

An aerial photograph of a vast forest landscape. The foreground and middle ground are filled with a dense canopy of trees, many of which have turned a bright yellow, suggesting autumn. Interspersed among these are darker green trees. In the background, rolling hills or low mountains are visible under a pale, overcast sky. The overall scene is a wide, panoramic view of a natural forest environment.

NAGAGAMI FOREST

**Independent Forest Audit
April 1, 2012-March 31, 2017**

Final Report

**ArborVitae Environmental
Services Ltd.**

February 26, 2018

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1.0 EXECUTIVE SUMMARY

This Independent Forest Audit (IFA) assessed the management of the Nagagami Forest for the period April 1, 2012 to March 31, 2017, which encompasses years two through six of operations under the 2011 FMP, as well as the development of the Phase II Planned Operations that came into effect April 1, 2016. This audit reviewed the performance of the SFL-holder, Nagagami Forest Management Ltd (NFM or the Company), and the Ministry of Natural Resources and Forestry (MNRF). MNRF's Wawa District is the lead district for the management of the Forest. NFM is a company with no employees that holds the SFL for the Nagagami Forest. Management of the Forest was contracted to Jackfish River Management Ltd (JRM) throughout the audit period, and the audit team liaised almost exclusively with JRM staff. Hence, when this audit report is discussing actions undertaken by the Company, the meaning will be "undertaken by JRM on behalf of NFM".

The audit team spent five days in and around Hornepayne, including two days of site inspections. Approximately 72% of the harvest and 27 % of the renewal operations were viewed, as well as 30% of the tended area and 30% of the area assessed as free-to-grow (FTG). The auditors also reviewed extensive documentation and interviewed members of the Local Citizens Committee (LCC), Aboriginal community representatives and staff members of JRM and Wawa District and Northeast Regional MNRF. A representative of Hornepayne Lumber LP, the new owner of the Hornepayne sawmill, also participated in the audit.

The audit resulted in a total of 16 findings, fourteen of which are associated with the performance of the Company and/or the Wawa District MNRF. Although this is a relatively high number of findings, the auditors consider that the overall audit result was good.

The audit period was a turbulent one for Olav Haavaldsrud Timber Company (OHTC), which owned the Hornepayne sawmill, and a related company that owned the Becker co-generation plant. OHTC was under financial stress due to the poor lumber markets and closures of many regional mills that occurred during and after the 2008-09 recession. This financial pressure also affected NFM and the management of the forest. OHTC closed its sawmill in November 2015 and went into receivership the following year before it was purchased by Hornepayne Lumber LP, a Frank Dottori-led company. Several of the findings of this audit reflect lingering issues that arose during this period of stress. The Company was also in no condition to engage with Aboriginal communities regarding opportunities for economic benefits, contributing to several other findings.

The quality of the operations was high and the compliance system that the Company and MNRF have in place has been effective. A very positive outcome is that none of the findings indicated issues with forest operations and during the field inspections, the auditors did not come across any incidents that should have been non-compliances. This is very unusual in an IFA.

The Nagagami Forest is very far from Wawa which presents a challenge for the Wawa District MNRF to fully meet its obligations, especially with regard to having a local presence and engaging with interested Aboriginal communities and stakeholders. Five of the findings can be attributed to the challenge posed by distance.

Three of the findings are associated with issues for Corporate MNRF to address. MNRF has yet to put forward a strategy for managing woodland caribou habitat in the discontinuous zone,

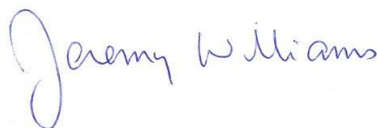
and this audit is one of several undertaken by ArborVitae this year that continued to find Trend Analysis authors struggling to complete Table AR-10. This Table is intended to track the fate of harvested area over the past four plan periods but the instructions in the FMPM for completing the table are confusing at best. Lastly, Corporate MNRF has not yet completed the status report on the implementation of recommendations from the 2012 IFAs.

The assessment of the progress being made in achieving the objectives of the 2011 FMP is also generally positive, although the low level of harvest compared with the planned amount has thus far hindered the achievement of some indicators and a few objectives. The audit team identified several objectives that should be re-considered during the development of the next FMP. The new management team, Hornepayne Lumber LP, has indicated its intention to increase the capacity of the Hornepayne sawmill and increase the harvest level on the Forest. Thus, by the end of the plan term, a higher level of objective achievement may be reported.

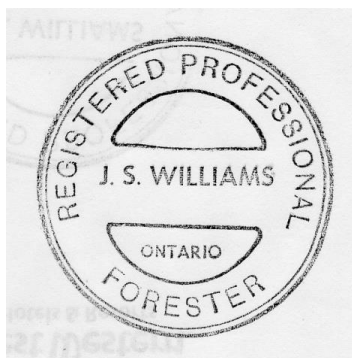
The management of the Nagagami Forest is expected to be stable and progressive going forward. The audit team met with representatives from the new ownership of the sawmill and co-gen plant, which has a fine record of involving Aboriginal communities in the businesses. The ownership has developed agreements to pay the debts to the Crown that arose under OHTC and committed to engage with Aboriginal communities. Wawa District MNRF has also acknowledged that it needs to be more active.

The overall results of this audit are favourable and the level of performance by the MNRF and the Company was high during the audit period. The Company and MNRF worked together to get through a challenging transition for the SFL-holder, the Hornepayne mill and Becker Co-generation facility, and the Company has substantially met the obligations in its SFL and is adhering to the general direction in the FMP. Management of the Nagagami Forest as undertaken by NFM and Wawa 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 Nagagami 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 Nagagami Forest Management Ltd. The forest is being managed consistently with the principles of sustainable forest management, as assessed through the Independent Forest Audit Process and Protocol. The audit team recommends the Minister extend the term of Sustainable Forest Licence #550047 for a further five years.



Jeremy Williams
Lead Auditor



2.0 TABLE OF AUDIT FINDINGS

Concluding Statement on Licence Extension	
<p>The audit team concludes that management of the Nagagami 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 Nagagami Forest Management Ltd. The forest is being managed consistently with the principles of sustainable forest management, as assessed through the Independent Forest Audit Process and Protocol. The audit team recommends the Minister extend the term of Sustainable Forest Licence #550047 for a further five years.</p>	
Findings	
1.	Wawa District MNRF did not respond promptly to the administrative needs of the LCC; senior MNRF managers attended only one meeting over the five year audit term; there is no commitment for MNRF attendance in the LCC TOR.
2.	Wawa District MNRF and the Company have infrequently contacted Ginoogaming First Nation and Constance Lake First Nation to discuss possible benefits from the Nagagami Forest.
3.	Wawa District MNRF and the Company have not negotiated with Biigtigong Nishnaabeg and Pic Mobert First Nation communities to identify and implement ways of achieving more equal participation in the benefits provided through forest management planning.
4.	Wawa District MNRF and the Company have not contacted the Métis residents of Hornepayne who have an interest in the Forest Management Plan and activities in the forest.
5.	Corporate MNRF has not fulfilled its commitment to develop a strategy for managing the discontinuous range of woodland caribou.
6.	The fire return time of 2,655 years is not appropriate and there is no consideration of the effects of climate change on this and other parameters in the review of model assumptions.
7.	The total area of renewal conducted during the first six years of the 2011 FMP term was approximately 3,086 ha less than the area harvested during the same period.
8.	Wawa District MNRF did not meet its targets for free-to-grow survey work and optional tasks for Silvicultural Effectiveness Monitoring were not completed for the Nagagami Forest during the audit period.
9.	During the audit period, the Company did not report the areas of partial, or first-pass harvesting, in the Annual Report as required by the Northeast Region Operations Guide for Marketability Issues (2013).
10.	The Year Ten AR/ Trends Analysis does not meet all of the requirements of the 2009 FMPM.
11.	Table AR-10 (Summary of Harvest and Regeneration Trends), which accompanied the Trends Analysis Report, has not been completed correctly. Corporate MNRF does not provide a clear set of instructions to plan authors explaining how to properly complete Table AR-10.
12.	The 2011 FMP contains a number of objectives and targets that are unlikely to be achievable.
13.	At March 31, 2017, the Company was in arrears for Crown Charges, and in arrears to both the Forestry Futures Trust and the Forest Renewal Trust. In addition, the balance in the Forest Renewal Trust for the Nagagami Forest was below the required minimum balance for each of the five years of the audit period.
14.	The local level status report for the 2012 IFA was prepared six months late.

15. Corporate MNRF has not met its obligation to produce the provincial status report for the 2012 IFAs within two years of the approval of the Action Plan.

16. The planned renewal approach in the caribou continuous distribution zone cannot be funded adequately under the existing schedule of forest renewal trust rates on the Nagagami Forest.

3.0 INTRODUCTION

3.1 AUDIT PROCESS

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. This Independent Forest Audit (IFA) of the Nagagami Forest was undertaken by ArborVitae Environmental Services Ltd. using a four-person team. Profiles of the team members, their qualifications and responsibilities, are provided in Appendix 6.

The IFAs assess compliance with the CFSA, the Forest Management Planning Manual (FMPM) and the forest management plan (FMP) and consider whether Nagagami Forest Management Ltd (NFM) has complied with the terms and conditions of its Sustainable Forest Licence (SFL). An important characteristic of the IFAs is that they review the performance of both NFM and MNR. Wawa District MNR, the lead district for the Forest, has many responsibilities related to management of the Nagagami Forest, including review and approval of key documents such as the FMP, annual reports, and annual work schedules, overseeing management of non-timber resources, undertaking compliance inspections, etc. In sum, the activities and accomplishments of both parties with forest management responsibilities are covered by the audit.

The audit also assesses how effectively operations met plan objectives and the improvements made in response to prior IFA results. Consistent with the CFSA, the Independent Forest Audit Process and Protocol (IFAPP) requires the audit team to provide a conclusion regarding the sustainability of the Crown forest and a recommendation regarding extension of the SFL term.

The IFAPP provides direction regarding the scope and process of the audit. This year the IFA process was modified to include a screening of the risk associated with approximately 75 of the 170 audit procedures. Risk is considered as a composite of the likelihood that a procedure would have a finding associated with it and the impact of a non-conformance on the sustainability of the forest. As a result of this screening, seven of the optional procedures were selected to be audited. Greater detail regarding how the audit process was followed, the approach used in the risk assessment and the results, and the operational sampling intensity can be found in Appendix 4.

This audit covers the period April 1, 2012 – March 31, 2017, which spans years two through six of the 2011 FMP and includes the development of the Phase II Planned Operations that came into force April 1, 2016. The audit examined all forest operations that occurred within that period as well as the process of developing the Phase II Planned Operations. The auditors solicited public input using newspaper advertisements, an on-line questionnaire and by asking the LCC members to encourage their constituencies to comment. No comments were received.

The main point of contact for the Company (NFM) was Jackfish River Management (JRM), a forest management and field services provider based in Hornepayne. As of January 1, 2018, JRM had eight full time staff and has been contracted to deliver forest management on the Forest since 2008. Northeast Region and Wawa District staff were the primary sources of information from the MNR. The auditors interviewed more than half of the LCC membership and representatives of four of the five First Nations communities with an interest in the Forest. Appendix 4 also provides a more detailed listing of the comments and discussion points raised by the members of the LCC and Aboriginal people who were interviewed.

3.2 MANAGEMENT UNIT DESCRIPTION

The Nagagami Forest is a relatively small forest management unit (FMU) located in north central Ontario, with the community of Hornepayne being the only settlement in the Forest, as seen in **Figure 1**. Located within the MNR's Northeast Region, and the more local Wawa District, the FMU is quite remote, with Hornepayne being accessible from the north and south via Highway 631. Hornepayne, which has a population of approximately 1,000 people, is about one hour north of White River and 90 minutes south west from Hearst.

The SFL is issued to Nagagami Forest Management Ltd (NFM), which had four shareholders when it was established. However, the closures of mills owned by shareholders and corporate decisions had left Olav Haavaldsrud Timber Company as the sole shareholder at the start of the audit period. OHTC, which had a sawmill in Hornepayne, was experiencing difficulties at the start of the audit period, arising from the loss of markets for conifer pulp and mid-grade and low-grade hardwood. During the 2008-09 recession, OHTC lost its markets for poplar OSB furnish with the closure of the Weyerhaeuser mill north of Wawa and Longlac Wood Industries. OHTC constructed a co-generation plant in Hornepayne to run on sawmill residue and the unused portion of the conifer and hardwood harvest, but a reduction in scale and other factors created delays. In November 2015, the sawmill closed and in April 2016 OHTC went into receivership. The co-gen filed for creditor protection in February 2016 but avoided receivership. The mill and co-gen plant were purchased later in 2016 by a group led by Frank Dottori, and the sawmill has been re-opened under Hornepayne Lumber LP. In late 2017, Northeast Superior First Nation Investment LP, which is a partnership of three First Nations based in the Chapleau area, made a \$4 million investment in Hornepayne Lumber. The co-gen facility, now known as Hornepayne Power Inc., ran throughout the period of ownership changes. The financial difficulties experienced by OHTC have shown up in this audit in a number of ways however Jackfish River Management (JRM) did an excellent job of navigating through the challenges and keeping management on course.

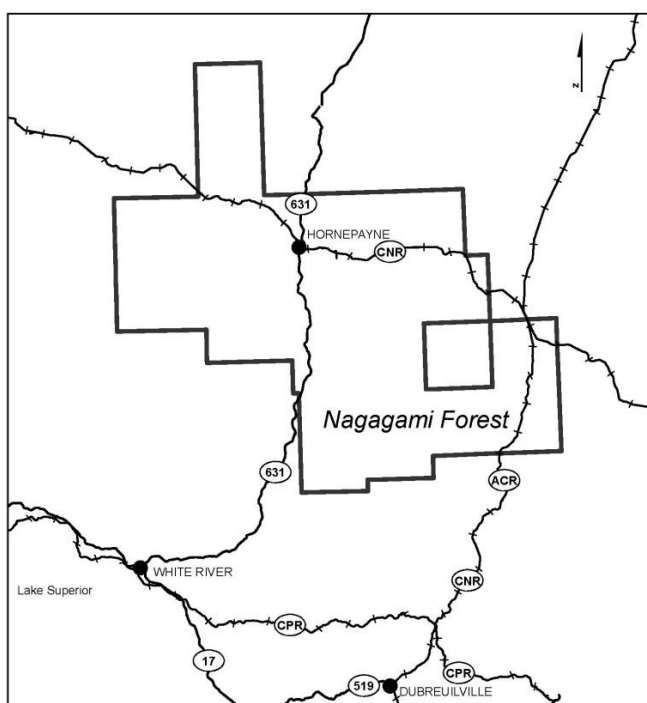


Figure 1. Map of the Nagagami Forest.

The audit team liaised almost exclusively the JRM staff on the Company side. In this audit report, the term “Company” will usually apply to JRM acting as agents for NFM, which has no staff. For the most part, OHTC will be mentioned specifically when it is being referred to. Because Hornepayne Lumber was just assuming ownership of the mill and co-gen facility late in 2016, the new company does not figure prominently in this audit, although it clearly provides

experienced management and sufficient financial resources to run the enterprise. The new management will be clearly identified as such when appropriate.

The Nagagami Forest was managed under a Forest Management Agreement issued to Donohue in 1982, and it became a deemed SFL in 1994 with the passage of the CFSA. The SFL was transferred to Abitibi when it purchased Donohue in 2000, and Abitibi transferred the SFL to the NFM entity in 2004. During the period, up to the present day, the boundary of the Forest has changed very little. Table FMP-1 gives the total forest area as being 448,389 ha, of which 0.2% is patent land. However, as shown in **Figure 1**, the Forest encircles an area approximately two townships in size that is privately owned (the square area in the eastern part of the Forest) and acts as an obstacle to wood flow within the Forest since there is no free access through these lands. Another 0.6% of the Forest area is classified as unmanaged Crown land, most of which is located in Nagagami Lake Provincial Park, as well as several other parks and reserves.

The breakdown of the Crown managed land is shown in Table 1. The majority (42,145 ha) of the non-forested land is water, and the majority of the non-productive land is muskeg. The area of production forest represents 82% of the licence area.

Table 1. Managed Crown Land in the Nagagami Forest (From Table FMP-1)

Land Class	Managed Crown Land (ha)
Non-forested Land	45,304
Non-productive Forest ^a	19,898
Protection Forest ^b	15,371
Production Forest ^c	364,195
Total	444,768

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

b – forest on islands and steep slopes that cannot be harvested

c – forest areas capable of growing commercial trees.

The Nagagami Forest is a true boreal forest, dominated by black spruce. Black spruce pure and mixed forest units account for 64% of the available managed area in the Forest. Pure poplar stands account for 20.4% of the area, with approximately 2.3% in site classes X and 1 (the PO1 forest unit) and 18.1% in site classes 2 and 3 (the PO3 forest unit). Two jack pine forest units account for 9.4% of the area. The Forest tends to be old, with 38% of the available managed area greater than 100 years of age and another 20% between the ages of 80 – 100 years. Thirty-four percent of the Forest is less than 40 years old.

Parts of the northern two townships of the Forest are located in the zone of continuous distribution of woodland caribou and another 30% of the Forest is within the discontinuous caribou zone. This is one of two species at risk known to occur on the Forest; the bald eagle is the second. Range mapping suggests that eight bird species and two bat species that are at risk might also be present on the Forest. The remoteness of the Forest means that boreal mammals such as moose, black bear, marten, fisher, and otter are plentiful. Hunting and fishing are primary recreational pursuits of local residents as well as tourists and there are some significant outfitting operations in the Forest. The members of the Hornepayne Aboriginal Community generally live in town, and there are no First Nations reserves located in the Forest. Constance Lake First Nation is based in Calstock, to the north of the Forest, and Pic Mobert First Nation is to the south, west of White River. Ginoogaming First Nation and Biigtigong Nishnaabeg First Nation are located more distantly, near Longlac and Marathon, respectively.

4.0 AUDIT FINDINGS

This audit provides a series of findings regarding issues of non-compliance and/or the need to improve the effectiveness of forest management. The findings are described in detail in Appendix 1.

4.1 COMMITMENT

The Nagagami Forest was not certified to a third-party Sustainable Forest Management (SFM) standard during the audit period or at the time of the audit. As a result, the commitment principle was assessed for inclusion in the audit however it was assessed as being “low risk” and was not formally audited. The audit team had extensive engagement with Company and MNRF staff throughout the audit and found them to be highly committed and knowledgeable regarding provincial forest management requirements in general and management of the Nagagami Forest in particular.

4.2 PUBLIC CONSULTATION AND ABORIGINAL INVOLVEMENT

Local Citizens Committee and Public Consultation

The LCC has twelve members and a number of alternates, and is sufficiently diverse to provide a balanced local perspective. The LCC appears to be functioning well, dealing with its core business of reviewing amendments, Annual Work Schedules and Annual Reports and providing feedback on aspects of FMP implementation. An MNRF staff person attended almost all of the LCC meetings, which is commendable, given the 2 hour travel time from Wawa to Hornepayne. The primary challenge for the LCC is maintaining the balance between the tourism and forestry sectors – both are important. This has led to some friction which was resolved through guidance by the District Manager.

Of concern to the auditors, based on a review of the well-maintained LCC minutes, was the lack of promptness of MNRF in addressing some administrative issues for the group. Senior District MNRF managers (District Manager and supervisors) informed the LCC in early 2012 that its Terms of Reference were to be revised but the revision was not finalized until about 5 years later while waiting for some decisions to be made. The delay in making these decisions caused problems for the LCC. The lack of participation in LCC meetings by Senior District MNRF staff contributed to the delay; once they participated they were able to resolve the troublesome issues. The eventual decisions were straight forward and appropriate – allowing phone-in participation, rules for number meetings missed, etc. **Finding # 1** results from this situation.

Engagement with Indigenous Communities

There are five First Nation communities with an interest in the Nagagami Forest (NF). Biigtigong Nishnaabeg (BN; formerly Ojibways of Pic River First Nation) and Pic Mobert First Nation (PMFN) are located within the MNRF Wawa District and the NF is within their traditional territories. Constance Lake First Nation (CLFN) and Ginoogaming First Nation (GFN) are not on the NF and are located outside of the Wawa District MNRF. The Hornepayne Aboriginal Community lives in Hornepayne.

MNRF holds the responsibility for consulting with the indigenous communities regarding the protection of indigenous values; opportunities to participate and benefit from planning; and negotiating community benefits from forestry. The SFL stipulates that “the Company will work co-operatively with the Minister and local Aboriginal communities in order to identify and implement ways of achieving a more equal participation ... in the benefits provided by forest

management”. During the audit term, MNRF met its responsibility for the first two requirements but not the third. The Company had insufficient engagement with communities to meet its obligations, based on the summary of meetings provided.

A strict interpretation of the audit requirement would require the District Manager to “negotiate” with each interested First Nation about each forest management unit (FMU). This is a high bar to achieve, given the number of FMUs and communities with traditional territory in Wawa District. Across the District, the number of individual negotiations for all of the FMUs might total 15 to 20, depending on how traditional territories overlap with FMUs. There are two findings related to this obligation not being fully met; **Finding # 2** pertains to CLFN and GFN while **Finding # 3** concerns BN and PMFN. Some discussions did occur with some communities but overall, MNRF did not meet the full requirement. All of the communities expressed concern about the burden of reviewing MNRF forestry documents (FMP, FMP amendments, AWS) for multiple FMUs, noting that other resource sectors such as mining provide considerable support for technical consultation.

A finding is also made with regard to the Métis in the NF. They are present and active forest users. They have not been contacted by MNRF, the Company or the Métis Nation of Ontario with regard to recent judicial decisions regarding Métis rights, leading to **Finding # 4**.

Resource Stewardship Agreements (RSAs) are business-to-business agreements between the SFL-holder and a tourist outfitter governing the conduct of forestry operations near tourism businesses. There are at least two RSAs in the draft stage, dating from about 5 years ago. The outfitters would like to continue the discussion and formally sign these agreements. During Phase II planning, the Company did contact the outfitters to offer to negotiate RSAs, as required by the FMPM, so there is no finding, however the audit team was informed that there is active interest in resuming discussions. This should be followed up.

4.3 FOREST MANAGEMENT PLANNING

Forest Harvesting and Renewal

The audit team reviewed the Conditions on Regular Operations (CROs), planned renewal, tending and protection operations, renewal support requirements, and forecasts of expenditures in the 2016-2021 Phase II Operating Plan for the Nagagami Forest. All elements were in conformance with applicable planning requirements and were adequate to reflect the proposed 5 years of operations. The audit team concluded that the CROs, which are based largely on direction provided in the SSG¹, were generally appropriate to protect the values they addressed. Silvicultural Ground Rules (SGR's) and the associated silvicultural standards developed for the 2011 Phase I FMP were reviewed by the planning team and no changes were made. All SGRs were found to be still applicable for the Phase II Planned Operations.

Areas of Concern

The development of both Phase I and Phase II AOC prescriptions took a ‘lumper’ rather than a ‘splitter’ approach resulting in fewer types of AOCs than are typically found in FMP on other forests. One example of this approach is that the plans have a single AOC for common stick-nesting raptors. Within that single AOC, however species-specific direction is provided based on the Stand and Site Guide (SSG). The key point is that appropriate direction for the suite of values is provided. In fact, the structure of many AOC prescriptions is well-designed, likely

¹ Ontario Ministry of Natural Resources. 2010. Forest Management Guide for Conserving Biodiversity at the Stand and Site Scales. Toronto: Queen's Printer for Ontario. 211 pp.

making this approach more convenient to use than the approach used elsewhere in which many more distinct types of AOCs are provided. The Phase II FMP contains 33 AOC prescriptions; most (23) are related to wildlife and environmental values such as aquatic ecosystems, and the remainder are related to infrastructure, cultural values, and recreation and tourism. There was some evolution in the prescriptions from Phase I to Phase II, not so much in the type or extent of protection required, but in the manner in which the direction was expressed. In general Phase II prescriptions tended to be laid out more succinctly. The audit team commends the Planning Team for the thoroughness and structure of the AOC prescriptions.

Portions of the Nagagami Forest lie within the continuous and discontinuous caribou zones. Only a small area (parts of two townships) lies within the continuous zone. Management prescriptions there are appropriate as the caribou blocks are integrated into those of the surrounding forests. Approximately 30% of the Forest is within the discontinuous caribou zone. Although the FMP contains measures to manage habitat in the discontinuous zone, the audit team found that the MNRF has not lived up to its commitment to provide a management strategy for the entire discontinuous zone. This is addressed in **Finding # 5**.

In the course of reading the Trend Analysis' review of assumptions for modelling, the audit team found that the average fire return time used in modeling the available harvest area (AHA) was 2,655 years. The audit team has identified some methodological concerns with the manner in which this assumption was derived, which are addressed in **Finding # 6**.

Roads Planning

Roads planning requirements were followed in planning. The discussion of road planning in the Phase II plan was largely derived from the Phase I plan, updated for specific roads. Particularly important given the nature of access management issues in the forest was that all documentation contained detailed descriptions of the nature of planned access controls/restrictions. In the Phase II FMP, Table FMP-18 was completed as required. Table FMP-18, which provides specific details on all classes of roads, projects that 97.5 km of primary and branch roads will be constructed during Phase II. This projection seems optimistic in light of the amount of primary and branch road construction completed during Phase I – 16.4 km completed out of a planned amount of 87.5 km (an 18.7% completion rate).

4.4 PLAN ASSESSMENT AND IMPLEMENTATION

Harvest Operations

The difficult markets for conifer pulpwood and mid and low-grade hardwood persisted through the audit period, creating utilization and access challenges. The Northeast Region Hardwood Utilization Guidelines were incorporated into the 2011 FMP and applied throughout the audit period. These guidelines outline operational standards that balance the need to continue harvesting poplar, and to a lesser extent, white birch, to provide veneer with the challenges created by the non-marketability of the remaining part of the harvested trees, and the non-veneer trees in the stand. The Guidelines prescribe minimum characteristics of the residual stand that will enable renewal to be successful in creating the desired future forest type.

Usage of these unmarketable products was helped by the commissioning of the Becker co-generation plant in September 2013. The plant consumed 29,324 m³ of biofibre from the forest in 2014-15 and 122,391 m³ the following year, and some of the harvesting undertaken during these years was to clean up stands that had received one or sometime two recent passes. As discussed more fully in section 4.6, the company was issued non-compliances and fines as a

result of poor conifer utilization – the intent was that the Company would come back and use the small conifer in the co-gen plant, however there were numerous delays which led the MNRF to fine the Company. With the co-gen plant running now, the Company is working through those roadside piles and using the wood, assisted by Forestry Futures Funding. The audit team saw that good progress is being made and that the clean up was well-implemented and systematic.

Despite the market challenges, the Company harvested 56.5% of the planned area during Phase I, however the marketability issues affected the volume utilized, which was only 32.5% of planned. The majority of the volume went to the Hornepayne mill, the Levesque plywood plant in Hearst and, in the latter years of the audit period, to the co-generation plant. The new ownership plans to increase the capacity of the Hornepayne mill and raise the harvest level on the Forest, which is a credible expectation in the view of the audit team.

The harvest operations themselves were undertaken to a high standard, with negligible site damage and good retention of residuals. The retention of conifer was acceptable, which is a challenge in mixedwood stands and was the subject of a recommendation in the previous IFA. A large proportion of the harvested areas had good retention of advanced regeneration and management of the slash was progressing well, as noted above. The Company is a firm believer in avoiding the loss of productive forest area due to slash.

AOCs and CROs for ecological values were well implemented, with values protected as intended in the majority of situations. One instance of non-compliance occurred during the audit period – a contractor's misunderstanding led to the full amount of an AOC road allowance not being implemented. The incident was handled appropriately by the MNRF and acknowledged by the Company.

Silvicultural Operations

Silvicultural projects observed in the field were generally of good quality; the prescriptions were appropriate for the site conditions and appeared to have been effective. There were no systemic issues or concerns associated with renewal operations. The observed treatments were consistent with SGR's and associated silvicultural standards. During the first six years of the 2011 FMP term, the Company planted approximately 7,518,200 trees, consisting of jack pine (53%), black spruce (38%), and white spruce (9%).

For the five-year period from 2010-11 to 2015-16, a total area of 11,514 ha was harvested. Assuming a one-year lag time for renewal of harvested areas, this corresponds with the area that would be eligible for treatment within the 2011 FMP term. During the first six years of the 2011 FMP term, the total area reported as being regenerated on the Forest was 8,428 ha, a difference of 3,086 ha. The shortfall in total renewal can be attributed to the low level of natural regeneration reported in the first two years of the audit period, and lower than planned levels of artificial regeneration conducted during the first three years of the audit period. Factors accounting for these shortfalls included renewal reporting lags and a shortage of funds in the Forest Renewal Trust due to the financial difficulties of OHTC, which eventually led to its bankruptcy – see **Finding # 7**.

For the 2011 FMP term, the total area treated with mechanical and chemical site preparation was 112 ha. This is well below the planned level of 2,820 ha, but the Company has made a good effort to ensure that artificial regeneration has occurred as soon as possible after harvesting, which reduces the need for site preparation, and by quickly identifying the need for tending treatments through timely field inspections. Based on field inspections, auditors

concluded that tending with herbicides had been conducted in a timely fashion on appropriate sites in support of silvicultural objectives, and appeared to be effective in most cases.

The renewal support program was reviewed and found to be sufficient to support the Company's proposed tree planting program. Planned levels of cone collection for Phase I were not achieved, however the current black spruce and jack pine seed inventory is sufficient for the remainder of the 2011-2021 FMP and beyond. To date, approximately 95% of the black spruce and jack pine grown for the Nagagami Forest during the 2011 FMP period was derived from improved seed originating from seed orchards.

There was no cone collection for white spruce seed production conducted during the audit period. There have been no white spruce cone crops for several years, but the Company is prepared with a local person available to collect cones should a good cone year occur. There are no white spruce seed orchards currently in production for the area. White spruce seed in the inventory for the Nagagami Forest is getting to be very old (most was collected in 1982) but there is a large supply of over 60 million seeds. The tree seed storage facility and tree nurseries should be able to compensate for any reduced viability with appropriate measures, such as cleaning of seedlots and double sowing in nurseries.

Aggregate Pits

Seven aggregate pits were inspected during the audit, some had been closed during the audit period and some remained in use. The state of the closed pits was consistent with the requirements of the 2009 FMPM Appendix VII 'Operational Standards for Forestry Aggregate Pits'. One of the in-use pits was not in compliance with the Appendix's requirements as the main slope was very steep (i.e. not in an angle of repose), and there were several trees within 5 m of the operating face. As this deficiency was not a systemic issue no finding is identified, however the audit team believes that consistent implementation of the requirements of Appendix VII should be emphasized in the company's training.

Roads

Company staff conduct regular, semi-annual (spring and fall) auditing of the status of road use restriction measures (primarily signs). The audit records are well kept, and remedial actions identified where necessary. Company staff report that, generally, access restriction signs on the forest are well respected. The roads upon which the audit team travelled during the site inspections were in reasonable shape. Some minor issues with a small number of culverts were noted (blockages related to beaver), but no systemic issues exist.

4.5 SYSTEM SUPPORT

As part of the risk-based auditing process, the IFAPP procedures related to human resources and to documentation and quality control were not audited in detail. However, incidental observations by the audit team lead to the observation that the high-level of performance of the company and MNRF is supported by adequate human resources and good quality assurance /quality control (QA/QC) systems.

4.6 MONITORING

Compliance

NFM's 10-year compliance strategy is provided in the Phase I FMP, consistent with the direction of the 2010 Forest Compliance Handbook. The SFL's annual compliance plans are provided in the Annual Work Schedules. They are appropriately comprehensive and show forethought as to what aspects are to be the focus of annual compliance inspections.

The MNRF Wawa District has compliance responsibilities for five SFLs. To ensure consistency of interpretation across these forests, compliance staff meet regularly to discuss emerging topics and solicit input from each other to ensure the approaches to compliance issues and topics are dealt with reasonably and fairly. The audit team commends the MNRF for implementing this positive and logical process.

During Phase I, which includes the first four years of the audit period, the Company submitted 207 Forest Operations Inspection Reports (FOIRs) and the MNRF completed 71. This level of scrutiny is appropriate for the extent of operations on the Forest. The compliance statistics are misleading in the sense that many of the non-compliances are due to the conifer utilization issues discussed in section 4.4. There were a total of 39 non-compliances reported during the period, of which 33 were due to poor conifer utilization. These non-compliances arose from the Olav Haavaldsrud Timber Co's decision, in 2009, to top the conifer at 14 cm dbh, rather than at the legal size limit of 10 cm. MNRF never acquiesced to this decision, which constituted a wasteful practice. Due to the challenging economic conditions and because the Company planned to eventually use this wood, the District did not issue compliance orders or administrative penalties until the delays in the commissioning of the Becker co-gen plant threatened to render the roadside wood unmerchantable so that it would never be used.

Excluding the utilization non-compliances, the compliance rate during Phase I was 98%, which is very good. Three of the non-compliances were related to water crossings and access construction, one due to harvesting outside the block boundary, and two due to wood movement issues. The number of non-compliances due to operational concerns was low. The FOIP system showed that there were 8 operational issues identified in 2016-17; two related to access and six to harvesting. These were identified in FOIP as "Pending" as of the time of writing.

Silvicultural Effectiveness Monitoring

The Company has developed and implemented an effective system for monitoring silvicultural operations. This system is largely based on field inspections, appropriately supported by GIS analysis and mapping. Each year the entire harvested area is inspected, which provides the information needed to finalize decisions on silvicultural intensity and to identify any necessary changes to FOPs. Other activities include monitoring tree planting and site preparation operations to ensure quality, assessment of tending needs, and tending effectiveness surveys. The Company conducts regular gap analyses to determine if any areas remained untreated.

During the audit period, Wawa District MNRF staff implemented Silvicultural Effectiveness Monitoring (SEM) programs on core tasks according to direction from the MNRF Provincial Silvicultural Program and from the Northeast Region. Of the 13,761 ha that was declared free-to-grow by the Company in Annual Reports from 2011-2015 (corresponding to the area that would be eligible for MNRF SEM surveys under Core Task 1 during the first four years of the audit period), as well as the area of data collection in the 2017-18 year, MNRF has conducted quality assurance (Core Task 1) on a total area of 626 ha, or approximately 4.5% of the declared FTG area..

The target to complete quality assurance on 10% of the area declared free-to-grow by the Company during the audit period was not met, and other optional tasks for Silvicultural Effectiveness Monitoring were not completed for the Nagagami Forest – see **Finding # 8**. In 2012, MNRF surveyed an additional 1,198 ha on areas that were declared to be free-to-grow by the SFL-holder during the prior 2006-2011 FMP term. In general, there was good agreement between the results from MNRF and the Company.

The company does a good job of inventory updating in preparation for forest management planning, including the incorporation of harvesting, silvicultural and free-to-grow records. Maps and associated information on silvicultural treatments and free-to-grow assessments produced by the Company were found to be consistent with the actual conditions and treatment boundaries observed by auditors in the field.

Free-to-grow Assessment Results

The Company used GIS-based tools to identify and map areas requiring free-to-grow (FTG) assessments every year, including areas that were scheduled for re-survey because they did not meet FTG standards in a previous assessment. To date in the 2011 FMP term, the Company has assessed 17,505 ha for FTG status, representing approximately 20% of the forecast area of 90,356 ha. In 2017, an updated eFRI was delivered for the Nagagami Forest. This update, which is based on imagery acquired in 2007 and 2008, was further revised with FTG survey results up to the year 2008-09. Specifications for the new eFRI indicate that all stands 20 years and older will have been photo-interpreted, assigned the full suite of stand attributes, and will be considered FTG provided that there is sufficient stocking. Analysis of the 2008 eFRI shows that the area in categories equivalent to the “Below Regeneration Standards” and “Recent Disturbance” classes in the former inventory has declined from a total of 81,590 ha to 29,904 ha. Comparison of this remaining area with the area for which FTG surveys have been conducted since 2008 indicates that the amount of “backlog” survey work (i.e. the total area of depleted stands that are older than the age of assessment listed in the appropriate SGR for the corresponding Forest Units), is approximately 5,100 ha. The Company is aware of this and has scheduled assessment work for this backlog area to be completed within the current FMP 10-year term as part of its regular FTG survey program.

During the Phase I FMP term, 96.7% of the total area assessed was determined to have achieved FTG status (i.e., regeneration success). FTG results from 2011-2015 indicate that 45% of harvested area had succeeded to the target forest unit as per the appropriate SGRs at the time of survey. It is expected that this proportion will increase over time as forest succession on these sites proceeds.

The Company prepared Annual Reports that were very informative and provided a wealth of detail. The discussion in the AR text was much more detailed than required, which the auditors as interested readers appreciated. One minor omission was noted by the auditors; the ARs lacked some information regarding first-pass harvesting, which is required by the FMPM. **Finding # 9** addresses this.

4.7 ACHIEVEMENT OF MANAGEMENT OBJECTIVES & FOREST SUSTAINABILITY

4.7.1 The Ten Year AR /Trend Analysis

The Year 10 AR/ Trend Analysis that was prepared for this IFA covers four five-year plan periods beginning with 1996-2001 FMP up to Phase I of the current 2011 FMP. The report contains the required sections and tables, many of the sections are informative. The sections on harvest area and volume highlight the challenges of the past decade, and the discussion of natural regeneration illustrates the very large increase in planned and actual natural renewal, which is attributed to ensuring that the natural renewal of past harvested areas is reported. Interestingly, during the 2006 FMP term and Phase I of the 2011 FMP, the actual level of artificial renewal is very close to the planned level, even though the actual area harvested is well below planned. However, the three concluding sections (Review of Assumptions in Modelling, Assessment of Objective Achievement, and Determination of Sustainability) are very brief (especially the review of modelling assumptions, which is one sentence long) and do not address all of the topics /questions identified in the FMPM. The Trend Analysis does not offer any recommendations to improve planning. **Finding # 10** results from these shortcomings.

The assessment of harvest and renewal is key to an accounting for the fate of harvest area from the 1996 plan period onwards. Table AR-10 is the primary table in this regard. The direction in the FMPM for completing AR-10 is faulty, which has led many Trend Analysis authors, including this one, to complete the table in a manner that prevents the intent of the table from being realized, as discussed in **Finding # 11**. This is critical on this forest, given the difference between the area harvested and the **reported** area of renewal during Phase I of the current FMP (**Finding # 7**). The assessment of forest condition is hindered by the shifts in forest units in each of the plan periods, which is a common challenge that is also discussed in **Finding # 11**. Changes to the wildlife species whose habitat is tracked, and the habitat matrix used to assess suitability to habitat precluded the identification of meaningful habitat supply trends.

The Analysis of Disturbances considers the planned level of disturbance, as per the 2011 FMP, but does not discuss how the shortfall in planned harvest area will affect the degree to which the planned shifts in disturbance frequency by size class are achieved. The current underachievement of planned harvesting, if it continues to 2021 (the end of the plan period), will mean that the projected levels of disturbance will not be created which will likely affect the distribution of disturbance sizes. Of the seven size classes, the FMP forecast that the proportion of area in three of the size classes (i.e. the 11-100 ha, 101 – 200 ha, and 1001 – 5,000 ha size classes) would be further from the desired proportion than it was at plan start. The audit team considers it unlikely that there is a social licence to create disturbances larger than 5,000 ha, so that the desired levels in the 5,001-10,000 and > 10,000 ha classes are likely infeasible. The audit team believes that the disturbance targets and planning should be re-thought in the next FMP.

4.7.2 Assessment of Objective Achievement

The Trend Analysis provides a brief discussion of objective achievement. The low level of harvest to date during the plan period is acknowledged to lead to underachievement of the objectives related to forest diversity, socio-economic benefits, and silviculture. The forest cover objective achievement, as projected in the 2011 FMP, is discussed but there is no assessment of anticipated progress to date. Similarly, Table AR-14 in the Trend Analysis presents the assessment of the achievement projected in the FMP.

Appendix 2 presents the audit team's assessment of objective achievement, and the overall conclusion is that most of the objectives have been fully or partially achieved. Only one will not be achieved and a second could not be assessed. The audit team concurred with the author of the Trend Analysis that the three forest diversity objectives are unlikely to be achieved – one may be partially achieved and one could not be assessed, while the third would not be reached. Of the seven socio-economic objectives, two are on track to be achieved and five are partially achieved. Of these objectives, four include indicators based on the compliance rate, and most of these indicators were achieved. The other indicators were less frequently achieved. In contrast, all of the forest cover objectives and one of the silviculture objectives were expected to be achieved, while the second silviculture objective was partially achieved. The audit team concluded that the forest is generally being managed as set out in the FMP, and most of the objectives are appropriate. The audit team did conclude that several of the objectives should be re-considered in the next plan, as discussed in **Finding # 12**.

Based on the assessment of objective achievement, the fact that renewal is keeping up with harvesting and that the Company is addressing the backlogs in FTG assessment and in slash management and use of the small-sized merchantable conifer, the forest is being managed consistently with the principles of sustainable forest management, as assessed through the Independent Forest Audit Process and Protocol.

4.8 CONTRACTUAL OBLIGATIONS

The SFL imposes a number of requirements on its holder, and NFM was found to have met the majority of its associated contractual obligations. NFM's compliance is described in detail in Appendix 3.

Some of the financial terms of the SFL have not been met during the audit period, due to the financial difficulties experienced by Olav Haavaldsrud Timber Company, the owner of NFM, which culminated in the closure of the mill on Nov 27, 2015 and the subsequent bankruptcy of OHTC. **Finding # 13** is the result of the Company not being able to maintain the minimum balance in the Forest Renewal Trust (FRT) Fund throughout the audit period. The Company was in arrears by \$465,828.36 to the FRT at March 31, 2017. As of the same date, the Company also owed to the Ontario government \$991,719.31 for Crown Charges, and \$248,633.25 due to the Forestry Futures Trust. Under the new ownership, NFM has signed a repayment agreement with MNRF dated March 30, 2017 to repay the amount owing before March 31, 2019.

The Company fulfilled all of its planning and reporting requirements, and maintained an effective compliance program during the audit period, despite the large number of non-compliances and fines associated with wasteful practices. As described above, this situation arose in the aftermath of the 2008-09 recession as OHTC tried to remain viable in the face of closures of mills that purchased chips from the mill and pulpwood from the Forest. Despite these challenges, the Company met the intent of its wood supply commitments, although the actual volume supplied was below anticipated amounts.

The Company's monitoring program was effective and between receiving a new forest inventory and undertaking a large amount of FTG assessment, the amount of area classed as not regenerated declined significantly as described in section 4.6. There were also findings identified with respect to the Company's engagement with interested First Nations and Métis.

The Wawa District MNRF and the Company prepared an action plan for the locally directed recommendations from the previous audit, and a subsequent status report. The status report was about half a year late (**Finding # 14**). The majority of the recommendations from the previous IFA were addressed. In particular, the Company did extensive work to assess the abundance of balsam fir in renewal, and concluded that there was not an influx of fir in the renewal, a conclusion that the audit team agrees with. Recommendations that were not fully addressed, including one directed at the Wawa District to engage with the First Nations to prepare Aboriginal Background Information Reports (ABIRs) and updated values information. While there was some engagement by MNRF, an ABIR is only completed for Hornepayne Aboriginal Community.

Corporate MNRF also prepared an action plan for recommendations from all 2012 IFA's directed at the corporate level, however the Status Report is more than 20 months late and is not yet produced (**Finding # 15**). There was one recommendation from the 2012 IFA directed to Corporate MNRF regarding wording in the FMPM – the new FMPM released in 2017 has improved wording that addresses the recommendation. Lastly, the audit team concluded that the planned renewal approach in the continuous caribou distribution zone cannot be funded adequately under the existing schedule of forest renewal trust rates on the Nagagami Forest, leading to **Finding # 16**.

4.9 CONCLUSIONS AND LICENCE EXTENSION RECOMMENDATION

This audit of the Nagagami Forest for the period from April 1, 2012 – March 31, 2017 resulted in 17 findings. Despite the number of findings, the audit result was favourable and indicated that the Forest is being managed well and sustainably by the Company and Wawa District MNRF.

The audit period was a tumultuous one for OHTC, and the related company that owned the Becker co-generation plant. OHTC was under financial stress due to the closures of many regional mills that occurred during and after the 2008-09 recession. This financial pressure also affected NFM and the management of the forest, since for example, the balances in the Forest Renewal Trust (FRT) Fund were below the minimum required levels at each of the year-ends in the audit period. The OHTC mill closed in November 2015, the company went into receivership the following year before it was purchased by a Frank Dottori-led company. Several of the findings reflect the lingering issues that arose during this period of stress. The Company was also in no condition to engage with Aboriginal communities regarding opportunities for economic benefits, contributing to several other findings. The auditors also prepared a finding because the direction to limit hardwood renewal in the zone of continuous woodland caribou occupancy requires renewal expenditures well in excess of the FRT funds generated through the harvest.

During the audit term, the Company worked diligently to address the operational recommendations in the previous IFA. A very positive outcome of this audit is that none of the findings indicated issues with forest operations; during the field inspections, the auditors did not come across incidents that should have been non-compliances. This is very unusual in an IFA.

The Nagagami Forest is very far from Wawa and this presents a challenge for the Wawa District MNRF to fully meet its obligations, especially with regard to having a local presence and engaging with interested Aboriginal communities and stakeholders. Five of the findings can be attributed to the challenge posed by distance.

Three of the findings are associated with issues for Corporate MNRF to address. MNRF has yet to put forward a strategy for managing woodland caribou habitat in the discontinuous zone, and this audit is one of several undertaken by ArborVitae this year that continued to find Trend Analysis authors struggling to complete Table AR-10. This Table is intended to track the fate of harvested area over the past four plan periods but the instructions in the FMPM for completing the table are confusing at best. Lastly, Corporate MNRF has not yet completed the status report on the implementation of recommendations from the 2012 IFAs.

The management of the Nagagami Forest is expected to be stable and progressive going forward. The audit team met with representatives from the new ownership of the sawmill and co-gen plant, which has a fine record of involving Aboriginal communities in the businesses. The ownership has developed agreements to pay the debts to the Crown that arose under OHTC and committed to engage with Aboriginal communities. Wawa District MNRF has also acknowledged that it needs to be more active.

The audit team concludes that management of the Nagagami 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 Nagagami Forest Management Ltd. The forest is being managed consistently with the principles of sustainable forest management, as assessed through the Independent Forest Audit Process and Protocol. The audit team recommends the Minister extend the term of Sustainable Forest Licence #550047 for a further five years.

APPENDIX 1 – AUDIT FINDINGS

Independent Forest Audit – Record of Finding

Finding # 1

Principle 2: Public Consultation and Aboriginal Involvement

Criterion 2.1: LCC Purpose and Activities – Direction: Review the applicable FMPM related to LCC purpose, membership, organization, terms of reference, administration, reporting and documentation.

1. Review and assess whether the LCC met the purposes and conducted its activities in accordance with the applicable FMPM. Include the following:
 - areas where the LCC may be improved
 - review minutes of LCC meetings, turnover of members, number of meetings held, frequency of obtaining a quorum, who expressed dissenting opinions, whether these opinions were addressed.

Background Information and Summary of Evidence:

The audit team confirmed that the LCC is effective at providing a diverse but balanced perspective on issues in the forest. MNRF considers those opinions in formulating management decisions. At issue was the administration of the LCC.

LCC reviewed and made some suggestions to the Terms of Reference (TOR) prior to the term of the audit in early 2012, when the LCC was informed that the “TOR is being revised in order to have consistency across the MNR District in relation to meeting structure, secretary, etc., and also to match the FMPM 2009.” The revised TOR was not approved until April of 2017, two months before the end of the audit period, five years after the original LCC minute. The delay was due to some issues which were not resolved until the District Manager resolved them at the February 2017 meeting. The decisions were straight forward – allowing phone in participation, rules for number meetings missed, etc. - and appropriate. The length of time to make the decision caused problems for the LCC.

Other decisions related to the appointment of LCC members were also delayed for long periods (longer than a year). There was no apparent reason for the delays as the decisions seemed to be straight forward confirmation of which LCC representative was representing what perspective or community constituency.

In the auditors review of the LCC minutes it seems that the decisions needed for the LCC were not a significant problem; they were simply not addressed by senior District MNRF managers (DM and supervisors). A review of attendance showed the DM and supervisors only attended one meeting (February of 2017 – a supervisor may have attended a meeting one other time, but the minutes are not clear). There was no phone participation by senior MNRF staff during the period of the audit. The auditors observe that an MNRF staff person attended almost all of the LCC meetings, which is commendable, given the 2 hour travel time from Wawa to Hornepayne.

Discussion: The LCC is a volunteer group that is led by the District Manager and it needs to be promptly directed when administrative questions arise. For some reason getting attention to these needs did not happen promptly during the audit period. For this reason the best solution to ensuring good administration is for senior managers to commit to a reasonable level of attendance at LCC meetings. The appropriate level of attendance and other performance criteria should be outlined in the TOR.

The TOR allows for phone attendance by LCC members, and this is also reasonable for senior managers, although in person attendance should occur when possible.

Conclusion: Questions about the LCC TOR and membership went unanswered for the majority of the audit term and could have been addressed more promptly by senior MNRF staff. Lack of prompt decision making caused some discord among LCC members. The auditors feel that senior managers should commit to a reasonable level of attendance at LCC meetings and ensure prompt decisions are made about membership and other LCC administrative matters.

Finding: Wawa District MNRF did not respond promptly to the administrative needs of the LCC; senior MNRF managers attended only one meeting over the five year audit term; there is no commitment for MNRF attendance in the LCC TOR.

Independent Forest Audit – Record of Finding

Finding # 2

Principle 2: Public Consultation and Aboriginal Involvement

Procedure 2.5.2: Participation of Aboriginal Peoples in the Benefits Provided by Forest Management Planning: Review whether Aboriginal peoples were provided with, and whether they availed themselves, of opportunities to achieve more equal participation in the benefits provided through forest management planning and assess the results. Include the following:

- interviews with MNRF District Manager, First Nations or Métis community leaders;
- whether there were any negotiations with First Nations or Métis communities at the District level relevant to the applicable EA condition and whether the management unit was involved.

Principle 8: Contractual Obligations

Procedure 8.1.15: Aboriginal opportunities: Assess the extent to which SFL condition was addressed (that the SFL shall work co-operatively with the Minister and local First Nations or Métis communities in order to identify and implement ways of achieving a more equal participation ... in the benefits provided by forest management).

Background Information and Summary of Evidence: Constance Lake First Nation (CLFN) and Ginoogaming First Nation (GFN) are not on the Nagagami Forest (NF) and are not located within the boundaries of the Wawa District MNRF. The lead MNRF Districts for each community are Hearst and Nipigon, respectively. Both communities have traditional territory in the NF and members who live there. The communities seek opportunities to benefit from forestry.

In the term of the audit, GFN had communications with Wawa MNRF about values on the NF, and received invitations to participate in planning. MNRF provided its log of contact with GFN which indicated the beginnings of a discussion of potential forest industry economic opportunities. Two meetings occurred in the summer of 2016, but events interceded to delay further progress. The community wishes to continue the discussion of possible benefits.

The CLFN community is not far outside the NF, and also received invitations to participate in Phase II planning. They expressed their desire to discuss possible benefits on a regular basis. Their priority is to maintain vigilance over their traditional territory.

Both communities are a considerable distance from the Wawa District Office - more than a 3 hour drive, so in-person meetings are uncommon. Their most frequent MNRF contact is with other Districts, and these Districts are not involved with the NF. The First Nations try to keep up with requests for information about their values, and opportunities to participate in NF planning, but both commented that they cannot keep up given their current capacity.

The communities commented on the burden of participating in discussions being conducted at a distance, while participating in similar exercises conducted by other MNRF offices. CLFN deals with three MNRF Districts and five forests, and GFN deals with two Districts and a similar number of forests. Other comments from these First Nations were:

- “There was no proper consultation on Nagagami Forest”
- The time for Consultation is past when the government representatives seek approval.
- They are willing to participate in discussion of benefits, values and planning if there is proper support for technical people.
- CLFN notes that its former planning team representative is no longer available, and has not been for some time. The community will find a new representative if there is a

- reasonable commitment on paper to financially support consultation and participation.
- GFN has a considerable capacity for training and would provide matching funding for training projects related to gradually building a silviculture business.

Olav Haavaldsrud Timber Co contacted CLFN and had some discussion with them during the audit term. This meeting was not recalled by CLFN or MNRF, but no doubt there was some contact. There is no evidence of any contact between the Company and GFN during the audit period. The ownership of the new mill-owning company, Hornepayne Lumber, is well-known for working in partnership with First Nations and representatives have expressed an interest in working with interested Aboriginal communities. Going forward both communities expressed a desire to the audit team to meet the new company, as soon as possible, given the new business arrangement.

Discussion: The direction for this procedure incorporates a lot of the language used in Ministry of the Environment Condition 56 of Declaration Order MNR-75 but unlike Condition 56, the procedure does not specify that the Aboriginal peoples must reside within the management unit. A strict interpretation of this procedure requires the District Manager to “negotiate” with Aboriginal peoples about each management unit in which they have traditional territory (see the procedure above). This is a high bar to achieve given the number of FMUs and the number of communities with traditional territory in the Wawa District. The geography of this part of Ontario and the location of Aboriginal communities is an important consideration in understanding this finding. In Wawa District, 33 such specific negotiations are required to meet Condition 56 obligations with various Aboriginal communities that identify traditional territories on all of the licence areas. Both GFN and CLFN are quite distant from Wawa, and so in-person meetings are uncommon. This is a challenge to building a relationship that can support proper negotiations. Both communities remarked on the difficulty they have in considering requests from distant government offices for consultation. For the communities, keeping track of requests for consultation and information is a significant burden, largely unfunded.

During the audit period, there was a low number of interactions between Wawa MNRF and these two communities and distance is a factor in this. Although Nagagami is a relatively small FMU and the communities are not within its boundaries, the forest is close to their communities (as the crow flies) and is an important part of their traditional territory which they would like to benefit from.

The communities are aware of the changes in ownership of the mill in Hornepayne and were contacted during the SFL transfer process, as required. It has raised some expectations. The communities do not have statistics on the benefits to community members arising from forestry in Nagagami. Realistically, there is some benefit through mill employment.

The new Company has a good reputation of working with Aboriginal communities, and this has raised expectations in those communities with members and traditional territory in Nagagami Forest. GFN was interested in benefits and mentioned that they had a possible project in mind.

Conclusion: Although there are challenges to negotiating with Aboriginal communities so that they can gain more equal participation in benefits from forestry, there is a requirement to do so. The audit team has specifically identified the two communities that infrequently hear from either the Wawa District MNRF or the Company about this part of their traditional lands. The District pointed out that they have made contact with GFN and need to sustain the initiative. The ownership of the new Company has pledged to engage with the communities.

Finding: Wawa District MNRF and the Company have infrequently contacted Ginoogaming First Nation and Constance Lake First Nation to discuss possible benefits from the Nagagami Forest.

Independent Forest Audit – Record of Finding

Finding # 3

Principle 2:: Public Consultation and Aboriginal Involvement

Procedure 2.5.2: Participation of Aboriginal Peoples in the benefits provided by forest management planning: Review whether Aboriginal peoples were provided with, and whether they availed themselves, of opportunities to achieve more equal participation in the benefits provided through forest management planning and assess the results. Include the following:

- interviews with MNRF District Manager, First Nations or Métis community leaders;
- whether there were any negotiations with First Nations or Métis communities at the District level relevant to the applicable EA condition and whether the management unit was involved.

Principle 8: Contractual Obligations

Procedure 8.1.15: Aboriginal opportunities: Assess the extent to which SFL condition was addressed (that the SFL shall work co-operatively with the Minister and local First Nations or Métis communities in order to identify and implement ways of achieving a more equal participation ... in the benefits provided by forest management).

Background Information and Summary of Evidence: Biigtigong Nishnaabeg (BN; formerly Ojibways of Pic River First Nation) and Pic Mobert First Nation (PMFN) have been involved in discussions of forestry on other forests but not for the Nagagami Forest. The communities are within the MNRF Wawa District and the NF is within their traditional territories. MNRF provides copies of the AWS for the communities to review but there is not an annual meeting to discuss these. Both communities are more than an hour from the MNRF office.

Both communities expressed serious concern about the burden of reviewing MNRF forestry documents (FMP, FMP amendments, AWS) for multiple forest management units. Other resource sectors like mining provide considerable support for technical Consultation (referred to as “Participation Funding”). One of the communities has a fee schedule for these reviews. They plan to extend that fee schedule to forestry in the near future.

During the audit period, Wawa District MNRF has some interaction with both communities but the SFL-holder did not contact them to discuss ways that they could achieve more equal participation in the benefits provided through forest management planning. Hornepayne Lumber LP had not contacted them either at the time of the audit.

Other comments were made by the two communities that were hard to verify and beyond the scope of the auditors. These are recorded below because the audit team noted that these touched serious concerns and reflect the level of discussion, which indicates there is a need for better communication between the parties:

- “The time for consultation is past when the government representatives seek approval” -- referring to requests to review the AWS;
- Forestry has a large footprint, but there is no guarantee of set aside area for trappers, or other users;
- MNRF and other Ministries want easy electronic access to indigenous values, so they can issue Land Use Permits, without interacting with the communities directly;
- Amalgamation of forests would be acceptable to the communities in order to reduce the number of minor requests for information and input;
- With Forestry, MNRF is trying to do business and consultation at the same time – “this is a conflict of interest”. This is different than mining where they separate the two functions.

- Would like to see an “open house” to discuss moose and caribou;
- One community wanted confirmation that there will be no resource extraction (especially aggregates) from areas that will be annexed to the reserve; and
- Costs for technical reviews should be covered.

Discussion: Possibly due to the smaller size of the forests (Big Pic, Pic River, White River, Magpie, and Nagagami) in the traditional areas of BN and PMFN, consultation entails a significant burden of work for both communities and the government because of the numerous overlapping boundaries. Both communities told the auditors that it was difficult to address frequent multiple engagement requests for input.

Distances between the administrative office for the forest and the communities are a factor in the low number of face to face interactions. The relationship is not able to develop when contact is infrequent and there are many different people participating.

This finding addresses the communities which are within the MNRF Wawa District and it was intentionally separated from Finding # 2 because of the different MNRF administrative bodies.

Conclusion: For the reasons discussed above, the Nagagami Forest does not receive attention from the government at a level which is comparable to the other forests in the area, and it is not at a level which meets the letter of the EA requirement. Forestry does not interact with the communities at a level comparable with other resource sectors. The communities want an opportunity to specifically discuss benefits from the NF, and want support for technical staff.

Finding: Wawa District MNRF and the Company have not negotiated with Biigtigong Nishnaabeg and Pic Mobert First Nation communities to identify and implement ways of achieving more equal participation in the benefits provided through forest management planning.

<p style="text-align: center;">Independent Forest Audit – Record of Finding</p> <p style="text-align: center;">Finding # 4</p>
<p>Principle 2:: Public Consultation and Aboriginal Involvement</p> <p>Procedure 2.5.2: Participation of Aboriginal Peoples in the benefits provided by forest management planning: Review whether Aboriginal peoples were provided with, and whether they availed themselves, of opportunities to achieve more equal participation in the benefits provided through forest management planning and assess the results. Include the following:</p> <ul style="list-style-type: none"> • interviews with MNRF District Manager, First Nations or Métis community leaders; • whether there were any negotiations with First Nations or Métis communities at the District level relevant to the applicable EA condition and whether the MU was involved.
<p>Background Information and Summary of Evidence:</p> <p>There are local residents of the Nagagami Forest who identify as Métis. At least one of these people is active in a resource management activity on the forest on a regular basis. There are other Métis who were very interested in the forestry activities of the company. They aspire to “equal participation in the benefits provided through forest management planning”.</p> <p>One of these people is the representative of the Hornepayne Métis Association on the Local Citizen’s Committee (LCC). The status of this organization is not known, but it is listed in the LCC Appendix of the FMP supplemental documentation.</p> <p>MNRF has not contacted the local Métis. There was some lack of clarity about who the local Métis members are and who the official representative is.</p> <p>The Company did not contact the Métis during the audit period. A spokesperson for the new SFL-holder, Hornepayne Lumber LP, said that they plan outreach.</p> <p>The Métis Nation of Ontario had not contacted these local Métis.</p> <p>The local Métis were unaware of changes in the law resulting from recent court decisions and expressed an interest.</p>
<p>Discussion: It was difficult to discuss with the community members interviewed what their expectations could be. In fact the role of the auditor is spelled out in MNRF direction to auditors:</p> <p style="padding-left: 40px;">“If the auditor becomes aware of Aboriginal community interests in FMP, the auditor is encouraged to identify the interest to MNRF. It is not the auditor’s responsibility to assess or comment on whether the community may have Aboriginal or treaty rights or whether they should be considered as a community in-and-adjacent to the forest management unit.”</p> <p>Following that narrow direction, a finding is required because a member of an “aboriginal” community has an interest in the FMP. In fact they are well beyond the interest level and are participating.</p>
<p>Conclusion: This finding follows the direction of the MNRF cited above.</p>
<p>Finding: Wawa District MNRF and the Company have not contacted the Métis residents of Hornepayne who have an interest in the Forest Management Plan and activities in the forest.</p>

Independent Forest Audit – Record of Finding

Finding # 5

Principle 7: Assessment of Management Objectives and Forest Sustainability

Procedure 7.2.1 In the audit report document the following in table format:

- for the latest Year Ten AR/ Trends Analysis Report provide a list of the objectives and the auditor's assessment of the progress towards achieving each objective

Background Information and Summary of Evidence. Objective 3.1 (Habitat for Species at Risk) of the 2011 FMP addresses the need to maintain and restore woodland caribou habitat on the forest and to follow the Caribou Conservation Plan (CCP) (2009)². The CCP identifies two habitat zones for caribou in Ontario. Most caribou range in the province is included in continuous ranges (i.e. areas inhabited continuously by caribou), but some area also exists within a discontinuous range that has no permanent population, but is intended to provide landscape connectivity for caribou between the shore of Lake Superior, where a small herd of caribou is recognized, and the interior continuous ranges. Only a small area in the Nagagami Forest (portions of two townships) lies within the continuous zone, but approximately 30% of the Nagagami Forest is within the discontinuous zone. The zone includes land on the west side of Highway #631 and south of the CNR railway and includes all or portions of ten townships and covers an area of approximately 139,000 ha. Management of the continuous portion of caribou range within the Forest is appropriately integrated with strategies on abutting forests.

The CCP contains the following commitment related to the discontinuous caribou zone. *“Ontario will develop a management strategy for discontinuous range management to enhance connectivity between the northern continuous range and the southern coastal Lake Superior populations. This connectivity will improve the prospects for persistence of the coastal population. Discontinuous range will not be managed broadly for caribou habitat to support self-sustaining populations. Instead it will be managed with a focus on specific landscapes that may support temporary caribou occupancy or movement between the continuous range and Lake Superior.”*

MNRF has been very active in caribou habitat management efforts across the province, but has not addressed this commitment, as is evidenced by the following:

- The CCP progress report (2012)³ refers to the existence of the discontinuous range, but the progress reported in the document relates only to the continuous range.
- The Ministry has produced a number of comprehensive assessment documents for ranges within the continuous zone, but no comparable document has been produced for the discontinuous zone.
- The objectives of State of the Woodland Caribou Resource Part 1 (2014)⁴ include *“reporting on the policy, planning and resource management commitments”*. This document also acknowledges the importance of the discontinuous range, but no explicit reporting that addresses the commitment to develop a management strategy is provided.

Finally, in response to a request from the audit team for information on this issue, MNRF staff from the Landscape Species Recovery Section responded that *“Recently, MNRF has initiated efforts to explore development of management direction specific to the Lake Superior Coast Range and DD [zone of discontinuous distribution].”*

² Ontario Ministry of Natural Resources. 2009 Ontario's Woodland Caribou Conservation Plan. OMNR. 24 p.

³ Ontario Ministry of Natural Resources. 2012. Ontario's Woodland Caribou Conservation Plan Progress Report. 17 p.

⁴ Ontario Ministry of Natural Resources and Forestry. 2014. State of the Woodland Caribou Resources Report. Species at Risk Branch. 156 p.

Discussion: Direction for management of caribou habitat contained in the Phase II FMP within the discontinuous zone portion of the Forest was based largely on input from the MNRF Regional and District Staff. While the approach for managing connectivity in the discontinuous range is logical, the FMP itself notes that its approach has been developed in the absence of a provincial strategy. Although the response from Landscape Species Recovery Section indicates an intent to develop direction, it is vague (i.e. *MNRF has initiated efforts to explore development....*) and no timelines were provided.

The discontinuous range of caribou includes portions of several other Forests in the vicinity of the Nagagami Forest (i.e. White River, Algoma, Pic River, Big Pic, Kenogami, Lake Nipigon, Lakehead, and Black Spruce). An approach should be developed for managing in a consistent manner across the discontinuous range of caribou using the most appropriate methods to facilitate connectivity at landscape scales.

Conclusion: The MNRF's commitment to develop a broad management strategy for managing caribou habitat in the discontinuous zone has not yet been addressed – eight years after the commitment was made in the CCP. Management of this zone within the Nagagami Forest would benefit from provincial direction to ensure it is consistent with approaches on adjacent forests.

Finding: Corporate MNRF has not fulfilled its commitment to develop a strategy for managing the discontinuous range of woodland caribou.

Independent Forest Audit – Record of Finding

Finding # 6

Principle 7: Achievement of Management Objectives and Forest Sustainability

Procedure 7.1.4: Assumptions. Determine whether [the Trend Analysis included] a review of the assumptions used in the development of the long-term strategic/management direction was completed and if it included observations, conclusions, or recommendations for modifications or refinements....

Background Information and Summary of Evidence. As noted in **Finding # 10**, the section of the Trend Analysis that reviews the model assumptions used in the Phase I FMP was perfunctory. Important and related oversights deal with assumptions regarding climate change and the frequency of forest fires. The Analysis Package for Phase I of the FMP includes an assessment of the fire history of the Forest over the past 46 years. Based on the area burned in that period, the analysis concluded that the average managed fire cycle on the Forest is 2,655 years (varying from 4,000 years for the BOG FU to 1,500 years for Pj1 and Pj2 FUs). This rate was used in the calculation of the AHA and projected future forest condition. The manner in which the fire return rate affects the AHA calculation is complex; but a longer fire return time produces a higher AHA.

The audit team is concerned that the analysis of fire frequency is not robust. The sample of 46 years is too small to realistically conclude that the managed fire return time is 2,655 years. Basic boreal fire ecology is that there are irruptive fire years in which a disproportionate amount of area is burned. The chance of an irruptive year occurring in the 46 year sample period is likely small and the calculation methodology lends itself to suggesting unrealistically long fire return times.

The audit team has the related concern that the analysis does not account for climate change, which is expected to lead to more frequent fires in the boreal forest.

Discussion: The audit team agrees that data from the post-suppression era should contribute to the calculation of the fire return time used in SFMM, but given that the sample is very small, other means should be considered in buttressing conclusions regarding fire return time (e.g. literature review, consultation with experts, etc.) Without running SFMM, something that is beyond the scope of this audit, it is not possible to determine the precise effects of a very long managed fire return time, but the auditors remain concerned that it may inflate the AHA and lead to inaccurate or unwise objectives into the plan, bringing into the plan another factor that may affect its credibility (see also **Finding # 12**).

The FMPM was finalized in 2011, and there is likely a somewhat better understanding of the implications of climate change on forests now than there was then, perhaps explaining why climate change was not factored into the modelled fire dynamics in the Phase I plan. Nonetheless, this factor should have been identified in the review of assumptions in the Trend Analysis. Fortunately the 2017 FMPM (Section 1.2.3) acknowledges the potential implications of climate change and includes it in a list of considerations that managers may take into account in development of the Long Term Management Direction.

Conclusions: The determination of a fire return time of 2,655 years based on a small sample of years is methodologically questionable and may affect the plan's results and credibility. The Trend Analysis discussion on model assumptions should have considered the impacts of climate change on fire frequency and extent.

Finding: The fire return time of 2,655 years is not appropriate and there is no consideration of the effects of climate change on this and other parameters in the review of model assumptions.

<p style="text-align: center;">Independent Forest Audit – Record of Finding</p> <p style="text-align: center;">Finding # 7</p>
<p>Principle 4: Plan Assessment and Implementation</p> <p>Procedure 4.4.1: Renewal - Review and assess in the field the implementation of approved renewal operations. Consider whether there are any gaps between the planned and actual levels of each type of renewal activity seen in the field.</p>
<p>Background Information and Summary of Evidence: There was a shortfall in the amount of total renewal reported during the 2011 FMP Phase I term, relative to the planned level and considering the actual harvest level during the term. For the five-year period from 2010-11 to 2015-16, a total area of 11,514 ha was harvested. Assuming a one-year lag time for renewal of harvested areas, this corresponds with the area that would be eligible for treatment within the 2011-2021 FMP term. For the first six years of the 2011-2021 FMP term, the total area regenerated on the forest was 8,428 ha, a difference of 3,086 ha.</p>
<p>Discussion: Although natural regeneration reporting is sometimes delayed for a period of time to ensure that artificial treatments are not required to boost the stocking or density of crop trees, this is still a significant amount of unregenerated area that will have to be addressed by the end of the 10-year audit term. The shortfall can be attributed to the low levels of natural regeneration reported in the first two years of the audit period, and lower than planned levels of artificial regeneration conducted during the first three years of the audit period. Contributing factors included reporting lags and a lack of funds in the Forest Renewal Trust account to pay for these activities during the period of financial difficulties, which culminated in the bankruptcy of OHTC.</p>
<p>Conclusion: The Company should ensure that by the end of the 2011 FMP term, the total amount of regeneration conducted during an FMP term is consistent with planned levels, with due consideration of the actual level of harvesting (and thus the area available for renewal) conducted during the term.</p>
<p>Finding: The total area of renewal conducted during the first six years of the 2011 FMP term was approximately 3,086 ha less than the area harvested during the same period.</p>

Independent Forest Audit – Record of Finding

Finding # 8

Principle 6: Monitoring

Procedure 6.3.1.2: Silviculture Standards and Assessment Program. Assess whether the management unit assessment program (SFL and District) is sufficient and is being used to provide the required silviculture effectiveness monitoring information.

Background Information and Summary of Evidence: During the audit period, the MNRF program for SEM consisted of 3 Core Tasks: 1) quality assurance on approximately 10% of the area declared as free-to-grow (FTG) by the SFL-holder each year, 2) surveys of areas declared to be free-to-grow five years after the assessment, to assess any successional changes in species composition and other attributes, and 3) compliance monitoring of the renewal and maintenance program on the Forest. This information, in combination with Free-to-Grow survey results collected by the Company, is intended to contribute to FMP updates, including updating of SGR information, and refining information about the managed successional pathways used in modelling.

During the five-year period from 2011-2015, 13,761 ha was declared free-to grow by the Company in Annual Reports: this corresponds to the area that would be eligible for MNRF SEM surveys under Core Task 1 during the first four years of the audit period. Including data collected in 2017-18, MNRF has conducted quality assurance (Core Task 1) on a total area of 692 ha, or approximately 5% of the declared FTG area. In 2012, MNRF surveyed an additional 1,198 ha on areas that were declared to be free-to-grow by the SFL-holder during the prior 2006 FMP term.

No work was undertaken on Core Task 2 during the audit period, however, in the last 2 years of the audit period, Regional direction indicated that this task was to be considered optional. During the audit period Wawa District MNRF did only one compliance inspection of renewal and none of maintenance activities on the Nagagami Forest.

The District SEM information was not used to review or update SGR's during the preparation of the 2016 Phase II Planned Operations.

Discussion: The amount of SEM work completed by District MNRF during the audit period was less than the targets set by the MNRF Provincial Silvicultural Program and from the Northeast Region. MNRF's annual SEM reports from the audit period indicate that resources were insufficient to meet targets on all of the five Forests for which the District was responsible. Combined with long driving distances from the Wawa District office to sites in the Nagagami Forest, this contributed to the limited amount of work completed on the Forest.

Finding: Wawa District MNRF did not meet its targets for free-to-grow survey work and optional tasks for Silvicultural Effectiveness Monitoring were not completed for the Nagagami Forest during the audit period.

Independent Forest Audit – Record of Finding

Finding # 9

Principle 6: Monitoring

Procedure 6.5: Examine the Annual reports for the term of the audit and assess whether the text, tables and maps, including digital products, is accurate, complete, and in accordance with applicable requirements.

Background Information and Summary of Evidence: The 2011 FMP identified that there were a total of 716.2 ha that had received a first pass harvest for the conifer content during the 2006 FMP period and were awaiting a second pass for the hardwood veneer component. The plan is inconsistent about when these areas are expected to be treated. On page 323, the FMP says that the areas will be available for the second pass throughout the entire term of the plan, whereas in on page 207, the plan states these areas are projected to receive their second pass within the first three months of the 2011 FMP term. The FMP also suggests that harvesting procedures had changed so that there would be no second pass harvesting in future. None of the SGR's in the FMP mention two-pass harvesting, however those for hardwood and mixedwood FU's reference the "Towards Resolving Utilization Issues" protocol, a predecessor document to the Northeast Region Operations Guide to Marketability Issues (2013). Unfortunately, continued poor markets for non-veneer hardwood and financial stress faced by the Olav Haavalsrud mill led to there being further multi-pass harvesting conducted on the forest throughout much of the 2011 FMP term, as described for example on page 38 of the Phase II FMP.

Discussion: The forest managers informed the audit team that many of the two-pass harvests take place in mixedwood stands where patches with high concentrations are left unharvested, with the intention that a second entry would be made to harvest these patches when an operator who was proficient in cutting veneer was able to undertake the operation. These hardwood dominated patches would be delineated and identified as new stands, while the surrounding area that had been harvested would be reported as depleted. Under this approach, the area of depletion reported in the Annual Report is accurate. Technically, these may not be two-pass harvest operations since each hectare is only harvested once.

However, when the Company plants the depleted first-pass area, it marks out the skid trails that will be used when the remaining hardwood areas are cut, and doesn't plant these until the second-pass has been made. In the view of the auditors, these are functionally two-pass harvests.

The 2009 FMPM states that "Areas harvested in two passes will be reported in two annual reports. The Northeast Region Operations Guide for Marketability Issues (2013), tactical consideration 2.3 states that where a partial harvest was applied (i.e., the first of two harvest passes was applied), "the Annual Report must identify through text and table, stands where partial harvest was applied and the projected SGR for the site." The Company has been reporting the projected SGR in its depletion layer submitted with the AR's, however the stands (or blocks) where partial harvesting was applied are not being reported.

Conclusion: The Company continued to experience multi-pass harvesting on the Nagagami Forest during the audit period and did not report the areas of partial, or first-pass harvesting, in the Annual Report as required by the NE Region Operations Guide for Marketability Issues (2013).

Finding: During the audit period, the Company did not report the areas of partial, or first-pass harvesting, in the Annual Report as required by the Northeast Region Operations Guide for Marketability Issues (2013)

Independent Forest Audit – Record of Finding**Finding # 10****Principle 7: Achievement of Management Objectives and Forest Sustainability****Procedure 7.1: Year ten annual report (AR)/ trend analysis report**

Examine the Year Ten AR for the term of the audit ...

Determine whether a review of the assumptions used in the development of the long-term strategic/ management direction was completed and if it included observations, conclusions or recommendations for modifications or refinements.

Procedure 7.3.3: Year ten AR/ trend analysis report assessment /determination of sustainability

For Year Ten AR/ Trend Analysis Reports prepared under the 2009 FMPM, review and assess the analysis by considering:

- FMPM requirements
- Summarize and comment on this review and assessment in the audit report

Background Information and Summary of Evidence: The Company prepared a Year Ten Annual Report / Trends Analysis for this IFA that covers three five-year plan periods beginning with 1996-2001 and ending with Phase I of the current 2011 FMP. The Trend Analysis contains the required sections and tables. Many of the sections are informative. The sections on harvest area and volume highlight the challenges of the past decade, and the discussion of natural regeneration illustrates the very large increase in planned and actual natural renewal, which is attributed to ensuring that past harvested areas are renewed.

However, the three concluding sections (Review of Assumptions in Modelling, Assessment of Objective Achievement, and Determination of Sustainability) are very brief (especially the review of modelling assumptions, which is one sentence long) and do not address all of the topics /questions identified in the FMPM. The Trend Analysis does not offer any recommendations to improve planning or effectiveness.

Conclusion: The Trends Analysis needs additional work to meet all of the requirements in the FMPM and provide informative insight where it is currently lacking.

Finding: The Year Ten AR/ Trends Analysis does not meet all of the requirements of the 2009 FMPM.

Independent Forest Audit – Record of Finding

Finding # 11

Principle 6: Monitoring

Procedure 6.3.3: Assess the actual level of the overall monitoring program including whether ... the amount of area eligible for survey is consistent with past levels of harvest and whether all areas are being addressed.

Background Information and Summary of Evidence: In the harvest and regeneration analysis section (Section 1.4) of the Trends Analysis Report, the author discusses the difficulty he experienced completing Table AR-10 (Summary of Harvest and Regeneration Trends), which is the key table for this analysis. Unfortunately, this table is not filled out correctly, leading to challenges in reaching rational conclusions about the state of harvest and regeneration on the Forest, as discussed by the report author. The text of the Trend Analysis states that “The FMPM instructions for the completion of the AR-10 indicate that one must report the total harvest and salvage area should equate to the total area surveyed, regenerated, unavailable for regeneration and unsurveyed, in the same 5-year term. This is not possible.”

This situation is no fault of the report author, since the instructions in the FMPM for completing AR-10 are not clear and the auditors are finding that similar problems completing AR-10 properly are widespread across the province.

Discussion: The auditors recognize that a significant level of effort was expended by the plan author and other JRM staff compiling the data, however in its present form, Table AR-10 in the Trends Analysis Report cannot provide a meaningful assessment of the state of renewal as compared to harvest depletions. In the opinion of the auditors, Table AR-10 is a key table that enables forest managers to examine long-term harvest and regeneration trends, which is an important aspect of assessing forest sustainability. This table is also one of the tables required for the enhanced annual reports that are prepared for Year 7 and Year 10 annual reports. The auditors would encourage JRM to consider producing a more accurate and tenable version of Table AR-10 when it prepares the Year 7 Annual Report, which will cover the 2017-18 fiscal year. Clear and unequivocal guidance and direction should be sought from MNRF for properly completing this table.

Conclusion: Assessing forest sustainability is of primary importance under the Crown Forest Sustainability Act and forest managers should have access to appropriate tools to assist them in conducting a proper long-term analysis of elements that support sustainability. Providing clear direction that describes how to properly complete the Annual Report tables would assist tremendously in achieving this goal. The FMPM does not contain a clear set of instructions explaining how the Table AR-10 should be filled out or how various challenges to preparing the table should be addressed; e.g. how to accommodate the situations when forest unit definitions change between planning terms or situations where areas available for forest management are reduced. Examples of correctly completed tables would be useful for plan authors.

Finding: Table AR-10 (Summary of Harvest and Regeneration Trends), which accompanied the Trends Analysis Report, has not been completed correctly. Corporate MNRF does not provide a clear set of instructions to plan authors explaining how to properly complete Table AR-10.

Independent Forest Audit – Record of Finding

Finding # 12

Principle 7: Achievement of Management Objectives and Forest Sustainability**Procedure 7.2: Assessment of Objective Achievement**

An assessment of the achievement of management objectives must be made within the Year Ten AR/ Trends Analysis Report, in text and tabular forms, comparing planned targets for each objective against the actual level of the target achieved. This assessment is to be reviewed and assessed.

Background Information and Summary of Evidence: There are numerous sources for the objectives that go into a forest management plan – some are policy driven objectives, others are based on meeting licence requirements, some come from the desired forests and benefits meeting and many arise from the planning team's perception as to what is most appropriate for the forest. The audit team, in reviewing the assessment of the achievement of objectives, observed that some of the objectives for the Forest in the 2011 FMP are unrealistic. Some examples are described below:

Objective #1.1 is to emulate the pattern of natural disturbance on the forest, including patch size frequency. The target, based on studies of historical disturbance regimes, calls for 2.5% of the disturbances on the forest to be between 5,001 and 10,000 ha, and 4.5% of disturbances to be greater than 10,000 ha in size. Currently, 0.3% of disturbances are in the 5,001 – 10,000 ha class, and none are larger. The audit team feels it is highly unlikely that any such large scale disturbances will be purposefully created on the forest.

Objective #1.3.1 is to maintain and restore woodland caribou habitat on the forest, and while the FMP shows the current forest and future forest exceeding the target levels, the analysis is questionable in light of the fact that the MNRF has not yet developed a management approach for the discontinuous zone (See **Finding # 16**) and the direction in the zone of continuous is financially infeasible (See **Finding # 5**).

Finding # 6 identified concerns with the assumed managed fire cycle and the lack of consideration of climate change in planning.

Discussion: Some of the objectives, or at least the associated targets, in the 2011 FMP are based on what the audit team considers to be questionable assumptions or questionable conclusions drawn from analysis, in the case of the fire return time. The lack of consideration of climate change in planning is a province-wide situation, in part arising from forest managers and policy-makers not having a high level of confidence in how to incorporate it into forest projections.

The overarching management direction in Ontario, which is to attempt to manage the forest in a way that emulates natural processes, originated from the hypothesis that if this approach to management could be realized, it would enhance the resilience of the forest and reduce risks of loss of biodiversity, since the conditions under which existing species have lived for generations would be maintained. However, there are a number of obstacles to the realization of this approach. One of them is that emulating a natural disturbance regime is unacceptable to almost all forest stakeholders, as well as many Aboriginal communities. People do not want large disturbances and it is unrealistic to think that 5,000 and 10,000 ha disturbance areas are going to be created, especially outside of the continuous caribou zone.

The other game changer is climate change, and there is presently a great deal of uncertainty regarding its impacts and the rate at which they will arrive. This creates a very challenging situation for forest modellers and managers, without question. While there are few certainties

associated with it, climate change is certain to make it impossible to manage a forest so that it resembles a pre-industrial one.

Finding: The 2011 FMP contains a number of objectives and targets that are unlikely to be achievable.

Independent Forest Audit – Record of Finding

Finding # 13

Principle 8: Contractual Obligations

Procedure 8.1.1: Payment of Forestry Futures and Crown Charges. Through a review of MNR statements determine whether the licensee paid up to date all amounts in the Ontario Stumpage matrix for Forestry Futures and Ontario Crown charges (stumpage)

Procedure 8.1.10: Payment of forest renewal charges to the Forest Renewal Trust. Review the FRT account records to determine whether renewal charges applicable for the management unit have been paid by the SFL and/or overlapping licensees to the Trustee as per the agreement (SFL or AFA), including for any subaccounts.

Procedure 8.1.13: Forest Renewal Trust account minimum balance. Review the SFL Appendix D (Agreement Section 8.6) to determine the minimum balance requirement and assess whether the minimum balance was maintained in the FRT account each March 31 for the audit term.

Background Information and Summary of Evidence: At March 31, 2017, the Company was in arrears for Crown Charges, and in arrears to both the Forestry Futures Trust and the Forest Renewal Trust. The total amount owing at March 31, 2017 was \$1,706,180.92; of this, \$991,719.31 was owed for Crown Charges, \$248,633.25 was due the Forestry Futures Trust, and \$465,828.36 was owed to the Forest Renewal Trust.

The balance in the Forest Renewal Trust for the Nagagami Forest was below the required minimum balance for each of the five years of the audit period, i.e. at March 31, 2013 through March 31, 2017. At March 31, 2017, the balance in the Renewal Trust Fund was \$718,496.52, or \$1,462,803.48 short of the minimum balance of \$2,181,300.

Discussion: This situation came about due to the financial difficulties and eventual bankruptcy of Olav Haavalsrud Timber Company Ltd., a former shareholder in the current holder of the SFL, Nagagami Forest Management Ltd.

A Repayment Agreement dated March 30, 2017 is in place between MNRF and Nagagami Forest Management Ltd. Under the terms of the Agreement, the net amounts owing are to be repaid in full before March 31, 2019. The agreement also provides for a portion of overdue Crown Charges, once received, to be deposited in the Management Account for the Nagagami Forest, reducing the shortfall in the minimum balance to \$1,129,587.27. The agreement also specifies that all new charges to the Forest Renewal Trust are to be kept up to date moving forward.

Conclusion: The Company is in arrears on its payments of Crown dues. In addition, as of March 31, 2017, the amount of funds in the Forest Renewal Trust account for the Nagagami Forest was well below the required minimum balance. An agreement has been signed recently that will see the full repayment of the monies owing and requires that the minimum balance in the FRT is to be restored by March 31, 2019.

Finding: At March 31, 2017, the Company was in arrears for Crown Charges, and in arrears to both the Forestry Futures Trust and the Forest Renewal Trust. In addition, the balance in the Forest Renewal Trust for the Nagagami Forest was below the required minimum balance for each of the five years of the audit period.

<p style="text-align: center;">Independent Forest Audit – Record of Finding</p> <p style="text-align: center;">Finding # 14</p>
<p>Principle 8: Contractual Obligations</p> <p>Procedure 8.1.9.2: Review the audit action plan status report and assess whether:</p> <ul style="list-style-type: none"> • the status report was prepared in accordance with requirements • it was prepared within 2 years following approval of the action plan, unless otherwise directed by the Minister (e.g. an interim status report may have also been required) ...
<p>Background Information and Summary of Evidence: The Status Report regarding the Company and District MNRF Action Plan was signed on June 29, 2016 by Company staff, which is approximately 2 years and 6 months after the Action Plan was approved (December 16, 2013). The Status Report is to be provided within 2 years of approval of the Action Plan, therefore the Status Report was produced six months late.</p>
<p>Discussion: The production of the Status Report was caught up in the challenges associated with the bankruptcy of Olav Haavalsrud and the Becker Co-generation plant.</p>
<p>Conclusion: The local level Status Report for the 2012 IFA was six months late.</p>
<p>Finding: The local level status report for the 2012 IFA was prepared six months late.</p>

<p style="text-align: center;">Independent Forest Audit – Record of Finding</p> <p style="text-align: center;">Finding # 15</p>
<p>Principle 8: Contractual Obligations Procedure 8.1.9.2: Review the audit action plan status report and assess whether:</p> <ul style="list-style-type: none"> • the status report was prepared in accordance with requirements • it was prepared within 2 years following approval of the action plan, unless otherwise directed by the Minister (e.g. an interim status report may have also been required) ...
<p>Background Information and Summary of Evidence: The Status Report related to MNRF's corporate responsibilities for addressing recommendations of the 2012 IFA has not yet been produced. The Action Plan, which identifies the intended manner in which the recommendations will be addressed, was originally approved in late 2013 and revised in April 2014. The Status Report is to be provided within 2 years of approval of the Action Plan, therefore the Status Report should have been provided by April of 2016. As of the timing of the field work for this audit, the report is 1.5 years late.</p>
<p>Discussion: MNRF's Transformation, which began in 2012, led to creation of new branches, considerable shuffling of staff, creation of new positions and some confusion about how various existing responsibilities would be addressed. The production of the Status Report was caught up in this milieu and not completed.</p>
<p>Conclusion: The Corporate MNRF Status Report is 1.5 years late and counting. It seems to be delayed due to the large amount of organizational turbulence created a result of the MNRF's Transformation.</p>
<p>Finding: Corporate MNRF has not met its obligation to produce the provincial status report for the 2012 IFAs within two years of the approval of the Action Plan.</p>

Independent Forest Audit – Record of Finding

Finding # 16

Principle 8: Contractual Obligations

Procedure 8.1.12: Forest Renewal Trust forest renewal charge analysis. Review the required analysis and assess whether it is appropriate based on the FMP and consideration of the SFL minimum requirements...

Background Information and Summary of Evidence: The 2011 FMP contains a CRO in the woodland caribou continuous distribution zone. One of the goals of this CRO is to enhance the quality of caribou habitat by increasing the amount of conifer renewed after harvesting. Specifically, the CRO states that:

“Prescriptions will aim to limit regeneration of hardwoods and shrubs within habitat dominated by conifer species. Conifer regeneration will be encouraged over mixedwood and hardwood regeneration in certain forest units when budget permits but there should be supported by monitoring and assessment criteria [sic]. The SFMM indicated amount of conversion is to be applied in the area of caribou habitat.”

More specifically, the CRO continues:

“Silviculture in Hiawatha and Nagagami Townships (continuous caribou zone) will be done in such a way as to favour conifer regeneration over mixed wood and hardwood regeneration (i.e. early tending or chemical site preparation) that is consistent with silviculture objectives, revenues and expenditures, and SGRs.”

The CRO continues by discussing the importance of tending treatments to protect conifer renewal.

The CRO provides ambiguous direction – on the one hand it requires converting, or at least increasing the conifer content on harvests in mixed wood and hardwood forest units, while on the other hand the amount of conversion is to be consistent with available silvicultural funding. The problem with implementing this CRO is that the cost of a renewal program which converts mixed wood and hardwood areas to conifer, or at least forest units with a higher conifer content, far exceeds the revenue that will flow into the Forest Renewal Trust Fund from the harvest of the initial stands. There are also contradictions in the expectation under this CRO that stands in the hardwood forest units will be harvested, since such harvesting would put the company out of compliance with the Northeast Region Utilization Guidelines.

Discussion: The most serious flaw in the strategy embodied in the CRO is that FRT funds from the wood harvested from mixedwood and hardwood stands will be insufficient to fund the envisaged renewal program. If a mixedwood stand containing 120 m³/ha, of which 50% is conifer and 50% is poplar, is harvested, and 15% of the poplar volume is extracted as veneer, the FRT would receive \$300.00 for the conifer and \$4.50 for the hardwood, based on the 2016-17 renewal rates of \$5.00 /m³ of spruce-pine-fir and \$0.50/m³ of poplar/ If a pure poplar stand with 120 m³/ha was harvested to yield 15% veneer (i.e. 18 m³/ha of veneer), the FRT would receive \$9.00/ha. A regime of chemical site preparation, followed by planting conifer and tending one or two years later would cost at least \$1500/ha. Under normal management, some of the mixedwood harvest area is planted however much is left for natural renewal, as would any area harvested in one of the hardwood forest units.

As the requirement stands now, the requirement to convert mixedwood and hardwood stands to conifer causes an imbalance in renewal funding that is financially infeasible under current arrangements. Raising the renewal rate for the hardwood is unlikely to be an acceptable solution, as it will discourage any hardwood use from the continuous zone – the hardwood users have no incentive to harvest there and pay more for their timber in order to convert the forest to species

that they do not use.

There has been no harvesting yet during the 2011 FMP period in the continuous zone in the Nagagami Forest, but there are areas allocated in Phase II of the FMP and the Company will soon grapple with the challenge of inadequate funding for renewal being generated by the harvest.

Conclusion: The proposed renewal approach in the woodland caribou continuous distribution zone requires renewal expenditures that are considerably higher than the funding that the harvests in the area will generate, raising the question of what renewal will actually be carried out in this part of the Forest.

Finding: The planned renewal approach in the caribou continuous distribution zone cannot be funded adequately under the existing schedule of forest renewal trust rates on the Nagagami Forest.

APPENDIX 2 – ACHIEVEMENT OF FMP MANAGEMENT OBJECTIVES

Achievement of 2011 Nagagami Forest FMP Objectives

No.	Objectives& Indicators	Achievement	Explanation/Comments
<i>Forest Diversity Group Objectives</i>			
1	<p><u>Objective 1.1</u> – Natural Landscape Pattern and Distribution: The natural landscape pattern and distribution objective is to emulate natural patterns of disturbance in terms of patch size, patch separation, patch shape, patch edge to area ratio, patch structural elements and patch residuals at both the landscape and stand levels.</p> <p>Indicator 1.1.1 - Landscape pattern - % frequency distribution of forest disturbances by size class</p>	<p>The 2011 FMP projected that there would be progress towards meeting the frequency targets for all disturbance size classes. The Trend Analysis did not include an evaluation of the current distribution of disturbances.</p> <p>The low level of actual harvest relative to planned levels may impact the expected achievement of this objective, however it is difficult to assess progress to date based on harvest area, since the objective concerns the relative proportion of disturbances by size. GIS analysis is also needed to track when areas move out of the “disturbed” class, which also affects objective assessment.</p> <p>The degree of achievement cannot be assessed.</p>	<p>The auditors note that the Nagagami Forest had no disturbances larger than 10,000 ha and that 0.3% of disturbances were between 5,001 – 10,000 ha. The desired proportions are for 4.5% to be greater than 10,000 ha and 2.5% to be between 5,001-10,000 ha. The audit team believes that there would be strong adverse public reaction to the intentional creation of disturbances larger than 5,000 ha and that the 2021 FMP should recognize this.</p>
2	<p><u>Objective 1.2</u> -Forest Age Structure: To provide for a functional old growth condition now and in the future. A balanced age class structure in the immature and mature classes with a proportion of the forest unit groups within the over-mature age class similar to the range that would occur under natural post fire conditions in the Boreal Forest and the analysis of the historical condition. The forest unit group should consist of a balance between each representative forest unit.</p>	<p>Because the indicators for this objective are expressed in terms of area, the low level of harvest will affect objective achievement. It is likely that at the end of the current plan period, the areas of mature forest and old growth will be large than forecast whereas the area of young growth will be less than forecast.</p> <p>The FMP projected that there would be less area of mature forest in all FUs except the MW2 FU by plan term 3, and decreases in old growth in the SB1, SP1, SF1, and MW2 FUs, relatively stable levels in the PO1 and BW1 FU's, and increases in the remaining FU's.</p>	

No.	Objectives& Indicators	Achievement	Explanation/Comments
	<p>Indicator 1.2.1 - Mature Growth Forest Area by Forest Unit</p> <p>Indicator 1.2.2 - Old Growth Forest Area by Forest Unit</p> <p>Indicator 1.2.3 – Young Growth Forest Area, All Forest Units Combined</p>	<p>At the current rate of harvest, there is unlikely to be any meaningful progress towards this objective during the plan period.</p>	
3	<p><u>Objective 1.3</u> - Habitats for Animal Life: To maintain the area of diverse types of forest required to meet the habitat needs of the selected featured species to the long-term average historic condition, while generally following the trend of the natural benchmark for the forest. There are four sub-objectives under Habitats for Animal Life, which are Objective 1.3.1- Habitat for Species at Risk, Objective 1.3.2 - Habitat for Featured Species, Objective 1.3.3 - Habitat for Other Species and Objective 1.3.4 - Riparian Zones and Water Quality. However, all of these objectives have been addressed in 3.0 Forest Cover Group Objectives rather than duplicate the same information here. For details, refer to Section 3.0 Forest Cover Group Objectives.</p>	<p>1.3.1 – Targets and desired levels for this objective relate only to woodland caribou. No operations are taking place within the continuous caribou range, so the targets related to implementation of FMP modelled levels and absence of non-compliances will be met.</p> <p>1.3.2 – Targets for habitat levels for featured species are based on implementation of the projected harvest levels. Given that actually harvests are considerably less-than-planned and are likely to remain so through the FMP period, it is unlikely that targets will be achieved for species whose habitat is dependent on disturbance (e.g. moose foraging), contrary to the conclusions of FMP-14 in the Trend Analysis.</p> <p>1.3.3 – Targets for habitat for other species are based on absence of non-compliances. There were no related non-compliances. Target likely to be achieved.</p> <p>1.3.4 – Targets based on compliance related to aquatic AOCs. No significant non-compliances have occurred to date. Target likely to be achieved.</p>	<p>Three of four targets under this objective are likely to be met. Lack of achievement of targets for sub-objective 1.3.2 is based on failure to achieve forecast harvest levels.</p>

No.	Objectives& Indicators	Achievement	Explanation/Comments
<i>Social and Economic Group Objectives</i>			
4	<p>Objective 2.1 - Healthy Forest Ecosystem: To provide healthy forest ecosystem at the management unit level minimizing negative impacts of forestry operations. This objective ensures sound environmental practices are implemented to help maintain healthy forest ecosystems.</p> <p>Indicator 2.1.1 - Compliance with management practices that prevent, minimize or mitigate site damage (Number of inspections not in compliance)</p> <p>Indicator 2.1.2 - Non-compliance in forest operations inspections, number of inspections not in compliance by category minor, moderate and significant)</p>	<p>There was no incidence of non-compliance regarding site damage during the audit period and the auditors did not see any site damage either. Thus indicator 2.1 has been attained.</p> <p>Indicator 2.1.2 appears to apply to all non-compliances of all types, and here the FMP indicates that the desired level is zero non-compliance while the target is a reduction in non-compliances. This target will not have been met if the utilization non-compliances are considered, and even if they are excluded, the indicator is not met since the compliance rate during Phase I is slightly worse than it was during the previous plan period (i.e. April 1, 2006 – March 31, 2011), when only eight non-compliances occurred during the five year period.</p> <p>This objective has been partially achieved.</p>	
5	<p>Objective 2.2 - Harvest Levels: The harvest level objective is to provide a sustainable, predictable and economical supply of timber products required by wood processing facilities that receive wood from the Nagagami Forest. This will contribute to the viability of the forest industry and the well-being of forest-based communities.</p> <p>Indicator 2.2.1 - Long-term projected available harvest area by forest unit in hectares</p> <p>Indicator 2.2.2 - Long-term projected available harvest volume by species group (m³/yr)</p>	<p>This objective considered both the planned and actual harvest levels. Indicators 2.2.1 – 2.2.6 and 2.2.11 pertain to planned levels, and the target levels were generally met for the key species groups (i.e. SPF and poplar) in all cases. The desired levels were also met for the area based indicators however the volume based indicators sometimes did not achieve desired levels (e.g. Indicator 2.2.6).</p> <p>The target and desired levels of Indicators 2.2.7, 2.2.8 and 2.2.9 were not achieved for any species group since the actual harvest was well below planned.</p> <p>Indicator 2.2.10 was achieved as road construction, and therefore loss of productive area, was below planned.</p>	

No.	Objectives& Indicators	Achievement	Explanation/Comments
	<p>Indicator 2.2.3 - Forecast annual harvest area by forest unit for the First 10 Yr term in hectares</p> <p>Indicator 2.2.4 - Forecast annual harvest volume by species group (m³/yr)</p> <p>Indicator 2.2.5 - Planned (1st 5-Yr) harvest area by forest unit in hectares</p> <p>Indicator 2.2.6 - Planned (1st 5-Yr) harvest volume by species group (m³)</p> <p>Indicator 2.2.7 - Actual harvest area by forest unit in hectares</p> <p>Indicator 2.2.8 - Actual harvest volume by species group (m³)</p> <p>Indicator 2.2.9 - Percent of forecast volume actually utilized by mill</p> <p>Indicator 2.2.10 - Managed Crown forest available for timber production</p> <p>Indicator 2.2.11 – Harvest Volume Flow</p>	<p>In summary, the indicators related to planned values were generally achieved whereas the indicators related to actual values were not achieved except for 2.2.10. This objective has been partially achieved.</p>	
6	<p><u>Objective 2.3</u> - Remote Tourism and Recreation: To moderate the effects of forestry operations on the remote tourism industry and other recreational activities consistent with the Crown Land Use Atlas.</p> <p>Indicator 2.3.1 - Compliance with prescriptions for the protection of resource-based tourism values (number of inspections in compliance)</p>	<p>There have been no operational issues or incidents of non-compliance regarding prescriptions for the protection of tourism values on the Nagagami Forest.</p> <p>Indicator 2.3.2 is concerned with decreasing the density of roads within 3 km of designated remote tourism lakes and the audit team is unable to assess changes to the indicator during the plan period. The Trend Analysis did not comment on this indicator.</p>	

No.	Objectives& Indicators	Achievement	Explanation/Comments
	Indicator 2.3.2 - Kilometers of road per square kilometer of Crown forest within 3 km of designated remote tourism lakes.	This objective has been partially achieved.	
7	<p>Objective 2.4 - Road based Tourism, Recreation and Commercial Activities: To moderate the effects of forest operations on road based tourism and other recreational activities; mineral exploration and other road based commercial activities consistent with the Crown Land Use Policy Atlas. The examples of tourism, recreation and commercial activities are bear and moose hunt with camp operations, trapping, mineral exploration, berry picking, fuel wood opportunities, wildlife and landscape photography, aggregate operator activities, medicinal plant gathering and cultivation opportunities (e.g. Canada Yew), baitfish harvest activities, ecotourism activities and opportunities.</p> <p>Indicator 2.4.1 - Kilometers of road per square kilometer of Crown forest excluding area within three km of designated remote tourism lakes</p> <p>Indicator 2.4.2 - Compliance with prescriptions for the protection of values related to road based tourism, recreation, mineral exploration and commercial activities (Number of inspections not in compliance)</p>	<p>This objective is similar to Objective 2.3 and uses one of the same indicators, which the audit team was unable to assess. There have been no incidents of non-compliance associated with prescriptions for the values specified in the indicator.</p> <p>There has been at least partial compliance with this objective.</p>	
8	Objective 2.5 - Cultural Heritage and First Nations Values: To protect	There were no incidents of non-compliance or operational issues during the audit period related	The previous audit report noted that there were no values maps or completed

No.	Objectives& Indicators	Achievement	Explanation/Comments
	<p>cultural heritage values, natural resource features, land uses and values, which are specifically used by, or of importance to the five local First Nation communities that may be affected by forest management operations.</p> <p>Indicator 2.5.1 - Compliance with prescriptions for the protection of cultural heritage and aboriginal values (Number of inspections not in compliance)</p>	<p>to AOCs for cultural heritage values. No known areas with cultural heritage values were impacted by operations. This objective has been achieved during the audit period.</p>	<p>Aboriginal Background Information Reports for four of the First Nations with an interest in the Nagagami Forest.</p> <p>Phase II Supplementary Documentation indicated that the values mapping and ABIR were for the Hornepayne Aboriginal Community, however apparently some values mapping was done for other communities in the lead up to Phase II planning.</p>
9	<p><u>Objective 2.6</u> - Parks and Protected Areas: To ensure that due consideration is given to the management plans, goals, objectives and concerns of Parks and Protected Areas in the course of developing the forest management plan for the Nagagami Forest. There were a total of three parks and protected areas on the Nagagami Forest: 1) Nagagami Lake Provincial Park; 2) Nagagamisis and Nagagami Lake Nature Reserve (P1524), and 3) Pichogen River Mixed Forest Provincial Park (P1530).</p> <p>Indicator 2.6.1 - Compliance with prescriptions for the protection of values related to Parks and Protected Areas (Number of inspections not in compliance)</p>	<p>There have been no significant non-compliances associated with protected areas. This objective has been achieved during the audit period.</p>	
10	<p><u>Objective 2.7</u> - Public Participation: This objective is to encourage participation of general public, LCC and First Nations in the development</p>	<p>This objective is related to public participation in the development of the FMP. The objective was likely developed for Phase I planning, but was not reviewed in the previous IFA.</p>	

No.	Objectives& Indicators	Achievement	Explanation/Comments
	<p>of the Nagagami FMP.</p> <p>Indicator 2.7.1 - Opportunities for involvement provided to, and involvement of Aboriginal communities in plan development</p> <p>Indicator 2.7.2 - Participation (attendance) of LCC members at meetings where forest management planning was on the agenda</p> <p>Indicator 2.7.3 - Self-evaluation by LCC for its effectiveness in plan development.</p>	<p>For Phase II planning, there were two LCC members listed as being on the planning team and seats available for Aboriginal reps that are listed in the FMP as “Vacant”. The summary of Aboriginal Involvement in the Phase II Supplementary Documentation is actually a listing of Aboriginal involvement in Phase I planning, which appears to be an oversight.</p> <p>In summary, opportunities were provided to Aboriginal communities to participate in Phase II planning however there was no participation; part of the indicator was achieved but part was not.</p> <p>The report of the LCC in the Phase II Supp Doc reported a high level of LCC participation on the planning team and concluded with the statement that the LCC was in general agreement with the Phase II plan however they were concerned with the reduced planned harvest area.</p> <p>There was no self-evaluation of effectiveness, however this audit concluded that the LCC was effective in meeting its purpose. Most parts of this objective have been achieved, but not all.</p>	
Forest Cover Group Objectives			
11	<p><u>Objective 3.1</u> - Habitat for Species at Risk: To maintain and restore woodland caribou habitat on the forest with an emphasis on the area west of Highway 631 at a rate at which the forest industry can adapt. An additional objective is to follow the Caribou Conservation Plan (CCP) which is available, and follow the Caribou Habitat Regulation (CHR) which is not yet available. In the absence of the CHR, the CCP is</p>	<p>3.1.1 – No operations have occurred within the continuous caribou habitat zone in the forest, however the planning is well integrated with the surrounding forests and consistent with the direction of the CCP. The anticipated Caribou Habitat Regulation (CHR) was not produced by the MNRF. Habitat in the discontinuous zone has occurred as directed within the FMP, but direction from the Provincial Government has yet to be developed, as identified in Finding # 5. Most parts of the target are achieved</p>	<p>Management of caribou habitat has not evolved as anticipated in the Phase I FMP. No CHR was produced and there has been no guidance from the MNRF regarding management of habitat in the discontinuous zone. The company has worked within its means to address this Objective's requirements.</p>

No.	Objectives& Indicators	Achievement	Explanation/Comments
	<p>providing the most detailed policy-based direction regarding landscape management and development related to woodland caribou in Ontario. Once the CHR is legislated the Nagagami Forest 2011-21 FMP may have to be amended to meet the requirements of the new legislation.</p> <p>Indicator 3.1.1 - Area of habitat for forest dependent species at risk (ha) in the area depicted by the caribou management map and within the core areas</p> <p>Indicator 3.1.2 - Compliance with prescriptions for the protection of values associated with species at risk</p>	<p>3.1.2 – There were no non-compliances associated with the protection of SAR values. The target has been achieved to date.</p>	
12	<p><u>Objective 3.2</u> - Habitat for Featured Species: To maintain the level of potential preferred habitat for regionally featured species at a similar level as the expected natural condition.</p> <p>Indicator 3.2.1 - Area of habitat for forest dependent provincially and locally featured species for example moose and marten</p> <p>Indicator 3.2.2 - Percent of Capable Marten Habitat in Suitable Conditions in Marten Core Areas</p>	<p>3.2.1 Targets are projected to be achieved by the FMP, but those projections are based on harvesting the full planned harvest. Given that considerably less-than-forecast harvesting has occurred, it is possible that habitat levels for species associated with early successional habitats (e.g. moose foraging) may not be achieved. However most featured species are associated with mature/overmature habitats – the lack of harvesting will not have resulted in less-than predicted habitat for those species. Target likely achieved for most species.</p> <p>3.2.2 – As above, the predicted attainment of the target was based on harvesting the full planned harvest. Given that the harvest level has been well below planned, it is likely that the habitat projection for this old-growth affiliated species will be achieved. Target likely achieved.</p>	

No.	Objectives& Indicators	Achievement	Explanation/Comments
13	<p>Objective 3.3 - Habitat for Other Species To maintain, protect, or enhance where needed, critical habitat for species of special concern, threatened, and endangered species on the Nagagami Forest.</p> <p>Indicator 3.3.1 - Compliance with prescriptions developed for the protection of natural resource features, land uses, or values dependent forest cover (Number of inspections not in compliance)</p>	<p>There have been no significant non-compliances associated with these values and <2% moderate or minor non-compliances.</p> <p>Objective is achieved.</p>	
14	<p>Objective 3.4 - Riparian Zones and Water Quality: To manage riparian zones, water quality and habitat for fishery resources consistent with the stand and site guide.</p> <p>Indicator 3.4.1 - Compliance with prescriptions developed for the protection of water quality and fish habitat (Number of inspections not in compliance)</p>	<p>There was one minor non-compliance associated with a riparian AOC, but overall compliance performance for these values have been good.</p> <p>Objective is achieved</p>	
Silviculture Objective Group			
15	<p>Objective 4.1 - Silviculture Program: To manage the forest in a manner that is consistent with maintaining and improving the productivity, health, vigor and quality of the forest at a sustainable level while maximizing the efficient use of finite financial resources and move the forest towards the desired future forest condition.</p>	<p>Indicator 4.1.1: During the 2011-2021 FMP Phase I five-year term, 96.7% of the total area assessed was determined to have achieved free-to-grow status. The target was greater than 95% and the desirable level 100%. The area that was determined to be not free-to-grow (approximately 461 ha) was scheduled for field inspection to determine any further treatment needs and appropriate timing for free-to-grow re-assessment.</p>	

No.	Objectives& Indicators	Achievement	Explanation/Comments
	<p>Indicator 4.1.1 - Percentage of harvested forest area assessed as free growing</p> <p>Indicator 4.1.2 - Proportion of harvested area renewed by silvicultural intensity in term 1</p>	<p>Indicator 4.1.2: During the 2011-2021 FMP Phase I five-year term, the total area harvested was 9,007 ha. During the same time period, natural regeneration was implemented on 3,496 ha (39% of the harvested area), and artificial regeneration was implemented on 3,030 ha (34% of the harvested area). Extensive treatments thus comprised 53.6% of the total regeneration, and intensive treatments 46.4%. The target for extensive treatments was from 53 to 60% and the target for basic and extensive treatments was from 40 to 47%.</p> <p>The objective has been largely achieved to date.</p>	
16	<p><u>Objective 4.2</u> - Appropriate Renewal Treatments: To use the appropriate silviculture treatment to achieve the desired future forest condition with treatments such as chemical tending, mechanical site prep and tree planting etc.</p> <p>Indicator 4.2.1 - The numbers of hectares chemically tended</p> <p>Indicator 4.2.2 - The numbers of hectares mechanically site prepared</p> <p>Indicator 4.2.3 - The numbers of hectares planted with trees</p>	<p>To date in the 2011-2021 FMP ten-year term (after six years), 2,800 ha have been tended with herbicides, 112 ha were mechanically or chemically site prepared, and trees were planted on 3,989 ha. The audit team's review of a sample of these treatments indicated that the silvicultural prescriptions implemented by the Company were appropriate for the site conditions, were generally of good quality, and appeared to have been effective. The area treated with mechanical and chemical site preparation is well below the planned level of 2,820 ha, but the Company has made a good effort to ensure that artificial regeneration has occurred as soon as possible after harvesting, which reduces the need for site preparation, and by quickly identifying the need for tending treatments through timely field inspections.</p> <p>For the five-year period from 2010-11 to 2015-16, a total area of 11,514 ha were harvested. Assuming a one-year lag time for renewal of</p>	

No.	Objectives& Indicators	Achievement	Explanation/Comments
		<p>harvested areas, this corresponds to the area that would be eligible for treatment within the 2011 FMP term. For the first six years of the 2011 FMP term, the total area regenerated on the forest was 8,428 ha, a difference of 3,086 ha. The shortfall can be attributed to the low levels of natural regeneration reported in the first two years of the audit period, and lower than planned levels of artificial regeneration conducted during the first three years of the audit period – see Finding # 7.</p> <p>Overall, the objective has been partially achieved to date.</p>	
17	<p><u>Objective 4.3</u> - Fire Processes: Recognize fire as an integral component of the ecological processes occurring within the Boreal Forest by utilizing fire when feasible to help maintain the sustainability of the forest.</p> <p>Indicator 4.3.1 - The number of prescribed burns carried out during the plan period</p>	<p>There have been no high complexity prescribed burns carried out during the 2011-2021 FMP ten-year term to date, although appropriate planning was conducted in preparation for a prescribed burn. A slash pile burning program was carried out in the year 2015-2016.</p> <p>This objective has been partially achieved to date.</p>	
18	<p><u>Objective 4.4</u> - Tree Genetics and Seedling Quality: Ensure the preservation of the local tree gene pool. This objective is assessed using the following two indicators.</p> <p>Indicator 4.4.1 - First Generation Seed Orchard -The proportion of seedlings derived from improved seed orchards in seed zones 16 and 17</p> <p>Indicator 4.4.2 - General Seed</p>	<p>The Company has an inventory of tree seeds sufficient to meet the need for planting stock production for the remainder of the ten-year 2011-2021 FMP term and beyond. All seed in the inventory was obtained through local general cone collection activities or from seed orchards in the appropriate seed zones, meeting the target for Indicator 4.4.2.</p> <p>During the audit period, approximately 95% of seedlings for jack pine and black spruce were derived from improved seed collected from first-</p>	

No.	Objectives& Indicators	Achievement	Explanation/Comments
	Collection - The proportion of seedlings derived from the general seed collection areas in seed zones 16 and 17	generation seed orchards. All white spruce seedlings were grown from seed obtained from general cone collection, since there are no white spruce seed orchards currently in production for the area. White spruce seed in the inventory is getting to be very old (most was collected in 1982) but there is a large supply of over 60 million seeds. The tree seed storage facility and tree nurseries should be able to compensate for any reduced viability with appropriate measures, such as sorting and double sowing.	

APPENDIX 3 - COMPLIANCE WITH CONTRACTUAL OBLIGATIONS

Licence Condition	Licence Holder Performance
1. Payment of Forestry Futures and Ontario Crown charges	At March 31, 2017, the Company was in arrears for Crown Charges and in arrears to the Forestry Futures Trust. The total amount owing at March 31, 2017 was \$991,719.31 for Crown Charges and \$248,633.25 to the Forestry Futures Trust. Finding # 13 was issued as a result. This situation came about due to the financial difficulties and eventual bankruptcy of Olav Haavaldsrud Timber Company Ltd., a former shareholder in the current holder of the SFL, Nagagami Forest Management Ltd (NFM). A repayment agreement dated March 30, 2017 is in place between MNRF and NFM. Under the terms of the Agreement, the net amount owing is to be repaid in full before March 31, 2019. During the audit period, the Company did not meet this obligation.
2. Wood supply commitments, MOAs, sharing arrangements, special conditions	Appendix E of the SFL lists two commitments, one to the Levesque plywood facility in Hearst and the second to the Olav Haavaldsrud mill. Both commitments were met, as Levesque received all of the poplar veneer from the Forest and the Haavaldsrud mill received 88 % of the SPF that was harvested (excluding biofibre). There were no special conditions in the licence. This licence obligation was met.
3. Preparation of FMP, AWS and annual reports; abiding by the FMP, and all other requirements of the FMPM and CFSA.	NFM has prepared the Phase II Planned Operations document (2016-2021), Annual Work Schedules and Annual Reports as required, and has generally followed the intent of the 2011 FMP during the audit period. This condition has been upheld.
4. Conduct inventories, surveys, tests and studies; provision and collection of information in accordance with FIM.	<p>The Company has developed and implemented an effective system for monitoring of silvicultural operations that is largely based on field inspections. Depletion files were produced annually and the entire harvested area was inspected. These post-harvest inspections provided the information needed to finalize decisions on silvicultural intensity and to identify any necessary changes to FOPs. Monitoring of tree planting and site preparation operations was conducted to ensure quality, and at the same time, to assess tending needs and to refine boundaries before treatment. Tending effectiveness surveys were conducted on all treated blocks one year after treatment, to determine if any follow-up treatment was required. Every 2-3 years a GIS gap analysis was conducted to determine if any areas remained untreated.</p> <p>The Company used GIS-based tools to identify and map areas requiring free-to-grow (FTG) assessments every year, including areas that were previously assessed and scheduled for re-survey because they were determined to be not FTG. To date in the 2011-2021 FMP term, the Company has completed the assessment of 17,505 ha for FTG status. This represents approximately 20% of the forecast area of 90,356 ha. In 2017 an updated eFRI was delivered for the Nagagami Forest. The recently released eFRI update, which is based on imagery acquired in 2007 and 2008, was updated with FTG survey results to the year 2008-09. Specifications for the new eFRI indicate that all stands equal to or greater than 20 years old will have been photo-interpreted, assigned the full suite of stand attributes, and will be considered to be FTG provided that the stocking factor is sufficient. Analysis of the 2008 eFRI shows that the area in categories</p>

Licence Condition	Licence Holder Performance
	<p>equivalent to the former “Below Regeneration Standards” and “Recent Disturbance” classes has declined to a total of 29,904 ha. Comparison of this remaining area with the area for which FTG surveys have been conducted since 2008 indicates that the amount of “backlog” survey work (i.e. the total area of depleted stands that are older than the age of assessment listed in the appropriate SGR for the corresponding Forest Units), is approximately 5,100 ha. The Company is aware of this, and has scheduled assessment work for this backlog area to be completed within the 10-year term of the current FMP as part of its regular FTG survey program.</p> <p>The Company does a good job of inventory updating in preparation for forest management planning, including the data management of harvesting, silvicultural and free-to-grow records. During the audit period, digital maps and associated information on silvicultural treatments and free-to-grow assessments were provided to MNRF in accordance with the appropriate FIM standards. This obligation was met.</p>
5. Wasteful practices not to be committed.	<p>The disappearance of conifer pulp markets in 2012, when the Terrace Bay mill closed and the Marathon Pulp mill and the St. Mary’s Paper Ltd. mill were both closed, led to wasteful practices being committed. Because the Olav Haavalsrud mill could not take 16 foot sawlogs with tops less than 14 cm dbh or 12 foot logs with a top diameter of less than 12 cm, the small sized merchantable conifer was left at roadside where the harvested trees were processed. The intention was that this wood would be used by the co-gen plant when it came on-line. However, the co-gen plant had to be reduced in size and there were lengthy delays in commissioning it, leading MNRF to decide to impose fines and compliance orders on the merchantable conifer left at roadside. With the C-gen plant running, and new ownership in place, the Company has been working its way through the piles of slash and oversized tops to create furnish for the co-gen plant. This obligation of the licence was not fully met however the issue is in the process of being addressed.</p>
6. Natural disturbance and salvage SFL conditions must be followed.	<p>There were no natural disturbances during the audit period which would have created area available for salvage harvesting.</p>
7. Protection of the licence area from pest damage, participation in pest control programs	<p>No insect pest management was undertaken or required during the 2012-2017 audit period.</p>
8. Withdrawals from licence area	<p>This audit procedure was determined to be low risk and was not audited.</p>
9. Audit action plan and status report	<p>The 2012 audit report was accepted by the Forestry Futures Committee in a letter dated June 6, 2013. The action plan was signed by the Company and Wawa District MNRF staff on October 3 and 4, four months later and two months later than the interval stipulated in the IFAPP of that year. The Action Plan was approved Dec 16, 2013, and the Status Report was prepared by June 29, 2016, which is the date of the Company signatures on the report. This report was to have been prepared within two years of the approval of the Action Plan, hence it was more than six months late as reported in Finding # 14.</p>
10. Payment of funds to Forest Renewal Trust	<p>At March 31, 2017, the Company was in arrears to the Forest Renewal Trust by a total amount of \$465,828.36. This situation came about due to the financial difficulties and eventual bankruptcy of Olav Haavalsrud Timber Company Ltd., a former shareholder in the current holder of the SFL, Nagagami Forest Management Ltd. A Repayment Agreement dated March 30, 2017 is in place between MNRF and</p>

Licence Condition	Licence Holder Performance
	Nagagami Forest Management Ltd. Under the terms of the Agreement, the net amount owing is to be repaid in full before March 31, 2019. During the audit period, the Company did not meet this obligation.
11. Forest Renewal Trust eligible silviculture work	Auditors reviewed in the field a total of 704 ha of area that was mechanically and chemically site prepared, planted and tended in 2015-2016, representing 37% of eligible silviculture work that was charged to the Forest Renewal Trust for that year. Field inspections of these activities determined that maps were accurate and that work was completed as invoiced to the FRT per the Specified Procedures Report. This obligation has been met.
12. Forest Renewal Trust forest renewal charge analysis	Renewal rate analyses were conducted annually by MNRF and company representatives. Renewal rate adjustments that were made during the audit period have adequately addressed current silvicultural program costs. This obligation has been met.
13. Forest Renewal Trust account minimum balance	The balance in the Forest Renewal Trust for the Nagagami Forest was below the required minimum balance for each of the five years of the audit period, i.e. at March 31, 2013 through March 31, 2017. At March 31, 2017, the balance in the Renewal Trust Fund was \$718,496.52, or \$1,462,803.48 short of the minimum balance of \$2,181,300. This is part of Finding # 13 . During the audit period, the Company did not meet this obligation.
14. Silviculture standards and assessment program	<p>For the five-year period from 2010-11 to 2015-16, a total area of 11,514 ha were harvested. Assuming a one-year lag time for renewal of harvested areas, this corresponds with the area that would be eligible for treatment within the 2011-2021 FMP term. For the first six years of the 2011-2021 FMP term, the total area regenerated on the forest was 8,428 ha, a difference of 3,086 ha. The shortfall can be attributed to the low levels of natural regeneration reported in the first two years of the audit period, and lower than planned levels of artificial regeneration conducted during the first three years of the audit period. This was because of the lack of funds in the Forest Renewal Trust account to pay for these activities during the period of financial difficulties, and the eventually bankruptcy of OHTC.– see Finding # 7.</p> <p>The audit team's review of a sample of renewal and tending treatments indicated that the silvicultural prescriptions implemented by the Company were appropriate for the site conditions, were generally of good quality, and appeared to have been effective. Overall, this obligation has been partially achieved.</p>
15. Aboriginal opportunities	Olav Haavaldsrud Timber Company Ltd., on behalf of the SFL-holder, had some contact with some of the five First Nation communities with an interest in the Forest, and did not have discussions with Métis representatives. Finding # 2 and Finding # 3 identified the Company as well as Wawa District MNRF as having an insufficient level of engagement with four of the First Nations. During the audit term this obligation was not met. However, the new ownership of the Haavaldsrud mill and Becker co-generation plant has a very good track record of working with Aboriginal communities and has committed to doing so.
16. Preparation of compliance plan	NFM's 10-year compliance strategy was included in the Phase I FMP, consistent with the direction of the 2010 Forest Compliance Handbook. Annual compliance plans are provided in the Annual Work Schedules. The 10-year compliance plan was updated as required in the Phase II Planned Operations. This obligation was met.

Licence Condition	Licence Holder Performance
17. Internal compliance prevention/ education program	The Company's internal compliance prevention program, and the educational component of it, involves numerous elements. Each year the Company hosts a spring meeting at which the previous year's compliance record is discussed, any new regulations or other requirements are reviewed, and topic areas of special interest are addressed. The Company's compliance plan description in the FMP identifies water crossings as a high risk operation. This obligation was met.
18. Compliance inspections and reporting; compliance with compliance plan	The Company prepared a ten-year compliance plan as part of the Phase I FMP and updated it as part of Phase II planning. The Company undertook an appropriate level of inspections during the audit period, averaging about 43 per year. Company inspectors as well as MNR inspectors identified non-compliances and operational issues as required, and the audit team did not see anything that should have but was not identified as a non-compliance during the audit term. The Company had a high number of non-compliances however 33 of the 39 were related to conifer utilization issues that the Company opted to trigger as it increased the minimum top size due to the absence of a conifer pulp market and the time taken to get the co-gen plant running. The Company and MNR have worked out a plan to use the oversize conifer tops, as well as the hardwood, in the slash piles and they are making good progress at working through the piles where the over-sized material was left. The obligation was met during the audit term.
19. SFL forestry operations on mining claims	This audit procedure was determined to be low risk and was not audited.
20. Obligations on Category 2 lands.	<p>There are Category 2 Lands on the Nagagami Forest for which the Company has free-to-grow survey obligations. According to the SFL licence document, Category 2 Lands include areas that were harvested and treated with artificial or natural regeneration prior to 1994. The recently-released eFRI update is based on 2007 and 2008 imagery and was updated with free-to-grow records to 2008. All forest stands older than 20 years of age will have been photo-interpreted and assigned stand characteristics given the eFRI procedures and specifications. Any remaining Category 2 Lands will thus be areas that were depleted between 1988-89 and 1993-4 (i.e. stands between 15 and 20 years old).</p> <p>A GIS analysis of areas that were depleted during that time period but had not yet received free-to-grow assessment indicated that approximately 990 ha of area remained that still requires assessment. The Company is aware of this, and has scheduled the appropriate assessment work for completion within the current FMP 10-year term, as part of its regular FTG survey program. The Company is working on completing this licence obligation.</p>

APPENDIX 4 – AUDIT PROCESS

Overview

The Crown Forest Sustainability Act (CFSA) directs the Minister of Natural Resources and Forests 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 Order⁵. Regulation 160/04 under the CFSA 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 170 individual audit procedures. The IFAPP, which is reviewed and updated annually by the MNRF, states that the purpose of the audits is to:

- *“assess to what extent forest management planning activities comply with the CFSA [Crown Forest Sustainability Act] and the Forest Management Planning Manual;*
- *assess to what extent forest management activities comply with the CFSA and with the forest management plans, the manuals approved under the CFSA, and the applicable guides;*
- *assess, using the criteria established for the audit, the effectiveness of forest management activities in meeting the forest management objectives set out in the forest management plan;*
- *compare the planned forest management activities with the activities actually carried out;*
- *assess the effectiveness of any action plans implemented to remedy shortcomings identified in a previous audit;*
- *review and assess a licensee's compliance with the terms and conditions of the forest resources licence; and*
- *provide a conclusion stating whether or not the forest is being managed consistently with the principles of sustainable forest management.*

The audit team may develop findings and best practices. A finding may be described as the high level identification of [a] non-conformance or a situation where the auditors perceive a critical lack of effectiveness in forest management activities, even though no non-conformance with law or policy has been observed.

Findings may be directed towards the Company and/or at the appropriate administrative level of the Ministry of Natural Resources (District, Region or Corporate) or they may not be directed towards any party. Auditees must address all findings 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, 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.

⁵ 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.

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 finding.

Risk-based Auditing Approach

In 2017, the auditing process was changed to incorporate some aspects of risk management; namely, early in the audit process the auditors are asked to review evidence related to approx 75 of the total of 170 audit procedures to evaluate risk of negative impacts. The audit uses the widely-recognized concept that risk is a function of both the probability of an event occurring and the impact of the event should it occur. The 'event' in the analysis is that there will be a finding associated with an audit procedure.

The IFAPP assessed the impact of a finding and those procedures for which the impact was assessed as "low" were classed as "Optional". Procedures that were classed in IFAPP as "Mandatory" were those for which the impact was determined to be "Moderate" or "High". The auditors ranked each of the optional procedures according to the probability of a non-compliance occurring. The probability of non-compliance was ranked as high, medium, or low based on preliminary review of the evidence for the Nagagami Forest, and the audit team's familiarity with the procedure and its general tendency to lead to non-compliance in previous IFA's.

Using this process, it was identified that 7 of the 76 optional procedures should be audited. The assessment of risk was reviewed and accepted by the Forestry Futures Committee. The optional procedures to be included in this audit are:

- 2.4 – opportunities for, and actual requests for Individual Environment Assessments
- 6.1.1 – MNRF District compliance plan and associated monitoring
- 6.2.1.1 - Review of SFL Compliance strategy (plan)
- 6.2.1.2 – Quality of SFL Compliance prevention / education program
- 6.2.1.4 - SFL forest management oversight through compliance plan
- 6.2.2.1 – OLL Compliance Responsibilities
- 6.2.2.2 – MNRF compliance oversight

Audit Implementation

The audit commenced with the preparation of a detailed audit plan⁶, which described the results of the risk assessment, set out the audit schedule, described the procedures to be used during the audit and assigned responsibilities to members of the Audit Team. A pre-audit meeting was held with 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. There were some adjustments made to the selected sites due to access issues, long driving times, and to improve the balance of operations and sites.

⁶ ArborVitae Environmental Services Ltd. Plan for the Independent Forest Audit of the Nagagami Forest, September 19, 2017.

Table 2. Audit procedures by principle and risk assessment outcome.

Principle	Optional			Mandatory	Comments
	Applicable (#)	Selected (#)	% Audited	Audited (#) (100% Audited)	
1. Commitment	2	0	0	0	The procedures associated with the principle were determined to be low risk
2. Public Consultation and Aboriginal Involvement	5	1	20	3	Three optional procedures were determined to be low enough risk that they were not audited, and one other (related to issue resolution) was not audited as this process was not engaged in during the planning process. The optional procedure related to IEA's was audited because the audit team wanted to ensure the major amendment process provided an opportunity for someone to request an IEA.
3. Forest Management Planning	7	0	0	13	None of the 7 applicable optional procedures were identified as high risk because the Phase II plan process seemed to run smoothly based on a review of planning team meeting minutes and that the plan was approved on schedule.
4. Plan Assessment & Implementation	2	0	0	9	There were no indications of operational concerns based on a review of the annual reports.
5. System Support	2	0	0	0	The procedures associated with the principle were determined to be low risk
6. Monitoring	12	6	50	6	There was a high number of non-compliances and it was evident that the majority were due to poor utilization practices – this raised the possibility that there were significant issues within the compliance system.
7. Achievement of Objectives and Forest Sustainability	0	N/A	N/A	15	All procedures are mandatory and were audited.
8. Contractual Obligations	6	0	0	18	Optional procedures were related to contractual obligations that were either not applicable or for areas assessed as acceptable risk.
Totals	46	7	15	67	

The audit site visits was split into two parts because the audit program got a very late start this year and the audit team wanted to be sure to see the field sites before winter. As a result, the auditors undertook the site inspections on October 19 & 20, looking at a variety of sites throughout the Forest where activities had been undertaken during the audit period. Staff from

the Company and MNRF (District and Region), as well FFTC staff, participated in the truck tour portion of the site inspections. The consultation auditor stayed in the Nagagami area for the full week (October 16-20). The remainder of the auditors returned to Hornepayne on November 27 & 28 for the office portion, which included document review, and interviews. The formal closing meeting for the audit took place on December 8 by teleconference. At the closing meeting, draft findings were provided. Following the closing meeting, the audit team received comments on the draft recommendations and those have been considered in preparing this draft final report.

Sampling and Sample Intensity

The IFAPP requires that at least 10% of each major activity be sampled. **Table 3** 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 and some modifications were made to improve the balance between years and to improve the efficiency of the truck tours.

For operational types, only four years of data were available and some of the figures in **Table 3** represent an estimate of the level of operations in year five. The audit met or exceeded the minimum sample size specified in the IFAPP for all activities, with the overall level of sampling ranging from 19% to 73% for key activities. It is noted that the Company did not appear to declare all of the natural regeneration during the audit period, as described in Finding # 7, and so the percentage of declared natural renewal that was viewed was likely higher than 19%.

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 2015/16 fiscal year. Because the draft Specified Procedures report arrived shortly before the site visit, the auditors were unable to revise the inspection package. Nonetheless, the auditors verified in the field 37% of the eligible silvicultural activities undertaken on the Forest.

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

Feature	Total in Audit Period	Total Sampled	Sample Intensity %
Harvest (ha) ¹	4,053	2,929	73%
Mech Site Preparation (ha)	43	21	49%
Chem Site Preparation (ha)	97	61	63%
Natural Regeneration (Clearcut)	6,685	1,264	19%
Planting (ha)	3,080	1,440	47%
Aerial Tending (ha)	2,765	823	30%
Free-to-Grow Assess (ha) ¹	14,839	4,473	30%

¹ – estimates made from four years of data available from 2012-2015 and pro-rated for 2016/17.

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. 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, 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 from Indigenous Communities

Communities with interests in Nagagami Forest include:

- Pic Mobert First Nation
- Constance Lake First Nation
- Ginoogaming First Nation
- Biigtigong Nishnaabeg First Nation
- Hornepayne Aboriginal Community

The consultation auditor met with representatives of the four First Nations. Efforts were made to contact Hornepayne Aboriginal Community (HAC) that were unsuccessful. The HAC has been very difficult to engage with in the experience of the audit team and the auditors were informed that the community has a number of internal issues it is dealing with, which would explain a lack of response. The write-ups of Finding # 2, Finding # 3, and Finding # 4 provide a summation of the key points discussed. The discussions were wide-ranging and often covered topics that were outside the scope of the IFA.

Some of the comments from BN and PMFN are repeated here to provide a sense of what is top of mind with respect to forestry:

- “The time for consultation is past when the government representatives seek approval” -- referring to requests to review the AWS;
- Forestry has a large footprint, but there is no guarantee of set aside area for trappers, or other users;
- MNRF and other Ministries want easy electronic access to indigenous values, so they can issue Land Use Permits, without interacting with the communities directly;
- Amalgamation of forests would be acceptable to the communities in order to reduce the number of minor requests for information and input;
- With Forestry, MNRF is trying to do business and consultation at the same time – “this is a conflict of interest”. This is different than mining where they separate the two functions.
- Would like to see an “open house” to discuss moose and caribou;
- One community wanted confirmation that there will be no resource extraction (especially aggregates) from areas that will be annexed to the reserve; and
- Costs for technical reviews should be covered.

Input to the Audit from LCC members

As part of the audit, auditors reached out to all LCC members to obtain feedback regarding the functioning of the LCC over the audit period. Interviews were conducted with more than half of the LCC members, in person and via phone. All LCC members generally were of the opinion that the LCC was functioning in accordance with its mandate. Additional comments are reported in the write-up of Finding # 1.

Input through Public Comment

In an attempt to solicit public input into the audit, a notice inviting comment was placed in the local newspaper (the Jackfish Journal). In addition, the auditors developed an on-line questionnaire and included the link in the newspaper notice. The link was also circulated to LCC members, who were asked to distribute it to their constituents. No responses were received by the audit team to the on-line survey or in response to efforts made through other channels.

APPENDIX 5 – LIST OF ACRONYMS

ABIR	Aboriginal Background Information Report
AOC	Area of Concern
AHA	Available Harvest Area
AR	Annual Report
AWS	Annual Work Schedule
BN	Biigtigong Nishnaabeg First Nation
BW1	White Birch Poplar Mixedwood forest unit
CFSA	Crown Forest Sustainability Act
Class EA	Class Environmental Assessment for Timber Management on Crown Lands in Ontario
CLFN	Constance Lake First Nation
CROs	Conditions on Regular Operations
EA	Environmental Assessment
FIM	Forest Information Manual
FMP	Forest Management Plan
FMPM	Forest Management Planning Manual
FMU	Forest Management Unit
FOIP	Forest Operations Inspection Program
FOIR	Forest Operations Inspection Report
FOP	Forest Operations Prescription
FTG	Free-to-Grow
FRT	Forest Renewal Trust
FU	Forest Unit
GFN	Ginoogaming First Nation
GIS	Geographic Information System
ha	hectares
km	kilometres
IFA	Independent Forest Audit
IFAPP	Independent Forest Audit Process and Protocol
JRM	Jackfish River Management Ltd.
LCC	Local Citizens Committee
m ³	cubic meters
MNRF	Ontario Ministry of Natural Resources and Forestry
MW1	Mixedwood 1 forest unit – Jack Pine leading Mixedwood
MU	Management Unit
NER	(MNRF) Northeast Region
NF	Nagagami Forest
NFM	Nagagami Forest Management Ltd.
OHTC	Olav Haavaldsrud Timber Company
PJ1	Jack Pine 1 forest unit – pure jack pine
PMFN	Pic Mobert First Nation
PO1	Poplar 1 forest unit – pure poplar
QA/QC	Quality assurance /quality control
RPF	Registered Professional Forester
RSA	Resource Stewardship Agreement
SAR	Species at Risk
SB1	Lowland to Intermediate Black Spruce forest unit

SEM	Silvicultural Effectiveness Monitoring
SF1	Spruce-Fir forest unit
SFL	Sustainable Forestry Licence
SFM	Sustainable Forest Management
SP1	Spruce pine mixed forest unit
SPF	Spruce-Pine-Fir
SGR	Silvicultural Ground Rules
SSG	Stand and Site Guide

APPENDIX 6 – AUDIT TEAM MEMBERS AND QUALIFICATIONS

Auditor	Role	Responsibilities	Credentials
Dr. Jeremy Williams, RPF	Lead Auditor, Harvest and Wood Supply and Compliance	<ul style="list-style-type: none"> • overall audit coordination; • oversee activities of other team members; • liaise with Company & MNRF; • 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 • Assess the Aboriginal engagement 	B.Sc.F., Ph.D. (Forest Economics), RPF. More than 22 years consulting experience in Ontario related to forest management, planning, wood supply modeling, and forest economics; participated in more than 40 previous IFA assignments; certified as an auditor by the Quality Management Institute.
Mr. Chris Wedeles	Ecologist 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 	B.Sc., M.Sc. (Wildlife Biology); Associate member of the OPFA. 25 years wildlife and forest ecology and experience in Ontario; completed 40 previous independent forest audits; certified as an auditor by the Quality Management Institute.
Rob Arnup	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. 	B.Sc. Senior forest ecologist with 35 years' experience in silviculture, forest management applications and environmental consulting in boreal Canada and elsewhere. Completed 27 IFAs. Associate member of the OPFA.
Mr. Tom Clark	Aboriginal Engagement and LCC Auditor	<ul style="list-style-type: none"> • Assess the Aboriginal engagement • review the performance of the LCC 	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.