect when the plan was approved. MLFI also prepared Annual Compliance Plans (ACP) for each of the seven years within the scope of the audit (2009-16). The ACPs are included as a section of the applicable AWS. MLFI is responsible for all compliance activities on the licence area and the submission of industry compliance reports for all of the overlapping licensee operations (of which there are 18 as of 2016). There are no "qualified overlapping licensees" operating on the MLF (i.e., overlapping licensees approved to submit compliance inspection reports directly to the MNRF's Forest Operations Inspection Program database).

One aspect of the roles and responsibilities that was identified as a concern in the previous IFA related to the signing-off responsibilities for inspections. Under the previous plan, a compliance inspector had the authority to sign-off on his/her own inspections, and the General Manager had authority to sign-off on any non-compliant reports. Directive FOR 07 03 04 in the *Forest Compliance Handbook (2008)* did not recommend this practice. This recommendation was relaxed starting with the 2010 version of the Handbook (and subsequently also in the 2014 Handbook) that allowed SFL Holders to determine their own inspection approval processes. Therefore, although the auditors are not fully supportive of the practice, it is currently permissible for a compliance inspector to approve his/her own report, if the Company's Compliance Plan allows the practice.

The key compliance event in the year is the start-up meeting held by MLFI, which all overlapping licensees must attend. Contractors are invited and compliance staff of both Bancroft and Kemptville MNRF Districts have attended these meetings. To assist licensees with keeping their operations compliant, MLFI has compiled an "Operations Binder" that is provided to each overlapping licensee annually. The binder summarizes the forest management guides, legislation, FMP conditions, CRO's, AOC prescriptions, standard operating procedures, and protocols that are applicable while overlapping licensees conduct operations. The Operations Binder is a rather sizeable document and the auditors are skeptical that licensees are as familiar with the contents as they could be. Although the SFL compliance record is relatively good, the auditors believe it would be highly beneficial to review or emphasize relevant portions of the binder on a regular basis as a refresher for the overlapping licensees. Additionally, the auditors believe it would be beneficial to share the annual compliance review with the overlapping licensees. **Recommendation # 14** is the result of these conclusions.

All non-compliances discovered by Company personnel have been reported promptly, according to interviews with MNRF and reviews of the FOIP reports. In nearly all non-compliance cases, MLFI and the overlapping licensees cooperated and took corrective action to remedy the situation soon after the infraction was discovered.

Table 3 summarizes the results of the compliance inspections by MLFI and MNRF. The number of inspections by both parties is appropriate for the forest and the level of activity on it. The combined frequency rate is about average, based on the auditor’s experience across the Province. The total number of non-compliance incidents reported over the audit term was 19, with all of them considered to be minor in significance. Issues related to water crossings (e.g., improper installations, installing crossings without approval, failing to remove winter brush mats), AOCs (encroaching into reserves, failing to follow prescriptions), and cutting (failing to follow skid trail layout prescriptions, excessive rutting) were the leading reasons for the non-compliances.

The Company notes that its staff stop at operations far more frequently than the number of inspection reports indicates, and at each visit, the Company person will observe and provide advice or direction if circumstances dictate – an inspection report is only submitted in these circumstances if something not readily correctible is observed.

Activity Inspected	MLFI Compliance Inspections			MNRF Compliance Inspections		
	# Reports	Compliant	Non-Compliant	# Reports	Compliant	Non-Compliant
Access	65	59	6	9	8	1
Harvest	198	190	8	49	45	4
Renewal	9	9	0	10	10	0
Maintenance	0	0	0	0	0	0
Protection	0	0	0	0	0	0
Total	272	258	14	68	63	5

Table 4. Summary of Compliance Inspection Results 2009-16.

Company staff generally complete and submit inspection reports in a timely manner. Approximately 20% of the routine compliance reports have not been submitted within the timeframes specified in the FIM and MNRF compliance policies. The auditors understand that this rate of tardiness is similar to the findings in the previous IFA, and, although not perfect, is not cause for undue alarm. However, the auditors suggest that the Company make efforts to further improve this level of deadline submission achievement.

The only comment from the auditors relates to documenting the dates upon which the Company reports operational issues to the MNRF. In most cases, the date that MNRF was informed about the operational issue was not always recorded in the FOIP report, which creates some difficulty in determining when this information was provided to MNRF. It is suggested that, for verification purposes, the Company and MNRF should ensure that the date of notification for operational issues / non-compliant incidents are recorded in the appropriate FOIP report. Interviews with MNRF staff confirmed that non-compliances are being reported within the prescribed timeframes.

One of the topics of past IFA reports has been the poor compliance record of one operator and that has continued during this audit period, despite the Company’s efforts to encourage

improvement. During the audit period, this same operator was involved with nearly 50% of the operational issues identified over the audit term, as either a licensee or working under contract for another licensee. Nine penalties totaling \$9,500 were assessed during the audit term, of which eight were imposed on the same licensee. It was also noted that there were no non-compliances reported on the Mazinaw-Lanark Forest for the three years when this operator did not work on the Forest. This operator's sub-standard performance has led to recommendations in the two previous IFAs. In response to recommendations in the two previous IFA's, MLFI and MNRF have worked diligently to encourage this overlapping licensee to raise its compliance performance through training, education, and support, however this audit also makes **Recommendation # 15** specifically regarding this operator.

Despite the on-going challenge of dealing with one recalcitrant operator, the auditors were generally satisfied that the level of monitoring on the MLF was appropriate and that the program is being implemented effectively and in accordance with the Compliance Strategy and the Annual Compliance Plans.

4.6.2 Annual Reports

The Company submitted the required annual reports during the audit term, including a Year 3 AR for 2013-14. The audit team notes the reports are well written and meet the reporting requirements. The Company deals with some of the major issues such as the low wood usage by Norampac and the impacts of sensitive values AOCs on harvest costs, but does not belabor these points. MNRF reviewed the Year 3 AR as required, but did not review other years.

All of the reports were submitted at least a month after the required submission date. The Company has an issue balancing demands on time and capacity during November, the required reporting time. Although there was a trend towards reducing the time lag for delivery during the audit period, **Recommendation # 16** has been provided to address the late delivery of AR's.

4.6.3 Silvicultural Effectiveness Monitoring

During the audit period, MLFI assessed the FTG status on 4,967 ha. From 2009-11, a total of 1,745.6 ha were successfully regenerated (90% of the assessed area), with 76% classified as a silvicultural success. In the first four years of the 2011 FMP, 92% of the 3,134.6 ha assessed were declared a regeneration success. Throughout two plan periods MLFI has managed to maintain a regeneration success rate of 90%. The overall silvicultural success rate from 2009-14 averaged 54.6%. Auditor observations in the field were consistent with reported FTG results and included several examples of excellent regeneration results (see Figure 3).

The low success rate is of some concern – it is due in part to heavy browsing of red oak, hemlock and to a lesser extent pine and maple in the vicinity of deer wintering yards. The relatively low rate of silvicultural success in the PWus FU is expected to improve since the Company has increased its use of planting and herbicide to increase the potential for white pine regeneration success – the impacts of these changes should show up in the next IFA.

FTG assessments are carried out through ground survey utilizing the Site Occupancy Index – Silviculture Treatment Assessment & Reporting System (SO_iSTARS) program developed in conjunction with MNRF, science and the forest industry. This FTG survey program was designed specifically for southern region forests. Table 3 presents a summary of FTG survey results over the period from April 1, 2009 to March 31, 2015. The table shows the renewal results of the area originally harvested in each forest unit. For example, during the first six

years of the audit period, FTG assessments were done on 34.2 ha of past harvesting in the HeSel forest unit. Of this area, 10.8 ha had not reached FTG status, 7.5 ha renewed to the projected FU (which FU that may be is not apparent from the Table) and 15.9 ha renewed to a non-target FU.

Forest Unit	Area regenerated to projected FU (Ha)	Area regenerated to another FU (Ha)	Total Area regenerated (Ha)	% successfully regenerated	% silvicultural success	Area not FTG (Ha)
CeSel	0	0	0	0	0	N/A
HdSel	1203.9	170.0	1373.9	96.0	84.1	57.9
HeSel	7.5	15.9	23.4	68.4	46.5	10.8
HDus	490.1	297	787.1	99.4	61.9	52.5
INTcc	159.6	55.8	215.4	67.8	50.2	29.7
MXCcc	50.8	32.3	83.1	92.6	36.0	6.6
MXHcc	84.4	232.5	316.9	89.7	65.8	36.3
ORus	59.4	384.0	443.4	78.9	10.6	118.6
PRcc	0	0	0			13
PWus	609.9	530.3	1140.2	87.7	46.9	258.2
TOTAL:	2665.6	1717.8	4383.4	89.8	54.6	583.6

Table 3: Summary of FTG Assessment Results for 2009-14 for the MLF.

The FTG assessment results are reported spatially in Annual Reports submitted to MNRF. The area reported includes the area that did not meet the FTG standard at the time of assessment; most of these stands are developing more slowly than expected and will eventually attain FTG status. MLFI reviews the reasons why these areas are not yet FTG and applies this knowledge to future silvicultural decisions and future refinements of the SGR's.

During the audit period, Southern Region MNRF carried out a project that examined Silvicultural Effectiveness Monitoring (SEM) data collected from 2005-11 to assess the value of the data in answering questions at the regional and provincial levels. The results of the assessment were used to inform future SEM programs in the region. MNRF completed SEM assessments in 2012, 2013 and 2015 on 261.5, 84.1 and 111 hectares respectively. The areas assessed represented at least 10% of the FTG area submitted by the SFL in the previous annual reporting year. The MNRF utilized the SO_iSTARS assessment program and summarized the results of the SEM in formal reports that included tables comparing SFL results to MNRF for each of the areas sampled. Any differences in FU designation between the SFL and MNRF surveys was explained in the text of the report.

Beginning in 2015-16, MNRF Region took on the responsibility for developing the SEM strategies and associated core tasks. The SEM program for that year focused on two core tasks:

- sample 10% of the area submitted as FTG to test the accuracy of the results, and
- to collect data on 20-30 year old hardwood stands previously harvested using the selection system.

The District completed both tasks and reported formally on the results. The data collected on the hardwood stands is to be used to inform MNRF and science on the condition of those stands today and to use the data to calibrate theoretical data. Bancroft District is to be

commended for the thorough reports on the results of SEM to date and for the amount of SEM completed during the first four years of the 2011 FMP.



Figure 4: A successful FTG Red Pine plantation.

4.7 ACHIEVEMENT OF FOREST MANAGEMENT OBJECTIVES & SUSTAINABILITY

4.7.1 Trend Analysis Report

The Company prepared a very thorough and informative Trend Analysis report for this audit. The format prescribed in the 2009 FMPM Part E Section 4.0 was followed for the most part, although Table AR-14, which reports on the assessment of the achievement of plan objectives, is broken into components and interspersed with explanatory text. This approach was effective.

The forest manager faced some challenges in the analysis. One of the primary challenges is that the forest units were significantly revised in the 2011 FMP to better align them with the units used in the Landscape Guide. The manager did a great deal of work to try to align previous forest units with current forest units to facilitate an assessment of area-based trends. The author had some difficulty completing Table AR-10, which is intended to show how much of the historic harvest areas have been surveyed for FTG success and the results of those assessments. This is an important table and the auditors have found it is common for this table to be improperly completed – it is suggested that Corporate MNRF review and revise the direction to plan authors so it is easier to understand and ensure that next years' auditees are aware of how this table should be completed.

The trends reported in the analysis are well-described and a number of the observations were consistent with the auditors' observations. The Company deserves to be commended for an informative and readable report.

4.7.2 Assessment of Objective Achievement

Appendix 2 contains detailed assessments of the degree of achievement of the objectives of the 2006 FMP and the 2011 FMP, to date.

The 2006 FMP contained ten objectives and many of the objectives had multiple targets associated with them, each target pertaining to an important aspect of the objective. With the exception of one objective, the objectives and targets were met during the 2006 FMP period. It is evident that the approach to managing wildlife has changed from an approach based on prominent individual species to an approach based on the structure and function of the forest at a landscape level, as the 2006 FMP objectives pertaining to white-tailed deer, red-shouldered hawk and pileated woodpecker do not appear in the 2011 FMP. The one objective that was not fully met concerned Aboriginal resource use – part of the objective was to increase the benefits of forest management for Aboriginal communities. The 2009 IFA concluded that small random efforts had been made but there was no sustained effort evident, and so the intent of Condition 34 was not being met on the MLF. A recommendation was issued to MNRF on this matter, which led to a flurry of activity in 2010-11.

The set of objectives was expanded to 23 for the 2011 FMP, and it is very comprehensive, covering most main activities that will be undertaken on the forest, including maintaining or improving relations with Aboriginal people and communities. Of the 2011 FMP objectives, the auditors consider that the Company is on-track to meet or approach 16 of them, while five objectives would be partially achieved and two would not be achieved. These assessments are somewhat subjective because sometimes they are based most strongly on whether the indicator target will be achieved, while in other cases the assessment focuses more on the objective itself. In general, the chief culprit behind partial or no achievement is the low level of harvest, which has been discussed in several places in this report. As the Company's Trend Assessment states, the poor achievement for some landscape objectives has been due to "... the level of harvest has been much less than planned. FMP objectives for forest diversity were difficult to achieve at full harvest utilization therefore it is unlikely that forest diversity objectives for young forest patch distribution will be met. The level of mature and old forest is greater than what the Landscape Guide targets are for Mazinaw-Lanark Forest and will continue to increase if less harvest is occurring."

Unless market conditions and economics change, or natural disturbance plays a role, the modeled landscape conditions will not be achieved. While the level of demand for wood is beyond the full control of the Company or the MNRF, the audit team believes that there are some things the Company can do to spur increased activity.

4.7.3 Assessment of Sustainability

The IFAPP requires the auditors to draw conclusions as to whether forest sustainability is being achieved, as assessed through the IFAPP. For this purpose, the auditors considered the extent to which the objectives of the management plan are being achieved, the condition of the forest, the results from the field inspections and the analytical components of the audit. The auditors do conclude that the MLF was being managed sustainably during the audit period, as assessed through the IFAPP.

The objectives in the 2011 FMP show a substantial evolution from those in the 2006 FMP towards objectives that are more comprehensive and are more clearly based on conservation ecology principles. The Company has been making progress towards meeting a good many of the objectives, and it has been following the management approach set out in the FMP. The

Trend Analysis based its conclusion that the forest is being managed sustainably on these same factors.

The auditors found that the operations viewed in the field were well implemented and there was negligible site damage, damage to residuals, or impacts on aquatic systems. Although the harvest systems for most forest units are based on multiple entries spaced 20-25 years apart, the operations were done in such a way as to have a low impact relative to the norm in forestry. Operational and branch roads were built so as to have minimal impact, roughly 85% of the harvesting involved partial removal, and from the air the forest canopy looked virtually unbroken. Another key consideration is that the renewal rate was keeping pace with the harvest rate.

The Company's renewal success rate is high (90%) but the silvicultural success rate was low at 56%. There is some concern here but less than the low success rate itself conveys. Part of the underperformance can be traced to heaving browsing of oak, hemlock, maple and even some softwood species – the result of the browsing is to push the renewing stand in a direction that differs from what was intended. There is little that the Company can do to prevent this, although a higher rate of clearcutting might help somewhat. The Company has altered its approach to the renewal of white pine under the shelterwood system and the results of this shift (towards more planting) should be evident by the time of the next audit.

The Company is also very careful to observe the requirements for species at risk, and the compliance rate was satisfactory – but for the continued non-compliances of one operator, it would have been excellent. The non-compliances that did occur were minor in impact and did not put sustainability at risk.

What has been challenging, in terms of the management of the forest, has been the low level of harvest, which limits the ability of management to shift the forest condition in the directions that are desired. However, a low level of harvest doesn't negatively impact the sustainability of the forest per se; indeed many would see the impact as being positive for sustainability. A low rate of harvest does make it more difficult to implement a silvicultural system based on entries every 20-25 years. The actual rate of harvest in the HDsel forest unit during the first four years of the 2011 FMP implies a cutting cycle of 100 years, and rates of harvest in other forest units also imply that cutting cycles are much longer than planned. Hence this audit has recommended that the Company increase its level of clearcutting, and extend it into some of the forest units which are currently being exclusively managed under a partial harvest system. The alternative seems to be that the Company should undertake a more stringent assessment of the parts of the landbase that should remain available for harvesting and those parts where harvesting should be suspended until demand increases.

The audit team is also concerned that the new lower level of harvest might place considerable financial strain on the Company and /or the overlapping licensees, however a detailed consideration of this was beyond the audit scope. This audit has made several recommendations that should lead to higher harvest levels, which would generally be good for the forest, as well as local communities.

4.8 CONTRACTUAL OBLIGATIONS

Of the 19 obligations identified in IFAPP, the audit team assessed 17 of these – the remaining two were classified in the IFAPP as being low risk and were among the low risk procedures the auditors are permitted to omit. Obligations with respect to planning, reporting and monitoring

were met, although there are several recommendations directed to the Company related to those activities. The recommendations are intended to address non-critical gaps and shortfalls.

The Company is up to date in all of its Crown payments and has had sufficient funds in the Forest Renewal Trust to meet the minimum balance requirement at each year end but one. The shortfall occurred when an early spring break up delayed wood hauling and there was a gap in inflows that was fully addressed the following month.

The MNRF has the lead responsibility for Aboriginal consultation and for working with communities to help them access economic benefits from forestry. Because MLFI undertakes the operations on the Forest, the SFL requires MLFI to work cooperatively with the Minister and Aboriginal communities to help them access economic opportunities. For most of the audit period, the Condition 34 reports show that for all but one year, there were no allocations or contracts given to Aboriginal communities or companies and there was no hiring from communities for renewal or maintenance. The exception was 2014-15, when a contract for 5 people to plant 9,000+ trees was awarded. Overall, the record is meagre and **Recommendation # 17** is issued to address this obligation.

The auditors reviewed the Company's compliance with the special conditions in its SFL, and concluded that the Company made best efforts to comply but also that many of the conditions are overly complex and out of date due to companies named in the conditions having exited the industry, for example. MLFI's shareholder agreement is very complex and is updated from time to time – there is a risk that the SFL conditions are not updated in a timely manner and so will deviate from the shareholder agreement requirements – a potentially confusing situation. The audit recommends that the Special Conditions be reviewed and amended as appropriate, with the aim of removing or simplifying them (**Recommendation # 18**).

The SFL also has a requirement that the Company deal with X, Y, and Z lands- these are areas that were in the process of being renewed when the forest was created from the two predecessor Crown units. Given the time elapsed for tending the Z lands and the fact there is no requirement to bring these areas to FTG, **Recommendation # 19** directs the Company and District MNRF to discuss how to clear the balance of area identified (458.2 ha) as outstanding.

Lastly, both the action plan and the status report from the previous audit were produced well after the required dates. **Recommendation # 20** addresses these lapses. The majority of actions set out in the Action Plan were undertaken.

In summary, MLFI complied with almost all of the contractual obligations that were assessed in this audit, being out of compliance with respect to the Action Plan and Status Report from the previous IFA and closing out the accounts for the X, Y and Z lands. These gaps are not considered to pose a threat to sustainability.

The auditors observe that the SFL has not been extended since it was issued April 1, 2002. Accordingly, it is set to expire March 31, 2022. Corporate MNRF is working through the process to extend the licence for an additional ten years – as of mid-September 2016, the appropriate Order-in-Council had been passed and the extended SFL is awaiting the Minister's signature.

4.9 CONCLUSIONS AND LICENCE EXTENSION RECOMMENDATION

This audit has reviewed the management of the Mazinaw-Lanark Forest for the period April 1, 2009 to March 31, 2016, which covered the implementation of the last two years of the 2006 FMP and the first five years the 2011 FMP, as well as the preparation of both the 2011 Phase I and Phase II plans. The quality of operations on the Forest is high, and the audit team appreciates that this is a substantial accomplishment, given the complex forest and regulatory environment and numerous operators. Sound management of the forest is attributable to the diligence of the Company staff and the District MNRF. The audit team was also impressed with the high turnout of Aboriginal community representatives on the management planning teams, as well as the level of dedication exhibited, as evidenced by good attendance levels and important contributions to the plan content.

The audit team developed 21 recommendations, in addition to the licence extension recommendation. This is perhaps a slightly higher than average number of recommendations from an IFA and reflects, among other things some of the singular challenges facing the forest. Six of the recommendations were directed towards the MNRF Bancroft District, five towards the Company and five jointly to the District and Company. The remaining five recommendations were directed towards the Corporate level of MNRF; the relatively high number of recommendations directed to Corporate MNRF portrays the fact there are significant needs and opportunities to address forest management issues which occurred on the Mazinaw-Lanark Forest that also have broader implications for management of the Province's forests. Another factor contributing to the high proportion of recommendations directed to District and Corporate MNRF is that recent changes related to MNRF's Transformation Initiative still need some fine-tuning to provide consistent direction and support to forest managers.

In addition to the Recommendations, described in detail in Appendix 1, this audit identified a number of less important issues which present opportunities for improvement. These suggestions appear in a number of places in the audit report. To assist the MNRF and Company in considering them, they are summarized in Table 5. We note there is no requirement for the suggestions to be included in the Action Plan produced for this audit.

Table 5. Summary of suggestions made in the audit.

1. With respect to the LCC, the audit team encourages the MNRF to
 - Seek out potential candidates in line with the gaps in representation identified, and through discussions determine the type of logistical arrangements that will better suit potential LCC members;
 - Implement logistical arrangements to suit the potential new members (the low frequency and time of meetings (i.e. all day) were often mentioned during interviews as a barrier to attract new members);
 - Explore opportunities to use communications technology (webcasts, videoconferencing, etc.) for LCC meetings instead of depending exclusively on "in person" meetings;
 - Propose activities and learning opportunities to make LCC participation more attractive;
 - Explore the option of a per diem; and
 - Outreach communication needs to be carefully worded to attract candidates.
2. The audit team encourages the next planning team to consider including a representative of the OLL's on the Forest.

3. The audit team encourages the MNRF require that more time be allocated to the earlier strategic stages of the planning process when new guides are introduced.
4. The audit team suggests that MLFI align silviculture prescriptions and renewal standards with lessons learned on oak renewal success, match those expectations with historic levels of red oak on the MLF, and tailor efforts to renew red oak to areas further from the deer yards.
5. species at risk suggestion
6. The audit team suggests that the Company develop an approach for backing up staff e-mails, which are stored on their own personal computers.
7. The audit team suggests that the Company and MNRF should ensure that the date of notification for operational issues / non-compliant incidents is recorded in the appropriate FOIP report.
8. The audit team that suggests that Corporate MNRF review and revise the direction to plan authors for completing Table AR-10 so that it is easier to understand how this table should be completed.

The overall results of this audit are favourable. Management of the Mazinaw-Lanark Forest as implemented by MLFI and Bancroft District MNRF (as the lead MNRF District) is found by this audit to be sustainable.

The audit team concludes that management of the Mazinaw-Lanark Forest was generally in compliance with the legislation, regulations and policies that were in effect during the term covered by the audit, and the Forest was managed in compliance with the terms and conditions of the Sustainable Forest Licence held by Mazinaw-Lanark Forest Inc. Forest sustainability is being achieved, as assessed through the Independent Forest Audit Process and Protocol. The audit team recommends the Minister extend the term of Sustainable Forest Licence 542621 for a further five years.

APPENDIX 1 – AUDIT FINDINGS

Recommendation # 1
<p>Principle 2: Public Consultation and Aboriginal Involvement</p> <p>Criterion 2.1: Local Citizens Committee</p> <p>Procedure 2.1.2.1: Review and assess whether the LCC met the purposes and conducted its activities in accordance with the applicable FMPM. Include the following: ...</p> <ul style="list-style-type: none"> interview a representative sample of LCC members and review LCC reports to determine whether in their view the LCC has achieved its purpose and if there are areas where the LCC can be improved;
<p>Background Information and Summary of Evidence: This audit reviewed the minutes of LCC meetings held from October 2009 to March 2016 and conducted interviews with LCC members and MNRFF. LCC members were consistent in their assessment that MNRFF's administrative support was lacklustre. Examples included some action items not being followed up, previous meetings' minutes not being ready for review and approval at the following meeting, and a lack of MNRFF response to LCC requests (e.g. requests for a field trip). For instance, there have been on-going discussions about paying a per-diem or covering child care expenses to enable a mother to attend an LCC meeting, or re-thinking how/when meetings are conducted. The sense from LCC members is that these discussions are noted but there are no clear responses to them.</p>
<p>Discussion: A number of factors contributed to the situation described above, which become more acute in recent years. Key challenges include MNRFF's difficulties in hiring and retaining staff, which led to prolonged vacancies in positions that were critical to supporting the LCC and a lack of consistent administration.</p> <p>An unusual aspect of the LCC that the audit team feels creates challenges is the approach of having two meetings per year during periods when there is no planning. The meetings generally last the better part of the day. The long interval between meetings makes it difficult to retain any momentum on topics, and likely hinders MNRFF's support to some extent ... for example, it may be challenging for the District Manager to spend an entire day at an LCC meeting. Furthermore, this approach to meetings makes it difficult to build rapport amongst LCC members and attract new recruits, since most working people will not be able to attend the meetings.</p>
<p>Conclusions: The LCC is being held together by the dedication of its membership. Most members are long-serving. The appearance is that MNRFF has treated the LCC with something approaching benign neglect. The unusual manner in which meetings are held when there is no planning (twice a year for the better part of the day) likely contributes to a number of the issues identified above, and will only become more pronounced as the new FMPM is unlikely to require the development of a mid-term operating plan.</p>
<p>Recommendation: Bancroft District MNRFF shall strengthen its administrative support of the LCC and review the frequency, times and ways in which meetings are held.</p>

Recommendation # 2
<p>Principle 2: Public Consultation and Aboriginal Involvement</p> <p>Criterion 2.5: Aboriginal Involvement in Forest Management Planning</p> <p>Procedure 2.5.1.1: Aboriginal community consultation and involvement in FMPs, amendments ...</p> <p>Review and assess whether reasonable efforts were made to engage each Aboriginal community in or adjacent to the management unit in forest management planning as provided by the applicable FMPM and assess the resulting involvement and consideration in the plan or amendment.</p>
<p>Background Information and Summary of Evidence and Discussion: Part A Section 4 of the FMPM requires the District Manager to contact each “<i>Aboriginal community in or adjacent to the management unit whose interests or traditional uses may be affected by forest management activities</i>”. Initial contact is to be made at least six months before the start of the formal public consultation process associated with both Phase I and Phase II Forest Management Planning. At this time, the DM is required to offer to discuss how the community may be involved in planning, including an option to develop a custom consultation process.</p> <p>For Phase II planning, neither the Mohawks of Bay of Quinte First Nation nor the Kawartha Nishnawbe First Nation was contacted by MNRF under Part A Section 4. Neither was the Métis Nation of Ontario (MNO). The Mohawks and Métis expressed to the audit team an interest in part of the Mazinaw-Lanark Forest. The Mohawks of the Bay of Quinte expressed to the audit team their frustration at not being offered the opportunity to participate in the planning process as planning team members. The auditors observe that the Mohawks of Bay of Quinte were offered customized consultation under Section A Part 4 during the development of the Phase I FMP, since MNRF identified that they “<i>may have an interest in the forest management in ... the Management Unit.</i>” District MNRF staff did make some additional effort to contact them during Phase II.</p> <p>The Ontario government conducts its own assessment of its duty to consult with each Aboriginal community in the province. This is based on factors including whether the community has an established or credibly asserted Aboriginal or treaty right. The results of this assessment are part of the basis used by MNRF to decide which communities are to be contacted to see if there is interest in customized consultation.</p> <p>The auditors were not able to establish with certainty the process used during Phase II planning to identify which communities were to be contacted under Section A Part 4. In its interviews with various MNRF staff, the audit team is given to understand that some variances were present in the descriptions of the process and criteria used by MNRF.</p>
<p>Discussion: The audit team observes that the language regarding “established or credibly asserted Aboriginal or treaty rights” is not present within the 2009 FMPM, and the auditors believe that the test that was applied during Phase II is different and more stringent than the test set out in the FMPM, The auditors conclusion is based on the facts that the FMPM does not state how or who decides whether there are “interests or traditional uses” present, nor does the FMPM mention rights, which are stronger than interests or traditional uses, in the minds of the auditors.</p> <p>The auditors note that the language used in the draft version of the new FMPM is clearer than that in the 2009 FMPM; the draft states that “<i>traditional uses may include established or credibly asserted Aboriginal or treaty rights</i>”.</p>
<p>Conclusion: The audit team believes that during Phase II, MNRF used a different and more stringent standard than the one set forth in the 2009 FMPM as a basis for deciding which Aboriginal communities would be contacted under Part A section 4 of the FMPM, is. Based on the comments received by the audit team from the Mohawks of the Bay of Quinte and Kawartha Nishnawbe First Nations, both those communities would appear to meet the test in the FMPM.</p>
<p>Recommendation: Corporate and District MNRF shall ensure that the test provided in the FMPM is used to determine which Aboriginal communities are eligible to receive an offer of customized consultation under Section A Part 4.</p>

Recommendation # 3

Principle 3: Forest Management Planning

Criterion 3.4.1.2: FMP achievement of the checkpoint “Support for Base Model and Base Model Inventory”.

Procedure 3.4.1.2.1: Assess and report on whether the FMP modeling assumptions used are reasonable and whether they are based on the best available information. Examine:

- The methodology and assumptions used in modelling the forest
 - For the base model
- All modelling assumptions including ... unplanned disturbances....

Background Information and Summary of Evidence: The Analysis Package for the 2011 FMPM shows that the disturbance cycles used in the base model reflect anticipated fire return times. The estimated present day return times range from 1500 years for the INTcc forest unit to 2500 years for the HDus forest unit. These estimates take into account fire suppression and represent a compilation of estimates from several modeling tools as well as historic land survey data and more recent fire losses. The resultant annual loss of area to disturbance was calculated at 40.3 ha.

The audit team observes that the Mazinaw-Lanark Forest is not a fire driven ecosystem – disturbances tend to be small, opening up gaps in the canopy by removing a small number of trees. However, more extensive disturbances do occur, caused by wind, ice storms and insects. While these disturbances may not kill entire stands in the same way that fire can, wind storms have the potential to be destructive enough to flatten large swaths of forest. For example, the Analysis Package refers to a 2002 wind event that damaged 800 ha. During the audit period, a total of 99.3 ha of windstorm damage was salvaged.

During review of this audit report, the Company contended that other disturbances were considered in the determination of the disturbance return times. However, while the discussion in the FMP analysis package provided some mention of other disturbance types, they did not enter the analysis in any discernible way.

Discussion: The SFMM model is based on even-aged forest management and a disturbance regime dominated by fire. The model is not able to characterize the more complex disturbances such as insect infestations and damage from wind and other extreme weather events.

As described above, wind is a key disturbance agent in a forest such as the MLF. While it most often creates small gaps as individual trees, or small clumps of trees, are blown down, it is not common for larger areas to be blown down due to microbursts and other violent weather events. Fire is also present in these stands, most often as low-intensity burns that remove the litter and duff, killing the younger, thin barked woody vegetation. Of these types of disturbances, it is only the larger scale ones that are relevant for estimating the area of stand-replacing events – small scale losses that create gaps are reflected to some extent in the growth and yield curves.

The audit team contends that a sample size of a few decades, or even a couple of centuries, is an inappropriate basis for estimating the length of return times that are much longer. This is analogous to asking someone to describe what an elephant looks like based on examining its tail. Large disturbances may well be infrequent but it stretches credulity to think that disturbance is so infrequent that the return times are as long as estimated. An increasing human presence and changes associated with climate change can only increase the rate of disturbance.

Conclusions: The audit team believes that the return times under current management that are used in the 2011 FMP are too long – they should take into account other disturbances besides fire at a minimum – and also make an allowance for the impacts of climate change.

Recommendation: The Planning Team for the next FMP (expected in 2021) shall consider all aspects of natural disturbance when setting disturbance cycles for the MLF.

Recommendation # 4

Principle 3: Forest Management Planning

Procedure 3.4.1.5.3: FMP Achievement of Checkpoint “Preliminary Endorsement of LTMD”

3. For the preliminary determination of sustainability ... assess:

- whether it provides for the collective achievement of management objectives and progress towards the desired forest and benefits ...

Principle 4: Plan Assessment and Implementation

Procedure 4.1.1: In the conduct of the field audit, examine areas of the FMP that can be assessed in the field and assess whether the FMP was appropriate in the circumstances, including consideration of ...modelling assumptions ...

Principle 7: Achievement of Management Objectives and Forest Sustainability

Procedure 7.2.2: In the audit report document the following... [evaluate attainment of objectives] and consider progress towards achievement of the selected management alternative/management strategy/LTMD.

Background Information and Summary of Evidence: The Trend Analysis illustrates that since the early 1990's, the actual harvest area in the MLF has tended to be more or less 60% of the planned area. Since the start of the 2011 FMP, it has declined further to 36% during the first three years of the plan period. Realized harvest volumes have been of a similar proportion to the planned volume. During the periods 1993-2001, 2001-06 and 2006-11, the average annual harvest volumes were 91,041 m³/yr, 95,308 m³/yr and 103,093 m³/yr, respectively. All of this suggests that the industrial demand is within the range of 90,000 – 100,000 m³/yr. Given this lengthy record of harvesting, the 2011 FMP's planned volume of 222,549 m³/yr is very optimistic at approximately twice the level achieved over the past two decades.

The planning team undertook a scoping analysis as required by the FMPM, which considered the outcome associated with various harvest target levels. Harvest levels were among the factors that were varied in the scoping analysis, and it is noted that the FMPM did cap the HdSel harvest at 10,000 ha over the ten-year plan period. Without the cap, the AHA for the HDsel forest unit might have been 10-15% higher in the first plan period.

The underachievement of harvest targets is common throughout Ontario's tenured forests (data available in the MNRF 2012 State of the Forests Report and annual reports on forest management), hence MNRF has been actively seeking mechanisms to make unused portions of the harvest more widely available. It is notable that the MLF 2011 FMP planning team capped the harvest from the HDsel forest unit in recognition of the expected inability to harvest the full available amount. Almost all other planning teams in the province set the planned harvest within a percentage point or two of the AHA level. While it is a positive step that the planning team made some movement towards a more realistic harvest, there remains a large difference planned and actual harvest levels, and a larger one between what is theoretically available from the forest (i.e. the AHA) and what is actually harvested.

Discussion: The issue of underachieving the planned harvest affects many aspects of forest management, ranging from planning activity levels, budgets and renewal rates to achieving many of the FMP objectives. In particular, the future forests will not be as predicted according to the LTMD in the FMP. There is also an opportunity cost associated with not planning in such a way that will optimize the values and services provided by the forest. Lastly, planning for a more realistic harvest will enable the forest manager to defer harvesting in areas of the forest that are expensive to harvest and that host lower valued stands. To a large extent this already happens – explicitly acknowledging it and planning for it would benefit the Company and its shareholders.

It is difficult to argue that lower-than-planned harvests will detrimentally affect the sustainability of the forest. However, in the case of the 2011 FMP, the low harvest means that the socio-economic objectives related to

the benefits from the timber harvest will not be met. Efforts to create a range of disturbance patch sizes and patches of young forest will also not be met, and future levels of old growth are likely to be substantially higher than they are at present.

MNRF is in the final stages of preparing a revised FMPM, expected out in 2017. Draft versions that have been released for public review have modifications of the harvest planning approach. The FMPM requires planning teams to undertake a risk assessment associated with the planned harvest, and make adjustments based on the conclusions. One risk which may be considered is the risk that the harvest will be well below the allowable level. However, the FMPM has also removed the surplus declaration mechanism, which allowed planning teams to declare allocated area surplus to industrial needs, thereby removing it from the planned harvest. MNRF indicated that this mechanism was rarely used, which is true, but without it, the approach in the draft FMPM to setting a more realistic planned harvest is not readily apparent.

Conclusions: Presenting an 'optimistic' scenario of the future, as current plans do, has some utility in that it provides a planning benchmark. However, FMP's such as the 2011 MLF FMP would be more valuable if they were based on more realistic future harvests, especially when the actual harvest has been quite uniform over the past 20 years. This situation is not confined to the Mazinaw-Lanark Forest; rather this approach to forest planning is followed across Ontario.

MNRF is planning revisions to the FMPM that require a risk analysis to be undertaken before the LTMD is finalized, and the auditors provide the following recommendation to ensure that the risks associated with continued under-harvesting will be fully considered.

Recommendation: The Planning Team for the next FMP (expected in 2021) shall fully consider the risk that a continuation of the historic underharvest will compromise the achievement of that plan's objectives.

Recommendation # 5

Principle 3: Forest Management Planning

Procedure 3.5.2: FMP AOC Prescriptions

1. Review the AOC prescriptions and assess whether

- adequate information was available for AOC planning
- documentation of AOCs and any related issues meets the applicable FMPM requirements including whether
 - planning of AOCs followed approved forest management guides
 - planning of AOCs included environmental analysis of alternatives that would support protection of the values (where alternatives are required of the applicable FMPM)
 - public comments were summarized and considered
 - specific prescriptions for planned harvest, renewal and tending activities are appropriate to protect the values
 - any exceptions to forest management guides were approved, appropriate in the circumstances and accompanied by an appropriate effectiveness monitoring program
 - AOCs were identified on maps including the selected prescription where practical

Background Information and Summary of Evidence:

As a result of strong legislation (i.e., the Endangered Species Act and the Crown Forest Sustainability Act), forestry operations must accommodate and protect forest values. The audit requires a review of the "...sources of information on the values maps..." This includes three aspects of values collection: 1) Wildlife non Species at Risk (SAR) values; 2) Wildlife SAR values and 3) non Wildlife values.

For wildlife values, MNRF created a values survey strategy document, called "Fish and Wildlife Values Collection and Mapping in Forest Management Planning: A Southern Region Strategy (OMNRF 2016)" (Values Collection Strategy). This describes the basic requirements and responsibilities of wildlife values surveys. This document was a good consolidation of the various approaches and helpful in seeing progress.

The auditors found that the current values survey approach for non SAR wildlife (1) and for non wildlife values (3) is being well administered and delivered. Of the three values types, only SAR values collection (2) had a problem. MNRF is making a big effort to address a backlog in surveys for some Species at Risk. Some of the blocks in the AWS did not have Species at Risk values information ready for this harvest year. This backlog has been building since the requirement for SAR surveys ramped up, early in the term of this audit period.

MNRF Region put in place a special survey crew in 2015 for a two year project to reduce the backlog on several Southern Region forests. This effort has been successful in reducing the backlog. Some of the sensitive values are significant impediments to regular forest operations, so a values collection program that is providing values information well before harvesting is planned is of great importance for the company. Survey lag was a problem in the last IFA as well.

Discussion: Part of the problem is the timing of the planning system which means that AWS blocks are not identified until the winter before they are harvested, which does not leave much time for a survey. Region is attempting to get far ahead on blocks that are not allocated, but this is difficult given the size of the forest. Ideally, if AWS blocks were identified a year in advance, required surveys could be completed sufficiently far in advance of harvesting.

The values survey pilot project is scheduled to end in 2016 and based on the current level of survey completion, there will still be a gap (albeit less than at the start of this Regional initiative). Districts will then be solely responsible for keeping their values surveys ahead of harvest planning; maintaining the current level of effort, whether through the Region or the District, may allow the gap to continue to close.

For context, according to current FIM requirements, element occurrence (EO) data is valid for 20 years. Over this 20 year time frame, MNRF needs to be able to complete and maintain the overall habitat use data for the entire forest for at least the priority species. This will require maintaining the current level of effort for some time. For comparison, the industry is required to tree mark and prepare for harvest a large area of forest for each AWS. They also must cover the entire area of MLF. MNRF needs to match that level of effort and time frame for values collection, on an ongoing basis. The delivery mechanism for values surveys needs to be reviewed as well. Surveys conducted on a contract basis by external companies or even the SFL companies may be more effective. This should be evaluated.

Conclusions: The audit team noted the complexity of values mapping on this forest. Like other central Ontario forests where tree marking occurs, the number of values recorded is high. MLF is likely the most complex of any SFL, because of its more southern location and more productive habitats. The values mapping is well done. Field visits to the sites showed the element occurrences were as documented. Although MNRF has in place a project that is closing the gap on SAR values collection, during the term of the audit the future of this program was undecided. A recommendation is made based on the need to fully address the values collection gap and project the future needs of this work.

Recommendation: Bancroft District MNRF shall maintain its commitment to ensuring completion of ESA listed Species At Risk surveys for blocks that are likely to be included in upcoming AWS's. The delivery mechanism for the values surveys should be reviewed and the use of alternate service providers such as external companies or SFL companies should be considered.

Recommendation # 6

Principle 3: Forest Management Planning

Procedure 3.5.2: FMP AOC prescriptions

1. Review the AOC prescriptions and assess whether

- adequate information was available for AOC planning
- documentation of AOCs and any related issues meets the applicable FMPM requirements including whether
 - planning of AOCs followed approved forest management guides
 - planning of AOCs included environmental analysis of alternatives that would support protection of the values (where alternatives are required of the applicable FMPM)
 - public comments were summarized and considered
 - specific prescriptions for planned harvest, renewal and tending activities are appropriate to protect the values
 - any exceptions to forest management guides were approved, appropriate in the circumstances and accompanied by an appropriate effectiveness monitoring program
 - AOCs were identified on maps including the selected prescription where practical

Background Information and Summary of Evidence and Discussion:

MLFI has long been interested in pursuing an overall benefit through use of the CFSA as an instrument of the ESA (section 18). The Company made this known during the last IFA, and this resulted in a recommendation which said (excerpt):

“Corporate and district OMNR should work with MLFI on ... how the company can make their operations comply with the ESA through the FMP, as an instrument of the ESA”

The 2009 recommendation refers to “instrument of the ESA” which is the subject of section 18 of the ESA. The Corporate MNRF Action Plan did not mention section 18 and spoke to actions related to sections 9 and 10, which are unrelated. Now, at the behest of the industry, MNRF is now doing “early thinking” (MNRF document) on a section 18 approach.

Conclusion: The “section 18” direction remains a reasonable approach and MNRF is following that course now, however the initiative has not advanced much in seven years and needs to receive some concerted attention and effort.

Recommendation: Corporate and Regional MNRF shall inform MLFI how they can make their operations comply with the ESA through the FMP, as an instrument of the ESA (section 18).

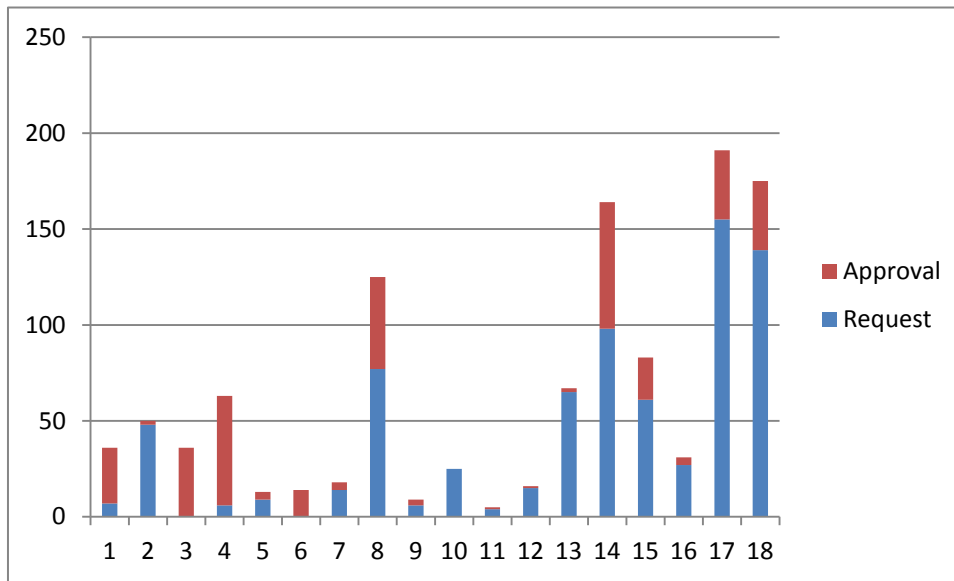
Recommendation # 7

Principle 3: Forest Management Planning

Procedure 3.13.1: Review the FMP or contingency plan amendments.

Background Information and Summary of Evidence: The 2009 FMPM states that MNRF will normally decide whether to approve an amendment request within 15 days of its receipt, including deciding how it should be categorized. Generally, the amendment is prepared in conjunction with the amendment request so that once the request is approved, the amendment can be submitted hopefully receive prompt approval. MLFI submitted amendment requests for 16 of the 18 amendments of the 2011 FMP during the audit period, and the average processing time was 47 days, and for the last six amendment requests submitted, the average processing time was 91 days. The average time from amendment submission to approval was 20 days on average, and it was 28 days for the last six amendments.

MNRF pointed out that some amendments took a considerable amount of time to process since meetings with advisory groups were required – specifically the process for considering amendment #8 involved two advisory group meetings. Removing this amendment from consideration reduces the average turn-around time to 45 days, still well above a reasonable length of time.



The figure shows, for each amendment, the time taken to approve the amendment request (“Request”) and the time taken for the submitted amendment to be approved (“Approval”). The last six amendments took an average of 119 days to be approved, from the submission of the original amendment request.

Discussion: The District was able to review amendment requests somewhat promptly during the first part of the 2011 FMP period; the average processing time of the first 12 amendment requests was 20 days. The average interval from amendment submission to approval was 17 days during this period, for an average turnaround of 37 days. The auditors were not able to pinpoint the reasons for the moderate performance, however some can undoubtedly be traced to lack of staff resources, since the District was not funded sufficiently to employ its full allowable complement of staff. The auditors also considered whether the low frequency of LCC meetings also contributed to delays, however LCC concurrence to the suggested categorization does not appear to have been a significant factor – the LCC chair was often readily available for a discussion of any upcoming amendments and was permitted to categorize them without requiring input from the rest of the LCC.

The impact of the more challenging MNRF staffing environment after 2012, when the Transformation

Initiative was announced, can be readily seen since the last six amendments (#13 – 18) were processed during 2013 and 2014. **Recommendation # 12** has been developed to incent MNRF to deal with its staffing challenges.

Conclusions: Because many amendments arise due to unforeseen conditions on road construction sites and harvest blocks, it helps the Company greatly if the amendments can be processed speedily so as to minimize operational disruption and added cost. During Phase I of the 2011 FMP, there was room for improvement in this regard, especially as Bancroft District MNRF took an average of 119 days to approve the six amendments submitted in 2013 and 2014. This is an unacceptably long period of time, and the time required to approve amendments requests has recently been well in excess of the MNRF's timelines.

Recommendation: Bancroft District MNRF shall review and speed up its processing of FMP amendment requests and the submitted amendments to bring its turnaround time in line with the targets in the 2009 FMPM.

Recommendation # 8

Principle 4: Plan Assessment and Implementation

Procedure 4.3.1: Harvest Review and assess in the field the implementation of approved harvest operations. Include the following:

- assess whether the harvest and logging methods implemented were ... appropriate and effective for the actual site conditions encountered ...

Background Information and Summary of Evidence: The audit team observed that the partial harvesting on many blocks could have removed about 5-10% more timber. In some blocks, the stand had been harvested recently but was already close to being able to support a subsequent harvest. Moreover, there were numerous large trees left that would have been prime targets for loggers and even removing one additional tree per hectare would help the economics of harvest operations.

Company staff and contractors all acknowledged that there is a bias towards caution, which leads markers to retain a few more trees /ha. Harvesters tend to leave a few marked trees (usually polewood which are smaller and may not be worthwhile harvesting).

Discussion: The MLF competes with private land for the interest of contractors and during the last two decades, the harvest has ranged from 90,000 to 100,000 m³/year, well below planned levels. As discussed at length elsewhere, the harvest has declined further.

The auditors think that the Company and MNRF have become overly cautious and that some increase in the intensity of harvesting is merited. The auditors think that on many, but not all, partial harvest blocks, an additional 5-10% could have been removed. It is not a substantial increase that we have in mind.

The auditors also think that the Company would benefit from increasing the range of stands that it prescribes for clearcutting. Low to mid grade tolerant hardwood stands merit consideration, and some of the oak and white pine stands that have relatively low proportions of these species could be cut using the clearcut with standards prescription. One of the benefits of increasing the amount of clearcutting would be to increase the amount of young forest created. Less than 5% of the forest is younger than 40 years of age, and the area of pre-sapling, sapling and T-stage stands is 23,657 ha, which is towards the low end of the desirable range (19,822 – 50,437 ha).

Another reason to consider an increased level of clearcutting is the difficulty of achieving the target harvest return times in stands that are managed using partial harvest systems. For example, during the current plan period, the annual rate of harvest in the HDsel forest unit implies a 100 year cutting cycle, well above the planned level of 30 years. This implies years of little to no growth while the stand waits for the return harvest. Similarly, it is important to be able to schedule the return harvest in a shelterwood stand as well, so as to optimize the development of the next stand. An excessive delay means either foregoing the next harvest and having the new stand experience a high degree of competition from the mature canopy or creating a lot of damage to the regenerating stand.

Conclusions: The low level of harvest on this forest entails that the management of the forest would be better served by expanding the amount of clearcutting and increasing the intensity of many of the partial harvests. This would also create additional young forest, which would be beneficial at the landscape scale and also attract more harvesting activity. The audit did not examine the financial condition of the Company but it stands to reason that the significant reduction in harvest level experienced during the current plan period must cause some financial strain if the condition persists.

Recommendation: MLFI shall increase the range of stands that it prescribes for clearcutting and increase the intensity of its partial harvesting in stands where appropriate.

Recommendation # 9

Principle 4: Plan Assessment and Implementation

Procedure 4.3.1: Harvest Review and assess in the field the implementation of approved harvest operations. Include the following:

- assess whether the harvest and logging methods implemented were ... appropriate and effective for the actual site conditions encountered ...

Background Information and Summary of Evidence:

The SFL for the MLF has a special condition that requires the company to make available for tendered sales 20% of the available volume from the former Lanark Forest and 7% of the volume from the former Mazinaw unit. Between 2009-10 and 2014-15, the Company successfully held seven tendered sales, which handily exceeded the number of tendered sales in the rest of the province. A total of 11,867 m³ was harvested as a result of these sales during the first six years of the audit period.

This is an excellent result. In contrast, the provincial Tenure Modernization Initiative intended for there to be some tendered sales in each forest management unit however there has been little progress towards implementing this part of the Initiative. While it has been successful in holding tendered sales, there appears to be an opportunity for the Company to increase the number of sales – the 2011 FMP forecasted an average volume of almost 4,000 m³/yr sold through tendered sales whereas the actual achievement during the first four years of the plan period has been closer to 1,500 m³/yr.

One of the possible obstacles to a more vibrant tendered sales market may be the restrictions that prevent a number of the shareholders from bidding. These restrictions are contained within SFL Special Condition #3 and reflected in the Shareholders' agreement. The audit team questions whether this restriction is still relevant and in the best interests of the Company.

Discussion: As has been discussed in many places in this report, one of the central issues on the MLF is the low level of harvest. The auditors have the impression that there should be a vibrant market for timber in the area, since there are numerous small and medium sized mills, including the Norampac mill which is reported to be eager to obtain any fiber it can. Obviously pricing needs to be acceptable, however most of the unit is well-accessed and some of the timber in the forest is especially valuable.

Tendered sales represent an avenue for increasing the harvest on the forest, which the audit team considers to be beneficial for the forest, the Company and its shareholders, and for the regional forest sector. There is a considerable amount of flexibility provided by tendered sales – there is the possibility of tendering low quality blocks for a very low price while high quality blocks should fetch a premium. It is not necessary that every tendered sale turn a profit as long as the program as a whole provides a net benefit to the Company. MLFI would seem to have the capability of enhancing its net revenue to some degree if it could hold more tendered sales and have a larger pool of potential bidders.

Conclusions: There are a number of benefits associated with expanding the amount of tendered sales held on the MLF. The shareholders and management can both play a role in making this happen, perhaps by amending the shareholders' agreement and /or providing direction to MLFI management that would allow a greater number of tendered sales. **Recommendation # 18** directs MNRF to initiate a review and revision of the terms of the Special Conditions in the SFL, a number of which are outdated.

Recommendation: MLFI's management and shareholders shall increase the amount of tendered sales that are conducted on the MLF.

Recommendation # 10

Principle 4: Plan Assessment and Implementation

Procedure 4.2.1: Review and assess in the field the implementation of approved AOC operational prescriptions. Including the following:

- provide an assessment as to whether the AOC prescription was appropriate in the circumstances

Background Information and Summary of Evidence:

MLF may have the most complex AOC prescriptions in Ontario, due to the site specific and time dependent prescriptions for the sensitive species in the area. The Company has been proactive in and cooperative in the application of the Endangered Species Act to the fullest, including pursuit of an overall benefit permit (section 17 of the ESA), or overall benefit through use of the CFSA as an instrument of the ESA (section 18). The Company made this known during the last IFA, resulting in a recommendation which said (excerpt):

“Corporate and district OMNR should work with MLFI on ... how the company can make their operations comply with the ESA through the FMP, as an instrument of the ESA”

“MNR is developing policy direction to guide the interpretation of "damage and destruction" of habitat and "kill, harm or harass" of species under section 10 and 9 of the ESA respectively.”

More recently, MNRF is open to the Company completing a *section 17 c* application and has been publicly supportive. MNRF has put resources in place to assist in reviewing the application. Meetings have been held to discuss some of the Company’s strategies, including an operational trial of a new prescription. MNRF maintains the door is open for an application but the process is “proponent driven” meaning that it is up to the Company to come up with the technical knowledge of what is “overall benefit” and “mitigation of adverse activities”, the two components of the permit. Although MNRF is supportive, MNRF has in place an application process that is daunting to a small company with no technical biological expertise. Recent discussions about SAR with the company were positive but left the Company feeling that it did not have the capacity to be successful in an application.

Discussion: Part of the reason for this may be that there are no forest industry permits that have been issued. These precedents would help the Company to assess the level of effort required. We note that in contrast, the Ministry of Transportation applied for and obtained, in a reasonable time, a section 17 c permit to construct a four lane highway through some of the highest density herpetological habitat in Ontario (Highway 11 Parry Sound). It does appear that permits can be obtained, although unfortunately examples (or a database) of overall benefit activities are not public.

In spite of the existing knowledge about SAR in the MLF, the Stand and Site Guide is not intended for use in determining the forestry activities allowed or required for a section 17 permit, although it may inform the discussion. The Company would start at the beginning, working through the application and determining what is “mitigation of an adverse effect”, and what is an “overall benefit”. The application form requires this. The Company has done a great deal of background work and analysis and in the opinion of the auditors, has the information at hand that is needed for an application.

Conclusions: In order to move forward, the Company needs to trigger MNRF to respond to a request for section 17 permit, and then be able to judge whether it is promising or not. The audit team was not able to get a sense of the type of requirements that would come from MNRF. This recommendation has been developed to encourage the Company and the MNRF to at least explore the possibilities of a section 17 permit.

Recommendation: MLFI shall follow through with its stated intent to apply for a permit under Endangered Species Act *section 17* to determine whether this avenue is viable. MNRF should be prepared to promptly respond to this application and assist in suggesting options for “mitigation of an adverse effect” and provision of an “overall benefit”, consistent with permits that have been issued in other business sectors.

Recommendation # 11

Principle 4: Plan Assessment and Implementation

Procedure 4.6.2: Renewal Support

Review and assess whether actual tree seed collection and nursery stock production is appropriate for the site conditions encountered on the management unit, and at the level required of actual operations, in consideration of the management strategy and SGRs. Consider whether there are any gaps between the planned and actual levels; consider results of determination under criterion 6.

Background Information and Summary of Evidence and Discussion:

The Mazinaw-Lanark Forest has a white pine seed orchard (Taylor Lake) within its licence boundaries. The seed orchard was established in the 1990's by MNRF to service a variety of agencies, and is presently managed by Forest Gene Conservation Association (FGCA) on behalf of MNRF with funding from Forestry Futures. The funding provided through Forestry Futures is interim funding for two years (2015 and 2016) that allows for monitoring the health of the trees and cone production at Taylor Lake but does not cover cone collection.

Prior efforts to develop a long-term plan to manage the orchard have not been completed. A draft agreement to co-manage the seed orchard was prepared in 2005 and includes seven organizations: MNRF, Angus Seed Plant, MLFI, FGCA, Eastern Ontario Model Forest, Lanark Stewardship, Canadian Forest Service and Ferguson Forest Centre. The draft has never been signed and there was no evidence of any recent interest in finalizing it. The 2011 FMP references the MOU but the plan does not contain discussion of any management activities related to the seed orchard.

The Taylor Lake seed orchard was established with seed from Zones 30, 35, and 36. The Phase II FMP states that MLFI may investigate collecting Pw from seed zones 35 and 36 based on the science that "global climate change will eventually result in longer growing seasons and collection of seed should be partially sourced from warmer locales". However, because there are no records of which trees in the orchard are from which seed zone, MLFI has stated they do not use the seed from the seed orchard to avoid growing trees from seed zone 30.

More broadly in Ontario, forest genetics and seed production strategies have received little attention or resources from MNRF for at least a decade or more. There is no longer a provincial geneticist position within MNRF and, currently the Southern Regional position is vacant. The audit team was informed that Corporate MNRF is reviewing the outdated policy (1987) on seed management and genetics but there is little communication with seed orchard managers or SFLs.

Discussion: MNRF spent a lot of time and money to develop the Taylor Lake seed orchard. Interviews with Regional staff indicate that the seed orchard has not always been a great seed producer however it is unclear why this is. The lack of a current provincial policy on forest genetics and seed management and lack of direction on the current tree improvement program for managing seed orchards puts at risk the previous investments made by the Crown, the tree improvement organizations and the forest industry, such as the Taylor Lake orchard. The absence of staff in key positions to provide advice and direction to SFLs and seed orchard managers is of concern to the auditors.

Conclusion: The Taylor Lake seed orchard is representative of the lack of direction and general guidance on forest genetic resource management in the province. For Taylor Lake in particular, it is unclear to all parties involved who is responsible for collection of seed from the seed orchard. The auditors conclude that MNRF should move forward with a decision regarding management of this seed orchard in particular and a review and revision of its policy on seed management and movement that takes into account climate change.

Recommendation: Corporate MNRF shall support the development of a long-term management approach for the Taylor Lake seed orchard and complete its review of policy to manage seed and stock movement in the province.

Recommendation # 12

Principle 5: System Support

Criterion 5.1 Human Resources

System support concerns resources and activities needed to support plan development and implementation so as to achieve the desired objectives. The organizations' human resources and information management systems must support sustainable forest management.

Background Information and Summary of Evidence: The entire MNRF organization has been undergoing major changes during the audit term. Some of these changes have been caused by the wave of retirements of the very large cohort of MNRF staff in the 55 years and above age range. This has opened up numerous vacancies within the organization. However, fiscal constraint by the provincial government led to measures that effectively limited District staffing levels to perhaps 80-90% of the positions listed in the District staffing template.

In 2012, the provincial government announced a major re-structuring of the MNRF, called MNRF Transformation; it was developed and rolled out during 2013-2015. One of the key attributes of Transformation has been the shift of numerous responsibilities away from the District to the Regional level. The implementation of Transformation, as well as the uncertainty caused by the long interval between the announcement of the initiative and the decision on what the new staffing structure would look like, triggered an increase in the intensity of staffing moves within MNRF.

During the past two years, the audit team has observed that the District and Regional MNRF staff are still on the learning curve associated with implementing the new organizational structure, with the result that operational efficiency within MNRF appears to have some way to go before the hoped for benefits of Transformation can be realized.

The foregoing is an overview of some of the root causes for a number of observations made during the course of this audit:

Of the five District MNRF members on the planning team for the 2011 FMP, only one was still in the District to participate on the Phase II planning team. Of the five MNRF members of the Phase II PT, only one remains in the District. During the audit itself, at least two new staff arrived at the District and then moved elsewhere. At the time of this audit, there were only two District staff who had been active in the District at the time of the previous audit.

The turnover is bound to leave positions vacant for at least a few weeks, and during that time, the workload associated with the vacant position needs to be directed to other staff. Typically only the highest priority items will get done during this period.

With the frequent changes in staff, it has been difficult for Company staff and stakeholders to form working relationships and the continuity of processes is interrupted. Field inspections requiring MNRF staff may take considerable time to organize.

New staff always need time to get up to speed with the people, issues and opportunities associated with their position and the forest, while it is difficult for Company staff and stakeholders reps to know who to speak with. The auditors also experienced first-hand the inability of MNRF staff to direct us to the appropriate staff person in the regional office to answer some of our questions. The audit team was also informed by various stakeholders that many of the new staff are inexperienced and tend to either stick to the letter of the rule or avoid making decisions. The audit team found that the Corporate Status Report was written by an intern

These circumstances have led to a decline in the capacity of the MNRF to meet its obligations in a timely and effective way, and have created delays and added costs to the Company.

In the course of this audit, a number of examples were observed of less-than-desired levels of performance, including slow amendment processing, the on-going lag in values collection and provision of this

information to the Company, delays in preparing LCC minutes and support materials, and some weaknesses in information management at the District MNRF. Many stakeholders commented that it was very frustrating trying to get information from, and work with, MNRF.

Discussion: This audit identified at least five situations where the Bancroft District MNRF was not effective due to the staffing challenges described above. Where staffing was generally stable, as for example during the development of the Phase II FMP, the process worked effectively and a good product resulted. However the trend during the audit period (which is apparently continuing) is for higher rather than lower levels of turnover.

Conclusion: The audit team believes that the situation in Bancroft District is a microcosm of the situation throughout MNRF and is not caused by local factors. The tools to mitigate the situation are not available at the District level. The audit team was informed that Corporate MNRF felt that the high level of staffing movement associated with Transformation would revert to typical levels by 2015 but there is little indication that this was beginning to happen at the time of the audit. In view of the potential for this situation to continue longer than has been foreseen, a recommendation has been issued.

Recommendation: Corporate MNRF shall develop and implement approaches to increase the retention of staff and promote staffing stability in within the District-level of the organization and/or find other ways to restore the effectiveness and functionality of the organization.

Recommendation # 13

Principle 5: System Support

Procedure 5.2.1: Assess the organizations' information management system processes by considering:

- Identification of individuals or positions responsible to prepare, maintain and revise individual documents, relevant procedures, schedules ...
- Control of distribution of documents, both internally and externally,
- Control of obsolete documents;
- Ensuring a back-up process for important documentation;
- Availability of a current version of the relevant documents at all locations where activities essential to the effective functioning of the sustainable forest management system are performed;
- Storing copies of all relevant documents in a central location for audit inspection ...

Background Information and Summary of Evidence: Information management occurs at the Corporate, Regional and District levels of MNR. Many of the documents necessary to effectively conduct the audit are available on-line through the Ministry's corporate internet-accessible databases (e.g., through MNR's Forest Operations Inspection Program, the Forest Information Portal, or the Find a Forest Management Plan website). However, some locally generated documents that are not stored on-line could not be readily located. Examples of difficulties were encountered include:

- long delay in retrieving Planning Team meeting minutes for the 2011 FMP as the original digital files were lost due to a computer hard drive failure;
- a copy of the certification page for the FLRA could not be located at the MNR Bancroft District Office, yet the former Area Forester stated that he recalled certifying the list)
- values information that had been produced as part of the public open houses for the 2011 FMP had not been retained for audit purposes and no electronic backup copies were available;
- binders housing the FMP amendments and AWS revision documentation were not well-organized in several respects and missing information, e.g., approval pages and maps missing for some of the revisions, irrelevant information that had obviously been misplaced was stored in the binder;
- Contact information for some local Aboriginal communities was not up-to-date;

Other deficiencies were also found. Moreover, during the audit, instances of poor document management came to light – for example, LCC minutes were sometimes not ready for the next LCC meeting and tracking of requests and items for follow-up was deficient.

Discussion: During the field inspection, the auditors were informed that the Ministry has a relatively new process for standardizing its filing system and documentation retention schedules/procedures (both digital and hard copy) that the District is in the process of implementing it. Implementation has been slow to date due to the Ministry's recent major re-organization and transformation process, which has led to a high level of turnover at the District office. With the transformation process now winding down, the auditors believe it would be prudent for the District office to fully implement the Ministry's filing and documentation retention procedures. Such deployment would also provide the opportunity for staff to examine the condition of their current documents to ensure that they are in good order.

Conclusion: Although the deficiencies described above are not critical, they are indicative of a need to improve the rigor with which documents are being filed and District staff needing to carefully review and comply with the FMPM / FIM procedural requirements. The Ministry has in place a robust information management document control system with a rigorous framework and procedures for organizing, controlling, retaining, and archiving its vast array of documents. -Most FMPM / FIM technical requirements and procedures for delivering and maintaining required documents were being followed, however, there

were enough shortcomings in various areas that the auditors felt a recommendation was merited.

Recommendation: Bancroft District MNRF shall address the deficiencies found with regard to information management and document control, and should consider utilizing guidance outlined in the Ministry's existing policies and procedures.

Recommendation # 14

Principle 6: Monitoring

Criterion 6.2: SFL Holder Compliance Planning and Monitoring

Procedure 6.2.1.2: Determine whether an effective internal compliance prevention /education program ... was developed, subsequently delivered and available to all forest workers.

Background Information and Summary of Evidence: One of the main objectives of MLFI's 2011-2021 Compliance Plan concerns staff training, knowledge, and skills. The goals under this broad objective include providing education and training in work techniques to MLFI staff, overlapping licensees, staff of the overlapping licensees, so as to ensure compliance with provincial regulations, policies and guidelines governing forest operations, and the FMP. Another goal is to create a work environment that encourages all workers to report all instances of non-compliance in a timely manner. Other goals are to maximize the sharing of training opportunities and tools with government agencies and other forest industry; and to reinforce the concept that compliance is everyone's responsibility. A number of actions and strategies have been employed to achieve these goals. For example, MLFI and the overlapping licensees meet at least annually to exchange information on matters related to compliance, provide updates on policies, and review the compliance plans; review the upcoming operating season, including any specific operational and compliance details, and providing workshops on topical matters (e.g., fire control training, safety workshop). Attendance at these annual spring workshops is mandatory for licensees (who must at least send a representative), with invitations extended to their staff/contractors. A review of the attendance sheets shows that participation at the annual workshops has been excellent.

Discussion: MLFI conducts an annual analysis on compliance activities on the Forest and sometimes shares the results of the analysis with the overlapping licensees at its annual spring workshops. It was not evident, however, whether this compliance review was a regular topic at these workshops. In light of the ongoing issues with particular aspects of compliance performance on the Forest, the auditors believe it would be beneficial to share the annual compliance review with the overlapping licensees on a regular basis.. The auditors also believe it would be helpful and highly beneficial to review and emphasize relevant portions of the Company's Operations Binder at the annual spring workshops as a refresher for the overlapping licensees. The refresher could be targeted toward issues of recent concern or focus on sensitive areas that may be impacted by operations during the upcoming year. If delivered in a group session, discussion of these items might be helpful in encouraging better compliance outcomes from the weaker performers.

Conclusions: The auditors believe that the Company could further increase the effectiveness of delivering its compliance prevention /education program by reviewing the record of compliance on the forest and cover in some detail key aspects of compliance with the overlapping licensees on a regular basis.

Recommendation: MLFI shall share its analysis of the previous year's compliance record with the overlapping licensees and review relevant parts of the Operations Binder with overlapping licensees on a regular basis.

Recommendation # 15

Principle 6: Monitoring

Criterion 6.1: District Compliance Planning and Associated Monitoring

Procedure 6.1.1:determine how forest management activities were to be monitored for compliance by MNRF....

Criterion 6.2: SFL Holder Compliance Planning and Monitoring

Procedure 6.2.1.4: Examine whether the SFL has continued to maintain their overall forest management oversight role related to development and maintenance of the compliance plan and its implementation while ensuring the sustainability of the management unit in accordance with the approved FMP and has provided for the education and training of workers and overlapping licensees..

Background Information and Summary of Evidence: Of concern to the auditors is the record of one particular licensee, whose compliance performance continues to be substandard. This particular operator was assessed 8 of the 9 penalties levied during the audit period. Further analysis determined that this same operator was involved with nearly 50% of the operational issues identified over the audit term, as either a licensee or working under contract for another licensee. It was also noted that there were no non-compliances reported on the Mazinaw-Lanark Forest for the three years when this operator did not work on the Forest.

The Company has in place a number of procedures to reduce the risk of non-compliances. The process for releasing blocks for harvesting includes checks that the nature of the block and potential AOC's are well-understood by the harvester and laid out properly before operations commence. The tree marking and lines that are run around AOCs are audited by MLFI to ensure that marking meets standards and the AOC lines are in the correct location. At this point, MLFI may release the block for operations by issuing a release letter which documents any site specific details that are important for the operator to know before operations commence (AOCs, access details, any deviations from the regular marking scheme).

The Company also engages in a higher level of monitoring when operators who have a sub-standard compliance history are working, due to the higher risk associated with their operations. In addition, the General Manager has had meetings with the licensee with the sub-par compliance record to highlight the problems that lead to non-compliance and how they might be avoided.

Discussion: This operator's sub-standard performance has been directly related to recommendations in the two previous IFAs. In response to the two previous IFA's recommendations, MLFI and MNRF have worked diligently to encourage the problematic overlapping licensee to raise their compliance performance through training, education, and support. Both organizations have corrective remedies at their disposal and have utilized some of them increasingly when required. Recommendation #14 in the previous 2009 IFA suggested that MNRF use the full remedial provisions available suggested in the Forest Compliance Handbook, such as withdrawing harvesting privileges, as a method of persuading better compliance. The predominant reason for the poor performance for this particular operator appears to be lack of supervision, plus there appears to be other factors internal to the operator's management structure that strongly contribute to the sub-par performance. MLFI acknowledges that more work is required to improve the operator's compliance behaviour, and the Company has incentive to do so, as the licensee is the single largest timber producer on the Forest. Obviously, it would serve MLFI better to ameliorate the licensee's compliance performance rather than have their harvest privileges suspended or revoked, and the auditors are sympathetic to the Company's position.

Conclusions: Given the long-running poor performance of this operator, the auditors have no alternative but to issue a recommendation similar to the one found in the previous IFA. The recalcitrance of the operator, as well as the importance of the operator on the forest, creates a difficult situation for the Company and the MNRF to deal with.

Recommendation: Bancroft District MNR and MLFI shall work jointly to encourage E. Schutt and Sons Ltd to improve its compliance performance.

Recommendation # 16

Principle 6: Monitoring

Procedure 6.5.1 Annual Report – Direction: For each Management Unit a report will be prepared annually to summarize the forest management activities that were carried out during the preceding year, usually Apr 1 to Mar 31.

Examine the annual reports for the term of the audit and assess whether the text, tables and maps including digital information is accurate, complete and in accordance with the applicable requirements, including the associated deadlines.

Background Information and Summary of Evidence:

The Company submitted the required annual reports during the audit term, including a Year 3 AR for the 2013-14 year. All of the draft reports were submitted more than a month late. Although there is a trend towards reducing the time lag for delivery, the performance has been consistently late.

Discussion: The Company has an issue balancing demands on time and capacity during November, the required reporting time. As a small SFL Company, it attempts to meet legal requirements within a tight budget. The audit team notes the reports are well written and meet the reporting requirements.

Conclusions: Given the persistent lateness of the delivery of draft AR's, a recommendation is appropriate.

Recommendation: MLFI shall submit draft Annual Reports on time.

Recommendation # 17

Principle 8: Contractual Obligations

Procedure 8.1.15: Aboriginal Opportunities: The SFL company or Authority shall work co-operatively with the Minister and local Aboriginal communities in order to identify and implement ways of achieving a more equal participation by Aboriginal communities in the benefits provided through forest management planning.

Background Information and Summary of Evidence: According to interviews with First Nations' representatives, with the Licensee, and MNRF staff, there has been interaction from time to time between MLFI and local Algonquin communities and organizations. The Condition 34 Reports (now condition 56 reports) include a section on Harvesting Opportunities and Results, and another on Other Forest Management Opportunities and Results. These two sections cover elements such as Licensing and Allocation, Harvesting Contracts, Forest Renewal, Maintenance and Protection. During the audit period, the Condition 34 reports that the only contracts issued to Aboriginal organizations occurred in 2014-2015, when a contract was awarded to plant 9,000+ trees, employing 5 people...The Company informed the auditors that additional contracts for tending and marking were let during that year. Courses attended by First Nations individuals were offered in chainsaw operation, scaling, WHIMIS and First Aid Training.

The Company has also given a small allocation (block 50, near Bolton Lake) to the Sharbot Obaadjiwan First Nation that is still being discussed. From the First Nation's perspective, this allocation is significant not in terms of size but in terms of building capacity.

Discussion: Because MNRF has the lead for this responsibility, the discussion above and the recommendation are primarily directed at MNRF. However, the audit team notes that there is nothing stopping the Company from acting unilaterally to deepen its relationship with Aboriginal communities and begin to discuss the identification and development of economic opportunities.

Conclusions: The record indicates that there has been little momentum generated in the discussions that have occurred between MNRF, MLFI and Aboriginal communities with an interest in the Forest. Contracts for forestry work were issued in 2014-15 but not subsequently. Given this record, a recommendation is warranted.

Recommendation: Bancroft District MNRF and MLFI shall strengthen their efforts to provide meaningful opportunities for Aboriginal communities to obtain benefits provided through forest management planning.

Recommendation # 18

Principle 8: Contractual Obligations

Criterion 8.1.2: Wood supply commitments, MOAs, sharing arrangements, special conditions

Direction: Wood supply commitments, which may include reference to Wood Supply Agreements, are included in Appendix E of the SFL. The company must also comply with any special conditions contained in Appendix F of the SFL.

Background Information and Summary of Evidence: Some of the special conditions in the SFL appear now to be unnecessary (i.e. #2 and #6, while #1 and #3 appear to substantially overlap) and their wording is outdated.

For example, Condition #2 has become largely irrelevant. It stipulates that the Company will make the area on one shareholder’s overlapping licence available to one or more of four listed traditional logging contractors. However, three of these loggers are no longer operating and the one who is active (Leo Poirier) last logged on the forest in 2010-11.

Discussion: The auditors understand that the negotiations leading up to the formation of the SFL took five years, in part because traditional loggers wanted to ensure that they would not see their opportunities degraded or lost under the SFL. The web of inter-relationships and ties to the land contributed to a complex shareholder agreement and the complexity of the special conditions related to harvesting. While the audit team did not compare the shareholders agreement with the special SFL conditions to see if they are consistent, the Company indicated that its activities were governed more strongly by the shareholders agreement than by the details of the Special Conditions in the SFL. At least one shareholder felt that the shareholder’s agreement should be re-opened.

Conclusions: There is a need to review the special conditions in the SFL to consider whether they are still relevant and whether the MLFI Shareholder Agreement may be inconsistent with the conditions. More fundamentally, the value of having a set of special conditions in the licence needs to be considered, when the shareholder’s agreement is the living document that includes the relevant direction.

Recommendation: Corporate MNRF shall work with the Company to review the special conditions on the SFL and consider revising or removing unnecessary and out-dated requirements.

Recommendation # 19

Principle 8: Contractual Obligations

Procedure 8.1.14 Silviculture Standards and Assessment Program: SFLs include requirements related to Category 2 lands or Class X, Y, Z lands. The SFL company is to assess and report on, in accordance with the FOSM, FIM, and the FMPM, the achievement of regeneration efforts to ensure obligations and standards are met.

Background Information and Summary of Evidence:

MLFI does not track the status of the X,Y,Z lands with respect to meeting the licence obligation but has provided the following table for the IFA that summarizes the status of these lands:

Area (ha)	X	Y	Z	Total
Former Mazinaw Management Unit				
Total area required		320	2151	2471
Total area surveyed &/or treated		320	1725	2045
% Regenerated		100	80	83
Former Lanark Management Unit				
Total area required	128.7	300.3	109.6	538.6
Total area surveyed &/or treated	104.5	292.3	109.6	506.4
% Regenerated	81	97	100	94
Mazinaw- Lanark Forest				
TOTAL REQUIRED	128.7	620.3	2,260.6	3,009.6
TOTAL ADDRESSED	104.5	612.3	1,834.6	2,551.4
% Regenerated	81%	99%	81%	85%

Under the conditions of the SFL for the Mazinaw-Lanark Forest, the Company is responsible for bringing X and Y lands to FTG and tending, if required, on identified Z lands. The last report that reviewed the status of the X, Y, Z land obligations was the 2004 IFA.

Discussion: The Mazinaw-Lanark Forest was established in 2002 and, at that time, the X, Y, Z lands were agreed upon by the District MNRF and the SFL. There is no formal requirement in the 2009 FMPM to track and/or report on the Y and Z lands other than as required in the SFL and, it is unclear whether MNRF is to sign off once the obligation has been met or, once the X and Y lands have been reported and accepted as FTG, if that is the mechanism for achievement of the license obligation. For Z lands, the SFL is not required to survey those areas for FTG, therefore it is unclear at what point the obligation for Z lands is met.

Conclusion: The balance of the X and Y lands, as identified in the table above, should be addressed and the Company's completion of its obligation should be signed off by the District MNRF through the mechanisms identified in the IFAPP. Given the time elapsed for the Z lands and the fact there is no requirement to bring those areas to FTG, the Company and District MNRF are encouraged to meet to discuss how to address the area identified in the above table as outstanding.

Recommendation: MLFI and Bancroft District MNRF shall decide how to address outstanding obligations related to the X, Y, Z lands on the Mazinaw-Lanark Forest, the Company shall promptly undertake the agreed-upon actions and the MNRF shall sign off upon completion of this responsibility.

Recommendation # 20

Principle 8: Contractual Obligations

Procedure 8.1.9 Audit Action Plan and Status Report – Direction: An action plan responding to audit recommendations subject to written approval of the Minister is to be completed within 2 months of receiving the final audit report, the action plan is to be implemented and a status report is to be prepared within 2 years following approval of the action plan, unless otherwise directed by the Minister.

Background Information and Summary of Evidence:

The action plan for the 2009 Independent Forest Audit was signed on Sept 27 and 28, 2011 by Company and District MNR staff; two Assistant Deputy Minister signed it Nov 25 and Nov 28, 2011. The Action Plan stated that the final audit report was received on May 25, 2010, making the ADM approvals 17 months past the date when the IFA report was received. This greatly exceeds the two month period prescribed in the IFAPP for the completion of the Management Unit level Action Plan.

The Status Report is to be prepared two years after the approval of the Action Plan. It took three weeks for the Company and District staff to complete their sign-offs of the MLF Status Report, and the Regional Director signed it March 16, 2015 (five months after the Company signed off on the report). This greatly exceeds the prescribed schedule. The MNR provided evidence that the process of preparing the Status Report was lengthy and involved considerable discussion between the Company and MNR. Evidence was provided that a draft of the Status Report was prepared as early as February 2014 however the Company and MNR disagreed on whether recommendations directed at Corporate MNR should be included in the Management Unit level Status Report.

Discussion: Interestingly, the SFL document states that the Company shall complete the Action Plan and implement it, however the IFAPP directs the Company and/or MNR District to prepare the action plan, which is more appropriate since some IFA recommendations are typically addressed to the SFL-holder, some to the MNR District and some to both jointly. Since MNR's Transformation Initiative has been implemented, responsibility for overseeing Action Plan and Status Report development now resides at the MNR Region.

The audit recognize that changing approaches within the IFA program regarding the manner in which recommendations directed towards Corporate MNR are handled led to some differences of opinion that contributed to a delay in the preparation of the Status Report. The auditors also observe that the preparation of the Action Plan was not affected these issues.

Conclusions: The Company and MNR (for this audit, it will be the Regional MNR that leads from the MNR) are to act more quickly on this audit to develop the action plan and prepare the status report than was the case with the previous audit.

Recommendation: MLFI and Regional MNR shall prepare the action plan and status report for this audit within the prescribed timeframes.

APPENDIX 2 – ACHIEVEMENT OF FMP MANAGEMENT OBJECTIVES

Achievement of 2006 Mazinaw-Lanark Forest FMP Objectives

Objectives& Indicators	Achievement	Explanation/Comments
Forest Diversity Objectives		
<p>General Landscape and Stand Level Diversity Objective: To maintain a healthy forest that has the species composition, structural elements and patterns that are representative of the historical landscape of the management unit.</p>	<p>Given the achievement of all of the targets for this objective, as discussed below, as well as the visual evidence on the part of the audit team reviewing the overall forest (which was healthy and diverse), the objective was achieved during the 2006 FMP period.</p>	
<p>Target: Maintain, as a minimum, the current level of <i>6.852 million</i> m3 of white pine and red pine growing stock in the entire Crown forest (based on Term 1, Pw&Pr All Forest Growing Stock) for at least the next 100 year period.</p>	<p>Table 37 of the Trend Analysis reports that the volume of red and white pine in the MLF is 7.175 million m3 at the start of the 2011 FMP. This exceeds the minimum value of the target. The 2011 FMP does not report on the total growing stock of pine in the forest, however it does indicate that the available white and red pine harvest volume is 162.2 Mm3 over the 2011-16 period (FMP-14). In comparison, the five year planned pine harvest volume was 168 Mm3 (FMP-21). The increase is suggestive of a small increase in available volume. Table 13 in the 2011 FMP shows that the area of the PW1 and Pine1 FU's was 34,328 ha at the start of the 2006 FMP, while the area of the PWus and PRcc forest units was 39,051 ha at the start of the 2011 FMP. These data all point to increasing pine volumes in the forest during the 2006 period. The target has been achieved during the 2006 FMP period.</p>	<p>In the 2011 FMP, the planning team has generally moved away from targets based on growing stock volume, which the audit team supports since growing stock is more challenging to quantify than forest unit area, which is more easily estimated and is routinely tracked and reported.</p>

Objectives& Indicators	Achievement	Explanation/Comments
<p><u>Target:</u> Maintain, as a minimum, the current area of 34,328 hectares of white pine and red pine forest units in all forest for the next 100 year period.</p>	<p>Table FMP-3 in the 2011 FMP shows a total of 683 ha in the PRcc FU (protection and production forest) and 34,152 ha in the PWus forest unit, for a total of 34,835 ha. This exceeds the target – the target amount was the current area of pine at the start of the 2006 FMP. The target has been achieved during the 2006 FMP period.</p>	<p>It is not clear from the 2006 FMP how the target value was derived – it does not seem to originate in any of the FMP tables.</p>
<p><u>Target:</u> Maintain a minimum of 2.351 million m3 of red oak growing stock in all forest for the next 100 year period.</p>	<p>Table FMP-9 in the 2006 FMP shows that the amount of available oak growing stock in the forest was 1,792,117 m3 in 2006, while the amount of unavailable and in protection forest was 1,339,691 and 59,438 m3, respectively. The total growing stock was 3.2 million m3 in 2006, well above the minimum target level. Table 37 of the Trend Analysis reports that the volume of oak in the MLF is 4.27 million m3 at the start of the 2011 FMP (almost all of this volume is red oak). The target has been achieved during the 2006 FMP period.</p>	<p>During the 2011 period, the area of red oak forest declined slightly however the amount of growing stock increased, supporting the objective, at least for the next while.</p>
<p><u>Target:</u> Maintain a component of less abundant mid-tolerant hardwood species at the stand-dominant level (working group of ash, basswood, yellow birch, black cherry) or as viable admixture (white oak, elm, butternut, hickories).</p>	<p>The less common mid-tolerant species rarely dominate the composition of a stand and therefore their abundance is not reported, or even accurately determined in the forest resource inventory. As a result, indirect approaches are required to assess their abundance. Shelterwood harvesting generally favours these species, and the 51% of the actual harvesting undertaken during the 2006 FMP period was shelterwood, versus a 39% proportion that was planned. This indicates the forest management is supporting the maintenance of these species in the MLF. The target has been achieved during the 2006 FMP period.</p>	<p>Looking at how this part of the objective might be achieved in the 2011 FMP period (where admittedly it is not an objective) the Company undertook to increase the planned proportion of shelterwood harvesting in the 2011 FMP period compared to the 2006 FMP.</p>
<p><u>Target:</u> To Increase the amount of growing stock of hemlock by 33% from the current level of 1.086 million m3 and at least maintain the current</p>	<p>Table 37 of the Trend Analysis reports that the volume of hemlock in the MLF is 1.19 million m3 at the start of the 2011 FMP. The same table also reports the volume of cedar as being 0.524 million</p>	

Objectives& Indicators	Achievement	Explanation/Comments
growing stock levels of cedar (<i>0.372 million m3</i>) and spruce (<i>0.614 million m3</i> - white and black spruce) in all forest for the next 100 year period.	m3 and the volume of black and white spruce being 0.659 million m3. For all species, the target has been achieved during the 2006 FMP period.	
<u>Target:</u> Maintain the amount of poplar, white birch and balsam fir growing stock in all forest at a minimum of 50% of their current levels for the next 100 year period (i.e. maintain <i>2.259 million m3</i> of poplar/birch and <i>0.569 million m3</i> of balsam fir.	Table 37 of the Trend Analysis reports that the volume of poplar and birch in the MLF is 4.717 million m3 at the start of the 2011 FMP. The same table also reports the volume of balsam fir as being 1.518 million m3. For all species, the target has been achieved during the 2006 FMP period.	
<u>Target:</u> To maintain the diversity of plant species and structural elements within forest stands while emulating natural patterns and using appropriate silviculture.	The choice of the harvest and renewal systems is designed to mimic natural disturbance, which in the MFL is dominated by gap dynamics. The selection system in particular replicates small gap dynamics, which the shelterwood system mimics somewhat more disruptive disturbances, such as medium intensity fire. The silvicultural systems applied in the MLF were appropriate for the forest types and consistent with the achievement of this objective during the 2006 FMP period.	
Genetic Diversity Objective: To conserve the genetic diversity of native forest plant species in the management unit.	This objective is written so that it applies to all species of plants, including non-tree species. The tree species are generally managed using systems based on natural renewal, and seed for planting stock comes from appropriate seed zones. Many non-tree species will be able to sustain themselves in the forest since there is a wide diversity of site types and approximately 85% of the harvest by area is using a partial harvest system, which causes less of a disruption to the plant species on site than clearcutting. For those species which are listed, protective measures such as buffer zones and other types of restrictions are in place and followed, which should maintain the presence and diversity of these	

Objectives& Indicators	Achievement	Explanation/Comments
	species. The objective has been achieved during the 2006 FMP period.	
<p>Old Growth Objective: To ensure that old growth conditions and values are identified and present in the Mazinaw-Lanark Forest in all forest units at levels that maintain or restore ecological processes, while allowing for sustainable development now and in the future.</p>	<p>The three targets associated with this objective were considered to be achieved during the 2006 FMP period. Continued concern regarding old growth and the large amount of area put into reserve during the 2011 FMP period would virtually ensure that the intent of this objective continued to be met during Phase I of the 2011 FMP.</p>	
<p><u>Target:</u> Maintain the proportion of area in old growth age class equal to at least 50% of the proportion from the Natural Benchmark scenario (<i>NULL</i>) for the even-aged forest units. Numeric targets are provided on page 170 of the FMP main text.</p>	<p>This is a long term target and it was not appropriate to assess it at the end of the plan term. Table FMP-12 of the 2006 FMP shows that in 2006, old growth accounted for 1.9% of the area in the target forest units (which is many but not all). Targets shown on page 170 were reported as n/a in terms 1 and 2 for all species groups (with the exception of hemlock and lowland conifer which had a combined 9.9% target for term 2). The audit team anticipates that progress was likely made towards meeting this target during the 2006 FMP term, since the actual harvest was below planned. The audit team observed that in some regions of the forest, heavy browsing of hemlock and red oak, as well as white pine, was severely limiting if not preventing recruitment of these species.</p>	
<p><u>Target:</u> In addition - for the pine group (PW1 and Pine1) the proportion of old growth age class in All Forest area over the next 100 years cannot be lower than the current level of 3.98% (1,366 ha).</p>	<p>Page 80 of the 2006 FMP states that the area considered to be red and white pine old growth includes late stage stands 90 years of age and older. The amount of old growth as estimated from the plan document could not be corroborated with the stated current level of 1,366 ha. In the PINE1 forest unit, 1,682 ha were listed as being above 100 years of age and in the final removal stage, whereas 237 ha were listed as meeting these criteria for PW1. The</p>	

Objectives& Indicators	Achievement	Explanation/Comments
	amount of area appears to be well above the minimum, hence the target has been achieved during the 2006 FMP period.	
<p><u>Target:</u> Maintain old growth characteristics within stands on the area available for harvest and allow for the development of undisturbed old growth forest on the area unavailable for harvest (reserved) in the uneven-aged forest units (HD1 and LH1).</p>	<p>The 2006 FMP rightly notes that this is a qualitative target. The harvest systems used do preserve limited old growth characteristics, such as the presence of large trees, while the uneven aged forest unit areas within areas unavailable for harvest should be undisturbed. Target assessed as having been achieved during the 2006 FMP period..</p>	
<p>Wetlands Objective: To maintain the patterns and functions of wetland ecosystems in the Mazinaw-Lanark Forest Management Unit.</p>	<p>This objective was achieved due to the widespread application of buffer zones around bodies of water and other water features on the landscape. Operations generally did not impair wetlands, with the proviso that there were non-compliances during the 2006 FMP period, and into the 2011 FMP period, regarding activities that could have harmed the qualities of wetlands</p>	
Social and Economic Objectives		
<p>Timber Production Objective: To provide the forest industry with a continuous, predictable and efficient supply of forest products while improving the quality of the future timber resource and contributing revenue to the people of Ontario.</p>	<p>Two of the three targets under this objective were met, and the available wood supply is projected to rise from the current level of 156,000 m3/yr to 213,000 m3/yr in 2106, which indicates that management was on track to meet the main thrust of the objective.</p>	
<p><u>Target:</u> Meet the current industrial demand of total 100,000m3/year (including Pw/Pr - 21,600 m3; other conifers – 2,300 m3; tolerant hardwood – 44,100 m3; Po/Bw – 31,800 m3) for each term during the</p>	<p>This is a planning objective, which Table FMP-12 of the 2006 FMP shows is handily met.</p>	<p>The concern on the part of the planning team for maintenance of wood supply is very appropriate, however meeting a target that is set during the same process which evaluates its achievement invites skepticism regarding the value of such a target.</p>

Objectives& Indicators	Achievement	Explanation/Comments
next 100 years with a maximum fluctuation of total volume from one term to the next within +/- 30%.		
<u>Target:</u> Complete the harvest on at least 75% of the area allocated for the 5-year term of the plan and strive for 90% target.	The harvest during the 2006 FMP period totaled 62.8% of planned, which falls short of the target. This target was not achieved during the 2006 FMP period..	
<u>Target:</u> Ensure that the total growing stock level of the entire Crown forest is equal to or greater than the current level of 24.017 million m3 at the year 2106.	This target applies to 2106 and therefore cannot be readily assessed in 2016. Table FMP-12 in the 2006 FMP forecasts that in 2106, the growing stock will be 27.45 million m3, so the plan is consistent with exceeding this target.	Interestingly, Table FMP-11 anticipates that the area of managed available forest will decline from 132,008 ha in 2006 to 118,586 ha in 2086, which represents a decline of 10.2%. However, most of this (8.2%) is attributed to the creation of AOC's, and the rest to road construction. Even this level of land loss to roads and landings appears to be excessive given the low amount of road construction and that the unit is already well-roaded.
Tourism and Recreation Objective: To contribute to the viability of the tourism industry by protecting tourism values identified during the FMP process.	FMP-12 of the 2006 FMP states that this objective and its accompanying targets is to be achieved through stand-level prescriptions.	
<u>Target:</u> To contribute to the local recreation and tourism industry, including angling, hunting and wildlife viewing	During the audit period, the company operates in such a way that minimized the impacts of forestry on other forest users. Other than that, such a broad target is difficult assess in a very rigorous manner.	
<u>Target:</u> To encourage a variety of recreational land use opportunities and respect the diversity of such opportunities.	During the audit period, the company operates in such a way that minimized the impacts of forestry on other forest users. Other than that, such a broad target is difficult assess in a very rigorous manner.	There was one public comment indicating displeasure regarding a lack of buffers provided along a network of hiking trails. Many of these trails are located on operational logging roads, and since there are rarely other access alternatives to particular blocks, the Company rarely has meaningful options to use alternate

Objectives& Indicators	Achievement	Explanation/Comments
		access routes to re-enter blocks that have been harvested in the past. Given this situation, only flexibility and communication can mitigate a challenging situation.
<p>Aboriginal Resource Use Objective: Protect the productive capacity and encourage participation of interested Aboriginal communities in the planning of future forest operations to protect Aboriginal values and for access to economic benefits derived from forest activities.</p>	<p>FMP-12 of the 2006 FMP states that this objective and its accompanying targets is to be achieved through stand-level prescriptions. There were no non-compliances associated with Aboriginal resources, indicating that known Aboriginal resources were not damaged during operations. There was very good Aboriginal participation on the 2011 FMP PT.</p>	<p>The Condition 34 reports showed very little Aboriginal participation in economic activity associated with the MLF. Recommendation # 17 was issued.</p>
<p>Cultural Heritage Objective: To provide a forest environment that contributes to the cultural interests and spiritual fulfillment of Ontario residents.</p>	<p>FMP-12 of the 2006 FMP states that this objective and its accompanying targets is to be achieved through stand-level prescriptions. There were no non-compliances associated with cultural heritage sites, indicated that known cultural heritage features were not damaged during operations. This objective was achieved.</p>	
Objectives for Values depending on Forest Cover		
<p>White-tailed Deer Habitat Objective: To provide a stable level of habitat for white-tailed deer while providing habitat for a broad range of other forest species that depend on similar habitat conditions for a component of their needs.</p>	<p>All three of the targets under the objectives were achieved during the 2006 FMP period in that small increases in habitat, including thermal cover were achieved, and the amount of red oak was increased. American beech in the Forest has begun to be affected by the Beech bark disease which kills large trees and stunts the growth of smaller trees. Thus it is anticipated that the amount of beech mast available in the forest will likely decrease as the disease makes its way through the Forest.</p>	<p>It is noted that the 2011 FMP refined the approach to managing white-tailed deer by creating a separate management zone comprising these four deer yards. The desirable level of thermal cover was set at between 10 – 30%, and the management objective for Effingham was to maintain the amount within the desirable level (currently 18.6%, respectively), and it was to increase the amount towards the desirable level in each of the Clyde Forks, Canonto, and Peter White areas (currently 5.9. 9.0 and 5.2%, respectively).</p>

Objectives& Indicators	Achievement	Explanation/Comments
<p><u>Target:</u> Maintain the amount of the preferred deer winter habitat between the level of 20% below and 35% above the current level for the next 100 years.</p>	<p>Table FMP-12 in the 2006 FMP indicates that the plan will achieve this target during the 2006-2106 planning period. As indicated above, the amount of critical thermal cover increased from 2006 to 2011, indicating that the target was met during the 2006 FMP period.</p>	
<p><u>Target:</u> In four Deer Wintering Areas (Effingham, Canonto, Clyde Forks and Peter-White): increase the amount of critical thermal cover and winter browse by 2011 above the amount available in 2006 forest. See numeric targets on page 176 of FMP main text.</p>	<p>The Trend Analysis indicates that the amount of deer winter habitat increased from 8,410 ha at the start of the 2006 FMP to 8,691 ha at the start of the 2011 FMP. The 2011 FMP reports that amount of critical winter thermal cover was below the desirable level in all yards except Effington and that the winter browse was below desirable levels in all four yards. The evidence available to the auditors indicates progress towards the thermal cover part of the objective, but there is insufficient evidence available to assess the change in amount of winter browse.</p>	
<p><u>Target:</u> To provide mast for the fall range for white-tailed deer and other wildlife species by maintaining a component of beech and red oak in forest stands.</p>	<p>Operational guidelines in the 2006 FMP call for the retention of at least 8 large mast producing trees/ha where feasible. The plan also included provisions for Mast Area AOC's in areas heavily used by black bears as fall mast foraging areas and a plan target was to increase the amount of red oak – this target was achieved. Some mortality of beech has begun to occur as the Beech bark disease as reached the MLF – over time, this disease is likely to kill most of the mature beech as it spreads through the Forest. However, during the 2006 FMP period, the mast target was achieved.</p>	
<p>Pileated Woodpecker Habitat <u>Objective:</u> To provide preferred Pileated Woodpecker 1 breeding, foraging, nesting and roosting habitat</p>	<p>As discussed in the assessment of the associated targets below, the auditors were unable to quantitatively assess the achievement of the targets. Nonetheless based on a more</p>	

Objectives& Indicators	Achievement	Explanation/Comments
across the landscape of the Mazinaw-Lanark Forest Management Unit	qualitative assessment, it is surmised that this objective has been achieved during the 2006 FMP period..	
<u>Target:</u> Maintain a minimum of 79,224 ha. (non-spatial) of preferred breeding and foraging habitat for the next 100 years.	Table FMP-12 in the 2006 FMP indicates that the plan will achieve this target during the 2006-2106 planning period. Because the harvest level was below planned during this period, it is anticipated that the target was maintained during the 2006 FMP period.	
<u>Target:</u> Increase the amount of preferred habitat (HSI2 type) to a minimum level of 98,206 ha (7.5% increase) by 2011 from the current level of 91,397 ha (spatial data).	This target could not be assessed by the auditors, since the habitat metrics for pileated woodpecker changed between 2006 and 2011. The 2011 FMP did not report on the achievement of this target. Target could not be assessed.	
Red-shouldered Hawk Habitat Objective: To ensure no net loss in the total amount of preferred habitat of red-shouldered hawk (from the current level of 41,674 ha) over a five year term of the plan.	FMP-12 of the 2006 FMP states that this objective and its accompanying targets are to be achieved through stand-level prescriptions. The Company likely achieved this objective because the harvesting methods maintained mature hardwood forest cover, which is preferred by the hawk, and AOC's around nests were respected and the company was diligent about reporting nests encountered during the course of marking and operations. This objective has been achieved during the 2006 FMP period.	
Species at Risk Habitat Objective: To protect critical and sensitive habitats of Species at Risk within the Mazinaw-Lanark Forest Management Unit, improve information about their occurrence and increase awareness of potential impacts of forest management practices on Species at Risk and their habitats	The Company was very conscientious in applying the range of protective measures in the recovery strategies for species at risk, most notably Blanding's turtle and American ginseng. This objective has been achieved during the 2006 FMP period.	

Objectives& Indicators	Achievement	Explanation/Comments
Silvicultural Objectives		
<p>Silviculture Objective: That every forest stand harvested on the Mazinaw-Lanark Forest Management Unit is renewed and tended as required by the most appropriate and cost effective methods to achieve the desired future forest condition.</p>	<p>This objective was met during the 2006 FMP period based on the audit team’s field inspection results as well as interviews with company staff.</p>	
<p>Target: Fully regenerate all harvested sites while achieving a minimum 70% silvicultural success rate for all area harvested after April 1, 2001 and assessed during the 5-year term of this plan.</p>	<p>The year three AR (2013-14) reported that during the first three years of the FMP, 41% of the area assessed for Free-to-Grow condition was declared a silvicultural success. Much of this area would have been harvested during the 2001 FMP period. While this is not technically relevant to the target, which only applies to assessments during the 2006 FMP period, the result is suggestive that the target was not met.</p>	<p>The instructions for completing Table FMP-10 as part of the Year 10 Annual Report associated with this audit are very unclear and as a result, the Year 10 AR does not provide information that would be useful for evaluating this target.</p>
<p>Target: For the next 100 years maintain silvicultural expenditure for each 10-year term at a level that may differ from term to term by no more than 20%.</p>	<p>This target is difficult to meaningfully assess. Because harvesting levels have declined by more than 50% during the 2011 FMP period, compared with previous plan periods, it may be difficult for the Company to meet this target.</p>	
<p>Target: Maintain a positive or neutral economic return on silvicultural expenditure over the entire planning horizon, i.e. maintain the net present value (NPV) of forest management equal to or above 0.</p>	<p>The audit team was unable to evaluate this target, since it is not clear how expansive an economic return is intended to be considered. While the economic return of silvicultural investments is unlikely to be positive under the current timber value environment, the employment and other benefits from the Company’s activities are much greater and make a positive contribution to the regional economy.</p>	

Achievement to date of 2011 Mazinaw-Lanark Forest FMP Objectives and Targets

No.	Objectives& Indicators	Achievement	Explanation/Comments
CFSA Criterion: Conserving Biological Diversity in Ontario's Forests			
1	<p><u>Objective:</u> To move towards a more natural forest landscape pattern and distribution.</p> <p><u>Indicators:</u></p> <p>Young Forest Patch Distribution</p> <p>Texture of mature and old forest (50 ha assessment level)</p> <p>Texture of mature and old forest (500 ha assessment level)</p>	<p>FMP-9 shows the current value of these indicators versus the desired and target levels and overall, the current forest is quite close to being within the target ranges for all size classes of young patches and for all age classes with respect to texture. The current forest has somewhat higher proportion of small patches than the desired template, and the FMP was proposed to shift this factor towards the desired level. During the first three years of the FMP, an average of 94.4 ha was clearcut (28% of the planned level). This low level of clearcutting is likely to mean there has been no movement towards the desired template in these size classes. The plan also proposed creating some larger sized young patches but this has also not happened in all probability.</p>	<p>The forest is unlikely to have shifted in the proposed directions regarding texture and young forest patches, therefore there has very likely been no progress towards this objective during the plan period.</p> <p>In the LTMD, the mature and old forest texture pattern is forecast to stay within the SRNV range for 3 out of 5 concentration classes by the end of the 10-yr plan term. The forecast was that neither the desirable levels nor the targets would be achieved for 2 of the concentration classes; the low level of actual harvesting is likely helping to keep the mature and old forest texture closer to the targets.</p>
2	<p><u>Objective:</u> To move towards a more natural forest landscape structure composition, and abundance.</p> <p><u>Indicators:</u></p> <p>Landscape Classes Indicators</p> <p>Forest Type Indicators</p> <p>Young Forest Indicators</p> <p>Old Growth Forest Indicators</p>	<p>The indicators under this objective consist of ranges determined to be the S Range of Natural Variation for the forest units. The current forest contains more area in the tolerant hardwoods and mixedwoods than the SRNV shows, while there is less area presently in the SFC, MXPRJ, and PWMIX units. The only unit for which the area in the current forest is within the SRNV is the intolerant class. Current levels of old growth are below the minimum values in the SRNV for all forest units. Because the harvest level is well below planned, there may be some accumulation of older forest (movement towards this part of the objective). Progress on other aspects of this</p>	<p>The projected levels of most landscape classes either fell below or exceeded the desirable level of remaining within the SRNV in future terms. Out of the six landscape classes assessed, only one meets the desirable levels during the 100-year time horizon. As a result, the planning team established targets below the desirable levels. The LTMD projects that the targets will be achieved for five of the six landscape classes over the short (10 yr), medium (20 yr) and long (100 yr) terms, as well as the full 150-yr modelling horizon.</p>

No.	Objectives& Indicators	Achievement	Explanation/Comments																																								
		<p>objective is likely to be very limited – and depends as much upon FTG assessment results as upon the level and pattern of harvesting.</p>	<p>Some movement is expected towards the part of the objective related to increasing the amount of old growth, however movement towards additional components of the objective is likely to be limited at best.</p> <p>There is very limited progress towards some components of this objective.</p>																																								
3	<p><u>Objective:</u> To provide a composition of select tree species as identified in the Madawaska Highlands Land Use Plan.</p> <p>A range of species targets is provided in Table 16 on page 82.</p>	<p>This objective applies to the portion of the MLF within the Madawaska Highland Land Use Plan (MHLUP) area. The Planning Team for the 2011 FMP converted the MHLUP targets into species volume targets which are associated with this objective. The targets are simply directional in nature (e.g. moderate decrease to no net loss).</p> <table border="1" data-bbox="745 824 1318 1351"> <thead> <tr> <th>Species</th> <th>2013 Amt</th> <th>Target</th> <th>Ann Harv</th> </tr> </thead> <tbody> <tr> <td>Oak</td> <td>4,270</td> <td>Mod decr</td> <td>7.90</td> </tr> <tr> <td>White/red Pine</td> <td>7,175</td> <td>Mod incr</td> <td>18.04</td> </tr> <tr> <td>Hemlock</td> <td>1,191</td> <td>Mod incr</td> <td>1.91</td> </tr> <tr> <td>Po/Birch</td> <td>4,717</td> <td>Minor to mod decr</td> <td>10.17</td> </tr> <tr> <td>Yb/Aw/B a</td> <td>4,710</td> <td>Minor incr</td> <td>3.34</td> </tr> <tr> <td>Maple-beech</td> <td>3,371</td> <td>Minor – mod incr</td> <td>16.25</td> </tr> <tr> <td>Cedar</td> <td>524</td> <td>No net loss</td> <td>0.09</td> </tr> <tr> <td>Spruce</td> <td>659</td> <td>Minor – mod incr</td> <td>0.89</td> </tr> <tr> <td>Jack Pine</td> <td>0</td> <td>Minor decr</td> <td>0</td> </tr> </tbody> </table>	Species	2013 Amt	Target	Ann Harv	Oak	4,270	Mod decr	7.90	White/red Pine	7,175	Mod incr	18.04	Hemlock	1,191	Mod incr	1.91	Po/Birch	4,717	Minor to mod decr	10.17	Yb/Aw/B a	4,710	Minor incr	3.34	Maple-beech	3,371	Minor – mod incr	16.25	Cedar	524	No net loss	0.09	Spruce	659	Minor – mod incr	0.89	Jack Pine	0	Minor decr	0	<p>The objective is being partially met where the target is to increase the amount of growing stock – where the target is to maintain or decrease the amount of growing stock, the target is not being met and the amount of growing stock is shifting in the wrong direction.</p>
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No.	Objectives& Indicators	Achievement				Explanation/Comments
		Balsam Fir	1,518	Minor to mod decr	0.29	
4	<p><u>Objective:</u> To move towards a more natural forest landscape condition that provides for non-spatial wildlife habitat for species dependent on late development stage forest conditions.</p> <p>A range of species targets is</p>	<p>The objective is modeled non-spatially through the SFMM analysis in the “box and whisker” diagrams. This non spatial objective is less demanding than Objective 6 below which is less likely to be achieved because actual depletion data is analyzed.</p>				<p>In the Phase II plan there is a review of these objectives and it shows that the forest had approached most targets to some extent, and there had been no regression away from the targets.</p> <p>The managers provided a realistic</p>

No.	Objectives& Indicators	Achievement	Explanation/Comments
	<p>provided in Table 17 on page 83.</p>	<p>The Trend Analysis describes this objective as likely to be achieved. The non spatial nature of this objective means that it is relatively easy to show movement towards the size classes specified.</p> <p>The Company is on track to achieve this objective, although the amount of movement will very likely be less than predicted in the plan document due to the lower than planned level of harvesting.</p>	<p>assessment of this indicator in saying it will likely be achieved, and balanced it with the objective and indicators in 6, which will be difficult to achieve in the plan period.</p>
5	<p><u>Objective:</u> To move towards a more natural forest landscape condition that provides for forest dependent provincially featured species.</p> <p>A range of species targets is provided in Table 18 on page 84 of the plan document.</p>	<p>Provincial featured species include: Moose (forage), Moose (winter), Pileated Woodpecker. For these two species it is anticipated that the managers are likely to be successful in reaching the target. Both are robust species that have done well across the landscape. Although there are other population factors that may diminish these species, habitat will be maintained.</p> <p>The Company is on track to achieve this objective.</p>	<p>The abundance of these three species is a reflection of the age class distribution of the forest. As stated in the Trend Analysis, species that prefer older forest are seeing a rapid increase in the amount of habitat available due to the low level of harvest. Pileated Woodpecker will likely respond well to the current direction the forest is heading.</p> <p>Managers are likely to be successful in achieving the moose habitat target because</p> <ul style="list-style-type: none"> • CROs for moose are in place • Moose habitat requirements are general enough that they are not sensitive to low harvest levels.
6	<p><u>Objective:</u> To move towards a more natural forest landscape condition that provides for spatial wildlife habitat for species dependent on over-mature forest conditions and forest dependent provincially featured species.</p>	<p>A key aspect of this objective is its spatial nature, unlike Objective #4 above. As a spatial objective, it will be measured through GIS analysis at year 7 and year 10 (Phase 1 FMP, page 85).</p> <p>As discussed in the Trend Analysis: "...the level of harvest has been much less than planned.</p>	<p>The Company's Trend Analysis provides a realistic assessment of the challenges in achieving this landscape objective. Measuring the indicator for this objective will be done for the Year 7 Annual Report. At that time patch sizes will be measured based on depletion mapping of actual harvest. It will be used to quantify target</p>

No.	Objectives& Indicators	Achievement	Explanation/Comments
	<p>A range of species targets is provided in Table 19 on page 86.</p>	<p>FMP objectives for forest diversity were difficult to achieve at full harvest utilization therefore it is unlikely that forest diversity objectives for young forest patch distribution will be met. The level of mature and old forest is greater than what the Landscape Guide targets are for Mazinaw-Lanark Forest and will continue to increase if less harvest is occurring.”</p> <p>The Company is not on track to achieve this objective.</p>	<p>achievement across the MLF.</p> <p>Unless market conditions and economics improve dramatically, or natural disturbance plays a role, the desired landscape conditions will not be achieved.</p>
7	<p><u>Objective:</u> To move towards a more natural forest landscape condition that provides for spatial wildlife habitat for species as identified by the Madawaska Highlands Land Use Plan (MHLUP).</p> <p>Desirable level of red-shoulder hawk habitat is greater than 5,605 ha.</p>	<p>The sole indicator concerns the amount of red-shoulder hawk habitat due to the baseline target in the MHLUP of “no net loss” of Red-shouldered hawk habitat.</p> <p>The Sustainability Targets in the MHLUP also include targets for white-tailed deer. Targets are to maintain the quality of habitat in core deer concentration areas and for there to be only a moderate decrease in the amount of red oak (and an increase if possible). The Company has developed a separate management approach for deer concentration areas that emphasizes cover and browse and is making progress in increasing the amount of red oak on the forest.</p> <p>The Company is on track to achieve this objective.</p>	<p>The desirable level of RSHA habitat was determined by running the Ontario Landscape Tool to calculate the amount of red-shouldered hawk habitat in 2009 (based on Landscape Guide Science and Information Package B). The indicator will be evaluated at year 7. The species is no longer in the ESA special concern category.</p>
8	<p><u>Objective:</u> Protect the habitat of forest dependent species at risk.</p> <p><u>Indicator:</u> Compliance with AOC prescriptions for the protection of species at risk.</p>	<p>There is a high level of compliance with AOC prescriptions, including the more challenging ones for sensitive species. The Company is on track to achieve this objective.</p>	<p>The Company is very professional in following detailed timing and location specific restrictions in their operations.</p>

No.	Objectives& Indicators	Achievement	Explanation/Comments
CFSA Objective Category: Social and Economic			
9	<p>Objective: Continually improve forest management operations.</p> <p>Indicator: Non-compliance in forest operations inspections.</p>	<p>During the first five years of the 2011 FMP period, there were ten non-compliances reported. This equates to an average of 2 non-compliances /year. Two of these occurred during 2011-12 and eight occurred during 2013-14. Three were related to road and water-crossing construction and the remaining seven were related to harvest operations.</p> <p>In comparison, 29 non-compliances were reported during the 2006 FMP period, for an average of almost 6/year. While the shift in the compliance program away from one based on yes or no compliance findings to one that introduced the concept of operational issues has led to fewer non-compliances, a good part of the significant reduction in the rate of non-compliance is due to improved performance. Therefore the audit team concludes that the Company is on track to achieve a reduced rate of non-compliance during the 2011 FMP period, and so to meet this objective.</p>	<p>Note that while the objective is expressed quite broadly, the sole focus of the discussion in the FMP regarding this objective is on compliance.</p> <p>Further support for a conclusion that this objective is being met is that at least 50% of the non-compliances are associated with the operations of one shareholder, who has a long history of creating non-compliances primarily associated with roads and water-crossings.</p> <p>Recommendation # 15 is addressed at this long-running challenge for the Company and for MNRF.</p>
10	<p>Objective: To provide the levels of access to adequately carry out forest operations.</p> <p>Indicator: Km of passable road per square km of Crown forest.</p>	<p>The Company and MNRF maintain a high quality road system with a good distribution through the forest. Challenges lie with road layout in specific areas with sensitive species.</p> <p>The Company builds very little new road and so the indicator, at least as it is affected by forest roads, is little changed over the plan period. The Company is on track to achieve this objective.</p>	<p>Overall, the Company has been persistent in working with MNRF to find solutions to the operational road challenges. An amendment (in process) to the sensitive species prescriptions will enable more practical road building.</p>
CFSA Objective Category: Silviculture			
11	<p><u>Objective:</u> To ensure the successful renewal of harvested stands</p>	<p>During the audit period (2009-2016) MLFI reported FTG assessments on 5,372.8 ha.</p>	<p>The silvicultural success rate in ORus and PWus falls well below the average at</p>

No.	Objectives& Indicators	Achievement	Explanation/Comments
	<p>(naturally or artificially) to the most silviculturally appropriate species and tended until management standards or Free-to-Grow standards are met, using the most appropriate and cost effective methods.</p> <p>Indicator; Percent of the forest area that management standards or is Free-to-Grow.</p>	<p>From 2006-2011 5,878 ha were successfully regenerated (average of 87%) with 76% classified as a silvicultural success. In the first four years of the 2011-2021 FMP, 3,565.8 ha were assessed for FTG with an average of 87% declared a regeneration success. Throughout two plan periods MLFI has managed to maintain a regeneration success rate of 87%. The overall silvicultural success rate from 2006-2015 has averaged 50.6%.</p> <p>This objective is partially met because the target for silvicultural success (80% over the 10-yr plan period) will not likely be met.</p>	<p>12.3% and 47% respectively. MLFI has identified two issues: a) repeated deer and moose browse and, b) management for SAR that have hindered the SFL's ability to successfully regenerate these forest units. The browse issue has been incorporated into surveys that will allow the SFL to track the locations of the damage and to include its impact on silvicultural success. There is no recommendation as MLFI recognizes the issue with wildlife browse and has included it in their FTG and post-harvest surveys. The SAR issue is more recent but the company is monitoring the impacts on the silviculture program.</p>
12	<p>Objective: To maintain or enhance forest biodiversity through the conservation of genetic diversity of tree species on the management unit.</p> <p>Indicator: Amount of local seed zone stock of common tree-planting species.</p>	<p>At the start of the 2011 FMP, there was over 11 million PW seed in inventory on the MLFI. Over the audit period approximately 1 million trees were planted of which 80% were PW. During the audit period MLFI has collected 10 HL (6 HL PW, 3 HL PR, 1 HL OR) of cones/nuts (approximating 400,000 seed) from the MLF.</p> <p>MLFI recognized 37% of the PW seed in inventory is more than 25 years old and decided to disperse some of this seed, in the first few years of the plan period, to enhance naturally regenerating stands before the seed lost its viability. To date, 2.3 million PW seed has been used in this manner. The balance of seed in inventory plus the new seed collected meets the target of 10 years of seed sufficiency to support a tree plant program for the same period.</p> <p>The second indicator in this objective was 100%</p>	

No.	Objectives& Indicators	Achievement	Explanation/Comments
		<p>natural regeneration success. In the first four years of the 2011 FMP the overall success rate for natural regeneration is 92%. This is a slightly higher success rate than for the previous plan period suggesting that although this is an increase over the previous plan period the target is not likely to be achieved. It should be noted the 8% that is not a regeneration success is the result of not meeting the FTG standards at the time of the survey – most stands will meet the standards at the time of the second survey.</p> <p>The objective is partially met.</p>	
CFSA Criterion: Continuous Flow of Economic and Social Benefits			
13	<p><u>Objective:</u> To protect natural resource features, land uses and values dependent on forest cover.</p> <p><u>Indicator:</u> Compliance with AOC's and CRO's.</p>	<p>This is a very broad objective and the indicator does not indicate specific AOC types that should be considered to evaluate achievement of this indicator. Many AOC's can be considered to be relevant to the objective – of the ten non-compliances reported during the first five years if the 2011 FMP, two are clearly administrative but the others can be considered as reducing the extent of agreement with this objective.</p> <p>In general however, the impacts of the non-compliances on features, uses and values can be considered minimal, and the audit team agrees with the Company's assessment that there are no risks to sustainability introduced by these non-compliances. Therefore, the Company can be considered on track to meet this objective during the 2011 plan period.</p>	<p>This is described in the FMP as a mandatory objective as per the FMPM. The discussion does not expand on the intent other than to emphasize compliance.</p>
14	<p><u>Objective:</u> To protect cultural heritage features and aboriginal values.</p> <p><u>Indicator:</u> Compliance with AOC's for</p>	<p>There were no non-compliances associated with cultural heritage values or aboriginal values as identified in AOC's. Thus in terms of the</p>	

No.	Objectives& Indicators	Achievement	Explanation/Comments
	<p>protection of cultural heritage values and aboriginal values.</p>	<p>indicator, the Company is meeting this objective. In Phase II, operators will need to take into account the CRO developed by the Algonquin First Nations related to cultural heritage values.</p> <p>More broadly, the achievement of this indicator is dependent on how well aware the Company is of the location of relevant features and values, and this is dependent on both the participation of Aboriginal communities in planning and the extent of values collection. The auditors found that at least two Aboriginal communities with traditional use of the forest were not invited to participate in the development of the 2011 FMP. This constitutes a potentially serious gap in the availability of values information and may have led to non-compliances with the objective, unbeknownst to the Company or MNRF.</p> <p>The auditors conclude that there has been compliance with this objective on parts of the Forest that are the traditional territory of Aboriginal communities participating in planning. However, there is a high risk of non-compliance on other parts of the Forest.</p>	
15	<p><u>Objective:</u> To maintain or improve the quality of resource-based tourism and recreation opportunities by implementing forest operations in a manner that minimizes conflicts with non-timber resource users and protect non-timber values.</p> <p>Indicator: Compliance with resource based tourism AOC prescriptions.</p>	<p>The Trend Analysis reports that there were no resource-based tourism AOC's developed in the 2011 FMP, hence the indicator will not provide any information regarding the achievement of the indicator.</p> <p>During the development of the 2011 FMP, there were two requests for Individual Environmental Assessments that were both made with respect to harvesting in the vicinity of Skootamatta Lake. The Company met with representatives of the cottagers association for the lake and were able</p>	<p>This is described in the FMP as a mandatory objective as per the FMPM. The discussion does not expand on the intent other than to emphasize compliance.</p> <p>The audit team notes that the Company considers that its relationship with the Skootamatta cottagers improved as a result of the discussions and agreement it reached with them, and there were no comments received from either the LCC</p>

No.	Objectives& Indicators	Achievement	Explanation/Comments
		<p>to reach a compromise. Subsequently, the extent of ginseng and Blanding's turtle habitat found in and near the blocks in question has rendered the blocks difficult to access and they have not to date been operated.</p> <p>The audit team did receive one set of comments from a stakeholder who expressed displeasure regarding a lack of buffers provided along a network of hiking trails. Many of these trails are located on operational logging roads, and since there are rarely other access alternatives to particular blocks, the Company rarely has meaningful options to use alternate access routes to re-enter blocks that have been harvested in the past. Given this situation, only flexibility and communication can mitigate a challenging situation.</p> <p>In the opinion of the auditors, the Company has been able to work well with most stakeholders and has been able to reach working agreements with a key stakeholder – the Skootamatta cottager association.</p>	<p>or members of the public (including members of the cottager association) that indicated the presence of on-going issues.</p>
16	<p><u>Objective:</u> To sustain a variety of motorized and non-motorized recreational land use opportunities.</p> <p>Indicator: Compliance with the protection of recreational land use values identified through the planning process ...</p>	<p>Objective 16 is linked to objectives 10 and 15. As discussed above under Objective 15, the Company has largely been able to operate in ways that are acceptable to stakeholders. The Company has built very little road during the audit period, reflecting both the reduced levels of harvest and the highly accessed nature of the landbase. New road constructed in the EMA's, which are all in place to conserve their remoteness, will be signed to prevent motorized use by the public. The planning process is so closely regulated and the objective so broad and</p>	<p>The objective was carried over from the 2006 FMP and modified somewhat. The values associated with this objective were discussed at the Forest Benefits meeting held during plan development. The objective was requested by the LCC and reflects the Company's approach of working with stakeholders and trying to find the optimal balance in terms of how its operations affect users.</p>

No.	Objectives& Indicators	Achievement	Explanation/Comments
		<p>general that it would be difficult to imagine a situation whereby the Company did not meet this objective.</p>	
17	<p><u>Objective:</u> To provide a sustainable continuous and predictable wood supply from the forest that will meet the current recognized industrial demand of the forest.</p> <p>There are seven indicators listed on pages 92-97 and in Tables 21 - 27,</p>	<p>Table 21 in the 2011 FMP reports that the current industrial demand is 115,000 m3/yr for all species. The available harvest exceeds this amount significantly (it is 184,315 m3/yr during the 2011 FMP term) and is projected to rise. The same is true of all species – the poplar is the only exception since current available amount is just equal industrial demand, although supply is expected to rise in future, as it is for all species groups.</p> <p>All of the indicators are based on planned harvest areas and volumes, and these are all met in the approved 2011 FMP. This objective has been met in the 2011 FMP.</p>	<p>The audit team generally doesn't place a lot of weight on objectives or targets for planned levels in the current FMP, since the objectives and targets are set in the same process that determines whether they are met or not.</p>
CFSA Criterion: Protecting Ontario's Soil and Water			
18	<p><u>Objective:</u> Protect the productive capacity of the soil and water.</p> <p>Indicator: Compliance with CRO's for site disturbance /rutting.</p>	<p>During the audit period, there were no non-compliances associated with site disturbance /rutting, and so on the basis of the indicator, the Company has met the objective.</p> <p>However, during the first five years of the 2011 FMP term, there were two non-compliances associated with water crossings, as well as one or two non-compliances associated with harvesting operations that affected the productive capacity of the soil and water. As described above under objective 9, however, the impacts of the non-compliances was low and there was no risk that sustainability would be affected. Therefore, the Company is on track towards meeting this objective over the first five</p>	<p>This is described in the FMP as a mandatory objective as per the FMPM. The discussion does not expand on the intent other than to emphasize compliance.</p>

No.	Objectives& Indicators	Achievement	Explanation/Comments
		years of the FMP term.	
19	<p><u>Objective:</u> To conserve water quality and fish habitat.</p> <p>Indicator: Compliance with AOC prescriptions for the protection of water quality and fish habitat.</p>	<p>There is a very high level of compliance with AOC prescriptions. Water quality and fish habitat are among the easier prescriptions for compliance. The Company is on track to achieve this objective.</p>	<p>The Company is very professional in following detailed timing and location specific restrictions in their operations.</p> <p>It is noted that one operator consistently has difficulties constructed roads and water crossings without incurring non-compliances; Recommendation # 16 is directed at this long-standing issue.</p>
CFSA Criterion: Accepting Social Responsibility for Sustainable Development			
20	<p><u>Objective:</u> To minimize loss of Crown productive forest to infrastructure development, thereby maintaining harvest levels and related community well-being.</p> <p>Indicator: Managed forest area available for timber production.</p>	<p>Objective 20 is linked to objective 10. During the first four years of the FMP, the Company constructed 3.0 km of primary road and 5.6 km of branch road. In addition, 45.1 km of operational road was also constructed, although some and perhaps many "new" of the operational roads utilized the same roadbeds used in previous block entries. Old landings were generally re-used as well.</p> <p>As a result, the amount of land converted to non-forest use is very low. The audit team viewed many roads in the field, including recently constructed roads, and considered the roads to be constructed in a very low-impact way and there were very few slash piles alongside the roads. In summary, the audit team considered that the Company is on-track to meet this objective.</p>	<p>This is described in the FMP as a mandatory objective as per the FMPM. The discussion does not expand on the intent.</p> <p>The audit was very impressed with the low-impact manner of road construction on the part of the company, and suggests that other forest managers would profit by examining the access infrastructure in the MLF.</p>
21	<p><u>Objective:</u> To provide opportunities for Aboriginal development in the forest management planning.</p> <p>Indicator: Opportunities provided to</p>	<p>The Audit Team was impressed with the high level of participation in the development of the management plan on the part of Aboriginal communities. There are many representatives</p>	

No.	Objectives& Indicators	Achievement	Explanation/Comments
	and accepted by Aboriginal communities.	of the different First Nations in the Planning Team with a very good attendance record. In addition one First Nation chief also participates in the Local Citizens Committee. This objective was achieved.	
22	<p><u>Objective:</u> Support and encourage interested Aboriginal communities to participate in identifying values and interests which provide social /economic benefits from the forest.</p> <p>Indicator: Opportunities provided to Aboriginal communities.</p>	<p>There was a high level of participation of Aboriginal representatives in the Planning Team to identify Aboriginal values. In addition there were no non-compliances associated with cultural heritage values or aboriginal values as identified in AOC's. However, compliance with this objective is dependent on how well aware the Company is of the location of relevant features and values, and this is dependent on both the participation of Aboriginal communities in planning and the extent of values collection. The auditors found that at least two Aboriginal communities which stated to the audit team an interest in the forest were not invited to participate in the development of the 2011 FMP. This constitutes a potentially serious gap in the availability of values information and may have led to non-compliances with the objective, unbeknownst to the Company or MNRF.</p> <p>In addition, there is a poor record of providing social and economic benefits from the forest as described in the Condition 34 Reports. The Condition 34 Reports include a section on Harvesting Opportunities and Results, and another on Other Forest Management Opportunities and Results. These two sections cover elements such as Licensing and Allocation, Harvesting Contracts, Forest Renewal, Maintenance and Protection. For most of the period, the Condition 34 reports that</p>	

No.	Objectives& Indicators	Achievement	Explanation/Comments
		<p>no allocation was given, no contracts, and no hiring for renewal or maintenance (with the exception of the period 2014-2015 where a contract for 5 people to plant 9,000+ trees was awarded). Recommendation # 17 was issued.</p> <p>This objective was not achieved.</p>	
23	<p><u>Objective:</u> To encourage and support the participation of the Local Citizens Committee in the development of the forest management plan.</p> <p>Indicator: LCC self-evaluation of its effectiveness.</p>	<p>The LCC participation in the development of both the Phase I and Phase II plans was excellent, with good attendance at Planning Team meetings on the part of the Chair and good exchange of information between the Chair and the other LCC members. This objective was achieved.</p>	

APPENDIX 3 - COMPLIANCE WITH CONTRACTUAL OBLIGATIONS

Licence Condition	Licence Holder Performance
1. Payment of Forestry Futures and Ontario Crown charges	At March 31, 2016, MLFI was fully up to date with all Crown payments related to timber, including Crown dues and payments to the Forestry Futures Trust.
2. Wood supply commitments, MOAs, sharing arrangements, special conditions	<p>The SFL does not contain any wood supply commitments under Appendix E however it does contain six special conditions in Appendix F. Some of these conditions appear to be overly complex and linked to the shareholder’s agreement, which is even more complex. Condition 4 in the SFL states that the SFL is subordinate to the treaty or Aboriginal rights recognized under Section 35 of the Constitution Act and Condition 5 states that the licence is subject to any rights that may be granted on the forest as a result of land claim settlements. The audit found that the Company’s actions were in compliance with this licence condition, even though not all of the Aboriginal peoples who have a recognized interest in the forest were asked by the MNRF to engage in consultation regarding the development of Phase I and Phase II of the FMP (Recommendation # 2).</p> <p>Condition 1 is concerned with open market sales of wood and condition 3 is concerned with tendered sales. Both of these conditions have numerous aspects to them however they are closely linked because the manner in which the Company puts wood on the open market is through tendered sales, although sometimes when a tendered sale process has not resulted in a successful bid, the Company will negotiate with a contractor who expressed interest. The Company was not able to tender as much timber as it would have liked during the audit period. Part of the reason is that there were periods during the audit term when there was little demand for Crown timber, while early in the plan period there was a wide selection of blocks on Crown land and the operators did not see a need to bid for more. There were also delays associated with the need to have accurate values information before the block could be tendered (See Recommendation # 5). Because these two licence conditions overlap so much but have different quantities associated with them, it is arbitrary to try to assess MLFI’s performance against each condition. The Company made good efforts to host tendered sales, and was successful in seven of these. The MLF likely had more tendered sales than all of the other Crown forests in Ontario combined. While this is a very good result in an environment in which tendered sales are very challenging to undertake, this audit has also provided a recommendation that the Company work with its shareholders and MNRF to seek to increase the amount of wood tendered for sale (Recommendation # 9).</p> <p>Condition #2 has become largely irrelevant. It stipulates that the Company will make the area on one shareholder’s overlapping licence available to one or more of four listed traditional logging contractors. However, three of these loggers are no longer operating and the one who is active (Leo Poirier) last logged</p>

Licence Condition	Licence Holder Performance
	<p>on the forest in 2010-11.</p> <p>The final condition (#6) is concerned with the provision of fuelwood to the public. Both the Phase I and Phase II plans identified areas that would be available for personal use fuelwood. MNRF issues permits to those interested in obtaining their own fuelwood. The SFL provides an option for the Company to issue licences instead of the Ministry, provided that a draft agreement governing the process is in place between the two organizations – such an agreement has not been pursued as the Company has rightly decided it is more effective for MNRF to be the permit issuer.</p> <p>The Special Conditions require the Company to report in each Annual Report the amount of wood made available to the public as a result of special condition #6. The Company is also required to report on the amount of wood made available and actually used under Condition 1 – the report is to be provided every five years in the Report on Past Forest Operations, which may perhaps be considered as having been replaced at least seven years ago by the Year Ten Annual Report. In any event, the Company reports annually on the amount of wood used for personal use fuelwood and the harvest under tendered sales, but the amount of fuelwood made available is not reported (it is a rather nebulous value) nor is the amount of tendered wood made available.</p> <p>The auditors understand that the negotiations leading up to the formation of the SFL took up to five years, in part because traditional loggers wanted to ensure that they would not see their opportunities degraded or lost under the SFL. The web of inter-relationships and ties to the land contributed to a complex shareholder agreement and the complexity of the special conditions related to harvesting. While the audit team did not compare the shareholders agreement with the special SFL conditions to see if they are consistent, the Company indicated that its activities were governed more strongly by the shareholders agreement than by the details of the Special Conditions in the SFL. Some of these special conditions appear now to be unnecessary (i.e. #2 and #6, while #1 and #3 appear to substantially overlap) and their wording is outdated. The audit team recommends that MNRF work with the Company to review, revise and simplify the licence conditions by removing unnecessary and out-dated requirements (Recommendation # 19).</p>
<p>3. Preparation of FMP, AWS and annual reports; abiding by the FMP, and all other requirements of the FMPM and CFSA.</p>	<p>Mazinaw-Lanark Forest Inc. satisfied its planning obligations in the course of preparing the 2011 FMP. The evidence clearly demonstrates that the plan was prepared in accordance with the requirements of the 2004 / 2009 FMPM (as applicable, as implementation of the 2009 FMPM was phased-in). The Annual Work Schedules and Annual Reports were prepared and submitted in accordance with the requirements specified in the 2009 FMPM. Over the 2009-2016 audit term, MLFI conducted forest operations on the Mazinaw-Lanark Forest according to the direction established in the 2006 FMP and 2011 FMP. Operations generally conformed to regulatory requirements of the CFSA, the direction provided by the FMP, AWS, and</p>

Licence Condition	Licence Holder Performance
<p>4. Conduct inventories, surveys, tests and studies; provision and collection of information in accordance with FIM.</p>	<p>forest operations prescriptions, and other legislation and guides that apply.</p> <p>During the period of the audit, MLFI carried out pre-harvest prescriptions (tree marking), post-harvest assessments to develop FOPs, visual and formal surveys of regeneration success (pre-spray, FTG) and any follow up treatments as required. MLFI also carried out FTG assessment on 5,372.8 ha between 2009-2014 using MNRFF's STARS program initially and then switching to the SOi_STARS program. FTG survey information is collected electronically, compiled and then reported annually to MNRFF along with the associated shapefiles. Annual reporting of silviculture work to MNRFF is done through MNRFF's Fportal and is FIM compliant.</p> <p>During the audit period MNRFF surveyed 456.6 ha for FTG. Additionally, MNRFF southern region science unit assisted the MLF in undertaking an operational trial using different mechanical site preparation equipment and tending treatments to control Ironwood. Ironwood was identified as a major competitor to red oak regeneration.</p>
<p>5. Wasteful practices not to be committed.</p>	<p>The audit team's site inspection did not identify examples of wasteful practices, including poor utilization. During the audit period, there were nineteen non-compliances, and of these, only one could be thought of as a wasteful practice – harvested wood was not removed from a harvest area in a timely manner. However the operator was required to haul the wood before commencing any other operations on the forest. In sum, wasteful practices were not committed during the audit period and this term of the licence was met during the audit period.</p>
<p>6. Natural disturbance and salvage SFL conditions must be followed.</p>	<p>During the 2011 FMP period, there was a blowdown event that took place on July 23, 2012 near White Lake in Lanark County. The storm did not inflict a swath of damage but rather tended to blow down patches no larger than several hectares. The Company assessed the affected areas promptly and submitted an initial amendment request on August 16 that was processed promptly by MNRFF, with the approval date being September 10. A second smaller salvage amendment was submitted November 28, 2012 and approved December 13. In general, affected areas located close to roads were salvaged; the annual report identified 1,568 m3 of salvage volume. The licensee met this condition of the SFL, with good support from District MNRFF.</p>
<p>7. Protection of the licence area from pest damage, participation in pest control programs</p>	<p>No insect pest management was undertaken or required during the 2009-2016 audit period.</p>
<p>8. Withdrawals from licence area</p>	<p>This audit procedure was determined to be low risk and was not audited.</p>
<p>9. Audit action plan and status report</p>	<p>The action plan for the 2009 Independent Forest Audit was signed on Sept 27 and 28, 2011 by Company and District MNRFF staff; two Assistant Deputy Minister signed it Nov 25 and Nov 28, 2011. The Action Plan stated that the final audit report was received on May 25, 2010, making the ADM approvals 17 months past the date when the IFA report was received. This greatly exceeds the two month period prescribed in the</p>

Licence Condition	Licence Holder Performance
	<p>IFAPP for the completion of the Management Unit level Action Plan.</p> <p>The Status Report is to be prepared two years after the approval of the Action Plan. It took three weeks for the Company and District staff to complete their sign-offs of the MLF Status Report, and the Regional Director signed it March 16, 2015 (five months after the Company signed off on the report). This greatly exceeds the prescribed schedule and as a result, the Company has not met this condition of the SFL. Recommendation # 21 has been issued.</p>
10. Payment of funds to Forest Renewal Trust	At March 31, 2016, MLFI was fully up to date with all payments to the Forest Renewal Trust.
11. Forest Renewal Trust eligible silviculture work	During the site visit auditors viewed 1027.3 hectares of renewal work, roughly 30 different sites, representing 17% of the total amount of silviculture undertaken during the audit period. This area included approximately 300 hectares of work carried out in 2014-2015, the Specified Procedures audit year. The auditors also looked at 308.2 hectares of tending and 684 hectares of FTG. All of the silviculture sites visited met the eligibility requirements for payment from the FRTF, were as reported and mapped and, were appropriate for the site conditions. Auditor observation of FTG areas generally agreed with the survey results.
12. Forest Renewal Trust forest renewal charge analysis	The renewal rates were reviewed annually, by MNRF and the SFL, during the 2009-2016 audit period. There were no increases or changes to the renewal rate during the audit period. MLFI has increased the level of artificial regeneration slightly during the 2011-2021 FMP period. The Trends Analysis reports that renewal costs have remained the same from the 2006 FMP period to the current FMP period despite a slight decrease in harvest levels.
13. Forest Renewal Trust account minimum balance	The requirement to have the minimum balance in the Forest Renewal Trust Fund (FRTF) at the end of each fiscal year was met for all years during the audit period except 2014-2015. At the end of that year, the balance was below the minimum by \$24,463.00, a relatively small amount. The shortfall was due to an early spring break-up in 2015 that hampered wood deliveries. The balance in the FRTF was restored to the minimum balance by the next month. The audit team is satisfied with the explanation for the shortfall and does not believe a recommendation is warranted. The average annual expenditure during the 7-year period of the audit was reported as \$383,270, approximately 2.1% greater than the minimum balance for the MLF.
14. Silviculture standards and assessment program	The renewal efforts for the first 5 year period of the audit (2009-2014) amounted to an annualized 2,133 hectares (natural and artificial regeneration) representing 48% of the planned annual amount. The tending undertaken during the audit period was 33% of planned for 2009-2011, increasing to 58% of planned for the first four years of the 2011 FMP period. The increase in tending was in response to a recommendation from the previous IFA. The audit team's observations from a sample of these treatments confirm the treatments were appropriate for the site conditions, were effective and well done.

Licence Condition	Licence Holder Performance
	<p>There are still 458.2 ha of X,Y, Z lands that require addressing. Recommendation # 20 has been issued to complete the obligations on X,Y, Z lands.</p>
<p>15. Aboriginal opportunities</p>	<p>According to interviews with First Nations’ representatives, with the Licensee, and MNRF staff, First Nations’ individuals received training for tree marking, scaling, and chainsaw operation. The company contracted First Nations individuals to do tree planting and gave a small allocation (block 50, near Bolton Lake) to the Sharbot Obaadjivan First Nation. From the First Nation’s perspective, this allocation is significant not in terms of size but in terms of building capacity. The wood harvested is either sent to sawmills/planning mills that are sub-contracted for processing, or for firewood. They have also an allocation of 625 acres on White Lake where they built the Cultural Centre.</p> <p>There is also the establishment of the Forest Working Group, a group that includes First Nations’ representatives that is dealing with the Forestry Chapter of a potential treaty. However, this work transcends the SFL, and contractual obligations need to be properly attended to. The Condition 34 Reports include a section on Harvesting Opportunities and Results, and another on Other Forest Management Opportunities and Results. These two sections cover elements such as Licensing and Allocation, Harvesting Contracts, Forest Renewal, Maintenance and Protection. For most of the period, the Condition 34 reports show that no allocations or contracts were given and there was no hiring for renewal or maintenance (with the exception of the period 2014-2015 where a contract for 5 people to plant 9,000+ trees was awarded). The record is very poor. Recommendation # 18 is issued to address this obligation.</p>
<p>16. Preparation of compliance plan</p>	<p>MLFI prepared a ten-year Compliance Plan (covering the 2011-21 period) for the MLF that was approved by MNRF and met all of the requirements outlined under the applicable 2009 FIM and MNRF’s <i>Forest Compliance Handbook, 2008</i> that were in effect when the plan was approved. While preparing the Phase 2 Planned Operations document, MLFI updated the ten-year compliance plan so that it was in conformance with all of the requirements outlined under the applicable MNRF <i>Forest Compliance Handbook, 2014 and the 2009 FIM</i> that were in effect when this plan was approved.</p> <p>As well, MLFI prepared Annual Compliance Plans for each of the seven years within the scope of the audit. These plans were found to comply with the requirements of MNR’s <i>Forest Compliance Handbook</i> (2008, 2010, and 2014 versions - whichever document was in force at the time) in all respects and were properly reviewed and approved by the MNRF.</p>
<p>17. Internal compliance prevention/ education program</p>	<p>Mazinaw-Lanark Forest Inc. maintains an internal compliance prevention / education program by providing information and learning opportunities at their annual spring workshop and through training sessions sponsored by the Company. MLFI staff review the results of the compliance monitoring program at least annually and will often share the results of their analysis with the overlapping licensees at the annual</p>

Licence Condition	Licence Holder Performance
	<p>workshop. Compliance monitoring and environmental awareness training are also provided during these sessions. Operational details and compliance expectations for the upcoming season as outlined in the AWSs and FMP are reviewed at individual meetings with overlapping licensees before operations begin for each block. Many such reviews are also undertaken in a more casual environment on-site as “tailgate sessions”. Company staff, including compliance inspectors, attend training and certification courses as needed or when opportunities arise. Documentation of the training sessions is maintained by the Company.</p>
<p>18. Compliance inspections and reporting; compliance with compliance plan</p>	<p>MLFI implemented a compliance monitoring and reporting program that met its obligations under the terms of its SFL. The Company employed a complement of staff that conducted compliance inspections and filed compliance reports regularly, corresponding to the direction provided in the applicable policy guidelines and legal manuals (<i>Forest Compliance Handbook, 2008; Forest Compliance Handbook, 2010; Forest Compliance Handbook, 2014; Forest Information Manual</i>) with only some relatively minor deficiencies. Records show that the Company maintained a 94.4% compliance rate over the audit term. Very few non-compliances were found during the auditors' field tour. Other than a concern with the performance of one overlapping licensee, which has been a longstanding issue that is being addressed with a recommendation under this audit (Recommendation # 16), the auditors found ample evidence to support their conclusion that they are satisfied that MLFI maintained a sufficiently effective oversight role in the conduct of its compliance monitoring program on the Mazinaw-Lanark Forest.</p>
<p>19. SFL forestry operations on mining claims</p>	<p>This audit procedure was determined to be low risk and was not audited.</p>

Review of Previous Audit's Recommendations

The previous IFA was undertaken in 2009 and cover the five-year period from April 1, 2004 to March 31, 2009. The audit contained 15 recommendations, most of which have been addressed and some of which have been superceded by new direction. One recommendation which was intended to seek a revision to the red oak target in the MHLUP was acted upon but a response has not yet been received.

However several of the recommendations that were not fully addressed were updated and re-issued since the underlying concern had not been fully rectified. One of these recommendations concerned the low level of effort to engage with Aboriginal communities so that they might have greater economic benefits from forestry. There was a flurry of activity after the previous audit report was released but it died down after a year, which led to **Recommendation # 18** being issued in this audit.

The poor compliance performance of one of the overlapping licensees attracted a recommendation in the previous audit, and although MNRF and the Company have put in a great deal of effort to get the company to improve its performance, there has been little advance. As a result, **Recommendation # 16** is issued here.

Lastly, a recommendation in the previous audit directed Corporate and District levels of MNRF to work with MLFI on: the implementation of the ESA, seeking practical operational approaches to the protection and recovery of the endangered species; clarifying to the company how and when the ESA flexibility tool can be used; and, how the company can make their operations comply with the ESA through the FMP, as an instrument of the ESA. This recommendation was not addressed and similar recommendations have been issued in this audit with regard to sections 17 and 18 of the ESA.

APPENDIX 4 – AUDIT PROCESS

Overview

The Crown Forest Sustainability Act (CFSA) directs the Minister of Natural Resources and Forestry to conduct a review of each tenure-holder every five years to ensure that the licensee has complied with the terms and conditions of its licence. The Independent Forest Audit (IFA) contributes to this mandate, as well as complying with the direction to the Ministry laid out in the 1994 Class EA decision, subsequently confirmed in the 2003 Declaration Order⁴. Regulation 160/04 under the CFSA prescribes the minimum qualifications required by the audit team and sets out direction related to the timing and conduct of IFA's, the audit process and reporting.

The Independent Forest Audit Process and Protocol (IFAPP) sets out in detail the scope and process requirements of an IFA, and contains approximately 190 individual audit procedures. The IFAPP, which is reviewed and updated annually by the MNR, states that the purpose of the audits is to:

- *“assess to what extent forest management planning activities comply with the Forest Management Planning Manual and the [Crown Forest Sustainability] Act;*
- *assess to what extent forest management planning activities comply with the Act and with the forest management plans, the manuals approved under the Act, and the applicable guides;*
- *assess the effectiveness of forest management activities in meeting the forest management objectives set out in the forest management plan, as measured in relation to the criteria established for the audit;*
- *compare the forest management activities carried out with those that were planned;*
- *assess the effectiveness of any action plans implemented to remedy shortcomings revealed by a previous audit;*
- *review and assess a licensee's compliance with the terms and conditions of the forest resources licence; and*
- *provide a conclusion regarding the sustainability of the Crown forest”*

There are two key types of audit findings – recommendations and best practices. A recommendation is explained in the IFAPP as: *“a high level directional approach to addressing [a] non-conformance. In most cases, recommendations follow from the observation of material non-conformances. In some instances, however, auditors may develop recommendations to address situations where they perceive a critical lack of effectiveness in forest management activities, even though no non-conformance with law or policy has been observed.”*

Recommendations can be directed towards the Company and/or at the appropriate administrative level of the Ministry of Natural Resources (District, Region or Corporate). Auditees must address all recommendations through follow-up actions.

If the Audit Team feels that an aspect of forest management is exceptional it may be identified as a best practice. The IFAPP states that *“Highly effective novel approaches to various aspects of forest management may represent best practices. Similarly,*

⁴ Declaration Order regarding MNR's Class Environmental Assessment Approval for Forest Management on Crown Lands in Ontario, approved by Order in Council 1389/03 on June 25, 2003.

applications of established management approaches which achieve remarkable success may represent best practices.” In contrast, “situations in which forest management is simply meeting a good forest management standard” do not qualify.

Audit Procedures and Sampling

The IFAPP describes each of the components of the audit process and contains the audit protocol, which constitutes the main framework for the audit. The procedures, which are the basis for assessing the auditees' compliance and effectiveness, are organized according to eight principles. A positive assessment of the procedures under each principle results in the principle being achieved. A negative assessment of a procedure typically leads to a recommendation.

The IFAPP segregates the procedures into three classes based on the risk to forest sustainability should the management aspect covered by the procedure not be achieved:

- “low risk” – procedure is strictly administrative in nature;
- “moderate risk” – procedure has an administrative component but also a bearing on sustainability; and
- “high risk” – procedure is related to sustainable forest management.

For each principle, the audit team is required to sample 20 – 30% of the procedures identified as low risk, 50 – 75% of the procedures considered to be moderate risk and all the procedures identified as high risk. This risk-based approach is intended to reduce the auditor and auditee workload and focus the audit on more significant issues. The table below identifies, for each principle, the number of procedures in each risk class, the number audited, and the proportion that were audited. Because the Mazinaw-Lanark Forest has been certified to a third-party certification standard, the IFAPP does not require the IFA to assess compliance with Principle #1 (commitment) and the Human Resources part of Principle 5 (System Support). However, the auditors did identify findings related to Human Resources

The audit commenced with the preparation of a detailed audit plan⁵, which described the procedures to be used during the audit and assigned responsibilities to members of the Audit Team. A pre-audit meeting was held in Cloyne between the lead auditor, the Company and the MNRF. The primary purposes of the meeting were to familiarize the auditees with the audit process, review the Audit Plan, and make a preliminary selection of sites to inspect in the field during the audit. Subsequently, some adjustments were made to the selected sites due to access issues, to improve the balance of operations and sites, and attain an appropriate proportional representation of sites related to the extent of operations.

⁵ ArborVitae Environmental Services Ltd. Mazinaw-Lanark Forest Audit Plan, June 2, 2016.

Table 6. Audit procedures by principle and risk category.

Procedures Audited, by Risk Category								
Principle	Low Risk			Medium Risk			High Risk	Comments
	Applicable (#)	Selected (#)	% Audited	Applicable (#)	Selected (#)	% Audited	Audited (#) (100% Audited)	
1. Commitment	0	N/A	0	N/A	N/A	0	0	This principle was not audited because the Forest has been certified to a third-party standard.
2. Public Consultation and Aboriginal Involvement	0	N/A	N/A	6	3	50	2	We opted not to assess whether public notices of inspections were issued, since MNRF usually ensures that this is done properly. All aspects of Aboriginal Involvement were audited. The issue resolution and independent EA processes were not examined – while there were two requests for IR and subsequently for an IEA, these were for Phase I and did not re-occur in Phase II.
3. Forest Management Planning	11	3	27	15	7	53	54	Some procedures in this principle were not relevant as they apply only to FMPs developed under the 2004 FMPM. Low risk procedures regarding the SEV briefing note and the plan contributors page were not assessed. Medium risk procedures not assessed related to certification, amendment documentation, and changes to AOC's, AWS's and FOP's made during FMP implementation.
4. Plan Assessment & Implementation	1	1	100	1	1	100	9	All procedures under this principle were audited.
5. System Support	0	N/A	N/A	1	1	100	1	While the audit was not required to audit Criterion 5.1 because the Forest has been certified to a third-party standard, a recommendation was issued to Corporate MNRF due to serious MNRF staff resourcing issues observed.
6. Monitoring	2	1	50	5	3	60	11	One low risk procedure related to submission of FOIP reports was not audited. Medium risk procedures not audited related to the methodology for field collection of indicator data.
7. Achievement of Objectives and Forest Sustainability	0	N/A	N/A	0	N/A	N/A	15	All procedures are high risk and so were addressed.
8. Contractual Obligations	0	N/A	N/A	4	3	75	14	The medium risk procedure on lands withdrawn from the licence were not

								assessed – there were no withdrawals.
Totals	14	5	36	32	18	56	106	

The focus of the audit was an intensive five-day site visit (July 18-22, 2016), which included document review, interviews and inspections of a variety of sites throughout the Forest where activities had been undertaken during the audit period. There was a reasonable amount of follow up during the preparation of the draft audit report. After the draft report was submitted and reviewed by audit participants, a key conference call was held to go over the comments and provide an opportunity for discussion and debate. The lead auditor also presented the draft findings to the LCC. The draft final report was submitted and was again reviewed, although there were far fewer comments this time. Based on these comments, the final audit report was prepared.

Sampling and Sample Intensity

The IFAPP requires that at least 10% of each major activity be sampled. **Table 4** shows the total amount of each key activity that took place during the audit period, and the sample size and sampling intensity in the IFA. Most sites were pre-selected during the pre-audit meeting although a small number were added ad hoc during the field visits.

For all entries or area managed in the table, the data are extrapolated to six years, as only five years of information are available, given that the annual report for the final year of the audit has not yet been produced, consistent with the mandated schedule for its production. The audit exceeded the minimum sample size specified in the IFAPP for all activities, with the overall level of sampling ranging from 13.8 to 43.7% for key activities.

The IFAPP directs the auditors to verify in the field at least 10% of the areas reviewed in a specified procedures assessment undertaken by KPMG for the 2014/15 fiscal year. We verified in the field 25.5% of the eligible silvicultural activities undertaken by MLFI and its contractors.

Examples of operations were examined in each major forest unit present on the Forest, representing a range harvest years, season of operation, and silvicultural treatment packages. A number of sites where renewal activities had been conducted during the audit period were visited to evaluate the appropriateness and quality of these treatments and to perform an initial evaluation of their effectiveness. These included sites that were site prepared, seeded, planted, and tended, and those for which natural regeneration treatments were prescribed.

Table 7. Sampling intensity of the field operations, by key feature investigated.

Feature	Total in Audit Period	Total Sampled	Sample Intensity %
Harvest (ha)	7088	1711	24
Site Preparation (ha)	768	290	38
Renewal (ha)	6212	1027	17
Tending (ha)	2076	308	15
Free-to-Grow Assess (ha)	4942	684	14
2014/2015 FRT Areas (ha)	1337	524	39

During this audit the team visited a total of 55 AOC's or other conservation related activities in the field: Water quality - 8; water crossings – 13; land use permits – 4; archeological potential – 3; sensitive values – 12; nests – 8; access controls (gates) – 3; other (munitions) – 1; conditions on regular operations -3 (CROs).

The table is intended to portray an approximate level of effort only. There are several factors which preclude too-precise an interpretation of the figures presented in the table. The first consideration is that the amount of area treated in 2015-16 had not yet been compiled at the time of the audit so the total area in the audit period includes only activities undertaken in the first six years. Although we viewed many individual harvest and/or treatment blocks during the field inspection portion of the audit, more than one aspect of forest management was inspected at some sites. For example, at sites where harvesting had taken place, harvest practices, compliance issues, road construction, Area of Concern (AOC) protection, site preparation, and regeneration activities may all have been inspected. Finally, of the area figures shown above, it should be noted that we did not inspect every hectare of the blocks we visited – such a level of effort would be infeasible.

Input to the Audit from First Nations Communities

The consultation auditor met or spoke with at length Ms. Doreen Davis, Chief of Shabot Lake First Nation, Mr. Dan Kohoko, Chief of the Algonquins of Pikwakanagan First Nation, and Ms. Nicole Storms of the Mohawks of Bay of Quinte.

The audit team exchanged e-mails with a representative from Curve Lake First Nation and unsuccessfully attempted to interview the consultation coordinator for the First Nations that are part of the Williams Treaty. E-mails were received from Chief Randy Malcolm (Snimikobi Algonquin First Nation) expressing no concerns over the Mazinaw-Lanark SFL and from Ms. Lynn Clouthier (Ottawa Algonquin First Nation) directing me to contact Chief Davis as they have no capacity to respond. The auditors also communicated with the Algonquins of Ontario consultation office but received no actual input.

First Nations communities were very heavily involved in the development of the Phase I and Phase II plans, and are engaged in higher level land claim settlement negotiations with Ontario and Canada. No significant concerns were expressed and the First Nations made meaningful contributions to planning.

Input to the Audit from LCC members

The consultation auditor met with four members of the LCC, including the chair. A number of concerns were raised regarding the level of support provided by MNRF as detailed in the write-up associated with **Recommendation # 1**.

Input through Public Comment

Four comments were received from the public and stakeholders in response to advertisements placed in two local newspapers (Bancroft Times, Lanark ERA and Frontenac News). The most detailed comment was from a representative of a walking trail organization that raised issues with conflicts between forest operations and the trails, because many of the trails are on logging roads that are re-used from time to time.

Input from MNRF

The audit team had many discussions and interviews with staff of the MNRF. Topics raised by MNR staff included:

- Management collaboration between the MNRF and MLFI;
- The low levels of forestry operations over the term of the audit;
- Impacts of species at risk protection measures on forestry operations;
- MNRF staffing and resourcing challenges;
- The performance by the LCC over the term of the audit;
- Evolution of AOC prescriptions through the Stand and Site Guide;
- Commentary on many of the individual issues raised during the audit.

Input from Mazinaw-Lanark Forest Inc

Staff from MLFI were very involved in the audit with MNRF as hosts for the audit team during the audit week and serving as guides during the field inspections. Over the course of the audit, many discussions were held with MLFI staff some of the key topics included:

- the state and changes in the local forest industry;
- levels of harvesting and silviculture over the audit term;
- challenges associated silviculture treatments for different forest units and the low levels of silvicultural success on some forest units;
- the shareholders agreement;
- tendered sales and obstacles to increased sales;
- harvest projections;
- status of previous audit's recommendations;
- management and cost implications of the species at risk measures,
- updating of values information and MNRF values surveys; and
- Commentary on many of the individual issues raised during the audit.

APPENDIX 5 – LIST OF ACRONYMS

ACOP	Annual Compliance Operations Plan
ACP	Annual Compliance Plan
AHA	Allowable Harvest Area
ANSI	Areas of Natural and Scientific Interest
AOC	Area of Concern
AR	Annual Report
AVES	ArborVitae Environmental Services Ltd
AWS	Annual Work Schedule
BNV	Bounds of Natural Variation
CeSel	Cedar Selection (Forest Unit)
CFSA	Crown Forest Sustainability Act
Class EA	Class Environmental Assessment for Timber Management on Crown Lands in Ontario
COSSARO	Committee on the Status of Species at Risk in Ontario
COSEWIC	Committee on the Status of Endangered Wildlife in Canada
CRO	Conditions on Regular Operations
DM	MNRF District Manager
DWEA	Deer Wintering Emphasis Area
EBR	Environmental Bill of Rights
eFMP	Electronic Forest Management Plan
eFRI	Enhanced Forest Resource Inventory
EFRT	Evaluate Forest Residual Tool
EMA	Enhanced Management Area
EMS	Environmental Management System
ESA	Endangered Species Act
FI	Forest Information
FIM	Forest Information Manual
FMP	Forest Management Plan
FMPM	Forest Management Planning Manual
FMU	Forest Management Unit
FN	First Nation
FOIP	Forest Operations Inspection Program
FOP	Forest Operations Prescription
FRI	Forest Resource Inventory
FTG	Free-to-Grow
FRT	Forest Renewal Trust
FU	Forest Unit
GMT	Green metric tonne
ha	hectares
HdSel	Hardwood Selection (Forest Unit)
Hdus	Hardwood Uniform Shelterwood (Forest Unit)
HeSel	Hemlock Selection (Forest Unit)
km	kilometres
IEA	Individual Environmental Assessment
IFA	Independent Forest Audit
IFAPP	Independent Forest Audit Process and Protocol
INTcc	Intolerant Hardwoods Clearcut (Forest Unit)
LCC	Local Citizens Committee

LTMD	Long-Term Management Direction
m3	cubic meters
MEA	Moose Emphasis Area
MHLUP	Madawaska Highlands Land Use Plan
MLF	Mazinaw-Lanark Forest
MLFI	Mazinaw-Lanark Forest Inc
MMZ	Modified Management Zone
MNRF	Ontario Ministry of Natural Resources and Forests
MOA	Memorandum of Agreement
MXCcc	Mixed Conifer Clearcut (Forest Unit)
MXHcc	Mixed Hardwood Clearcut (Forest Unit)
OLL	Overlapping Licensee
ORus	Red Oak Uniform Shelterwood (Forest Unit)
PRcc	Red Pine Clearcut (Forest Unit)
PSP	Permanent Sample Plot
PT	Planning Team
PWus	White Pine Shelterwood (Forest Unit)
RD	Regional Director (MNRF)
ROD	Regional Operations Division
RPF	Registered Professional Forester
SAR	Species at Risk
Sel	Selection (harvesting)
SEM	Silvicultural Effectiveness Monitoring
SFL	Sustainable Forestry Licence
SGR	Silvicultural Ground Rules
SO_iSTARS	Site Occupancy Index – Silviculture Treatment Assessment & Reporting System
SSG	Stand and Site Guide
Sw	Shelterwood (harvesting)
ToR	Terms of Reference
WWII	World War 2

APPENDIX 6 – AUDIT TEAM MEMBERS AND QUALIFICATIONS

Auditor	Role	Responsibilities	Credentials
Dr. Jeremy Williams, R.P.F.	Lead Auditor, Harvest and Wood Supply Auditor	<ul style="list-style-type: none"> • overall audit coordination; • oversee activities of other team members; • liaise with Company & MNR; • review and inspect harvesting records and practices; • review aspects of forest management related to forest economics and social impacts; • reviews FMP modeling inputs and activities 	B.Sc.F., Ph.D. (Forest Economics), R.P.F. More than 22 years consulting experience in Ontario related to forest management, planning, wood supply modeling, and forest economics; participated in 24 previous IFA assignments; certified as an auditor by the Quality Management Institute.
Sarah Bros, R.P.F.	Silvicultural Auditor	<ul style="list-style-type: none"> • Review and inspect silvicultural practices and related documentation; • Review renewal /silvicultural success and FTG assessment; • review and inspect selected environmental aspects of forest management. 	Sarah has over 30 years' experience in forest management and silviculture, including 17 years as a forest manager and Silviculturalist in Ontario's forest industry. She currently serves as a member of the Board for the Algonquin Forest Authority. As an Independent Forest Audit (IFA) Analyst for the Forestry Futures Committee she has observed and reviewed more than 70 audits reports. Sarah is also certified as a Lead auditor by Rainforest Alliance.
Tom Clark	Wildlife and Roads Auditor	<ul style="list-style-type: none"> • review and inspect Areas of Concern Documentation and Practices; • review and inspect aspects of forest management related to environmental practices and wildlife management integration; • review and inspect access and water crossings 	M.Sc. Zoology (wildlife ecology). Tom is an experienced auditor and has participated in more than 23 Independent Forest Audits from 1996 to 2012. Tom is a Board member of Westwind Stewardship and a long-serving member of the Provincial Policy Committee.
Mark Leschishin, R.P.F.	Planning Auditor	<ul style="list-style-type: none"> • review FMP and related documents to ensure compliance with FMPM and other regulations; • review plan development process for conformity with FMPM; • review compliance monitoring program 	Hon. Dip. For, Tech., H.B.Sc.F., R.P.F. In addition, Mr. Leschishin is a certified lead forest assessor for SmartWood, and a certified EMS lead auditor (cert. # 254-213) in accordance with the ISO 14001:2004 standards. Mark has extensive planning and auditing experience focused on northwestern Ontario, and has participated in some 30 IFAs.
Marcelo Levy,	Consultation	<ul style="list-style-type: none"> • review public and Aboriginal 	Marcelo has extensive FSC

R.P.F.	Auditor	consultation <ul style="list-style-type: none">• review overall Aboriginal liaison• review the performance of the LCC	and SFI auditing experience in Ontario and globally. He has also participated in approximately five Independent Forest Audits.
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