

# Lake Nipigon Forest

**Independent Forest Audit**  
**April 1, 2011 – March 31, 2016**

## Final Report

February 9<sup>th</sup>, 2017





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## Acknowledgements

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# 1 EXECUTIVE SUMMARY

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This report summarizes the results of the Lake Nipigon Independent Forest Audit (IFA) conducted by Merin Forest Management. The audit covers planning and implementation activities conducted during the period April 1, 2011 through March 31, 2016. This includes the implementation of Phase I of the 2011-2021 Forest Management Plan (FMP) for the amalgamated Lake Nipigon Forest and, the development of Phase II 2016-2021 Planned Operations for the amalgamated Lake Nipigon Forest. Both Lake Nipigon Forest Management Inc. (LNFMI or the company), and the Ministry of Natural Resources and Forestry (MNR) were auditees.

The Lake Nipigon Forest (LNF) was formed through the amalgamation of the former Armstrong Forest and the former Lake Nipigon Forest with the new management designation becoming effective April 1, 2011 (MU No. 815). LNFMI is identified as the SFL holder. LNFMI is responsible for all forest management on the Nipigon east portion. Currently the Armstrong portion of the forest is administered as a Crown Management Unit (CMU) by Thunder Bay District MNR. The Forest falls into two MNR administrative Districts (Thunder Bay and Nipigon), with Nipigon as the lead for planning.

The last IFA for both the Armstrong and Lake Nipigon Forests (prior to amalgamation) were carried out in 2011 by Arbex Forest Resource Consultants Ltd. and covered the period 2006-2011. The 2011 IFA of the Armstrong Forest made 14 recommendations including the final recommendation that MNR had not fully met its legal obligations on the Armstrong Forest. The 2011 IFA of the Lake Nipigon Forest resulted in 14 recommendations, including the final recommendation not to extend the SFL for a further five years. The auditors further recommended that MNR review whether the current SFL model on the Lake Nipigon Forest is consistent with the purposes of the Crown Forest Sustainability Act (CFS). The auditors added they had concerns regarding whether the proposed amalgamation of the Lake Nipigon with the Armstrong Forest would achieve the social and economic benefits envisioned.

During the 2016 audit, the auditors viewed a sample of between 11 and 44% of the different types of activities carried out on the Forest during the audit period. In addition to reviewing forest operations, the audit included an assessment of the development of the Phase II Forest Management Plan (FMP), reporting, monitoring, consultation efforts and compliance with licence obligations.

The Lake Nipigon Forest is not a typical management unit because of the division of the unit into two portions with two different management entities Thunder Bay District MNR and LNFMI. Both entities are commended for the extra efforts they made to consolidate plans and annual reporting requirements. During the audit period, there were several changes to key personnel. LNFMI board of directors replaced their General Manager and service provider in 2015. Also, there were many staff changes within Nipigon and Thunder Bay District MNR during the audit period. Furthermore, the Lake Nipigon Forest has two local citizen's committees (LCC): the Armstrong LCC and the Lake Nipigon East LCC, and twelve Aboriginal communities located on or adjacent to

the Forest. Another factor that had a very strong influence, over the audit period, on how the Lake Nipigon Forest is managed and operations are conducted is the requirements of the provincial Endangered Species Act (ESA) and the Caribou Conservation Plan (CCP). Lastly, the forest industry is still recovering from the 2007 crash of the U.S. housing market and this has been reflected in the low (but increasing) levels of forest management activity on the forest. The above-mentioned factors contributed to the challenges and complexity of managing the LNF during the audit period.

There were several issues identified early in the audit process that guided the auditors in their assessment. The audit found that MNRF is not fully committed on the Armstrong portion of the LNF and recommends that Thunder Bay District MNRF immediately improve their management and oversight to fulfill their role as forest manager by addressing outstanding IFA recommendations from the previous audit, compliance issues and LCC concerns. The audit makes 3 additional recommendations to improve the following:

- compliance oversight;
- timely implementation of silviculture, and;
- more effort around herbicide use.

On the Nipigon-east portion, the audit found several improvements over the audit period in compliance, silviculture record keeping, working relationship with Nipigon District MNRF, shareholders and harvest contractors and, roads and water crossing maintenance. Based on activities over the 2011-2016 period, the audit has identified 7 recommendations for improvement in:

- compliance planning;
- treatment of chipper debris;
- use of cross drain culverts;
- meeting aggregate pit safety requirements;
- proper use of FOPs;
- use of herbicides for tending or site preparation, and;
- license obligation to have a MOA with receiving mills.

The audit did find some remarkable efforts by all auditees that were acknowledged with four best practices: one to both MNRF Districts for their continued work with local aboriginal communities; one to lake Nipigon MNRF for their work to develop and implement a predictive stream model, another to LNFMI for the "Forest Tending Toolbox" and, the fourth to LNFMI for their concerted efforts to identify, track and correct problem water crossings in a timely manner on the Nipigon east portion of the LNF.

There were considerable challenges facing the auditees during the audit period. Although audit results for the Armstrong portion of the LNF are not as positive, the auditors found the level of dedication by staff to be notable. The audit results for the Nipigon east portion are very favourable and the level of performance during the audit period, by all parties, was commendable. It is the opinion of the audit team that LNFMI has substantially met the terms of its SFL and is adhering to the direction in the FMPM. Management of Nipigon east portion of the LNF as

implemented by LNFMI and Nipigon District MNRF complies with the CFSA and is sustainable as defined by the IFAPP. The Thunder Bay District MNRF management of the Armstrong portion was not in full compliance with the CFSA and, with the exceptions noted below, is sustainable in the short term as defined by the IFAPP.

The audit team makes the following two conclusions regarding management of the Lake Nipigon Forest:

**1. The audit team concludes that management of the Armstrong portion of the Lake Nipigon Forest was not in full compliance with the legislation, regulations and policies that were in effect during the term covered by the audit, and Thunder Bay District MNRF did not fully meet its legal obligations. Forest sustainability has not been threatened in the short term as assessed through the Independent Forest Audit Process and Protocol. The audit team identifies the following problems that must be addressed to secure forest sustainability over the long-term:**

- silviculture programs were not initiated (Recommendation #2);
- no tending was carried out during the audit period as needed to meet plan objectives (Recommendation #2 and #3);
- seven previous IFA recommendations were either not acted upon or completed (see section 4.8);
- outstanding compliance issues for more than two years have not been addressed (see section 4.6.1, Recommendation #1), and;
- the Armstrong LCC did not feel it is being utilized enough to fulfill its role and to maintain the interest of its members (see section 4.2.2, Recommendation #1).

**2. The audit team concludes that management of the Nipigon east portion of the Lake Nipigon 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 LNFMI. Forest sustainability is being achieved, as assessed through the Independent Forest Audit Process and Protocol. The audit team recommends the Minister extend the term of Sustainable Forest Licence 550412 for a further five years.**



Sarah Bros  
Lead Auditor

## 2 TABLE OF RECOMMENDATIONS/CONCLUSION AND BEST MANAGEMENT PRACTICES

*Table 1. Table of Recommendations*

|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Recommendation on Licence Extension (SFL)</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| <p>The audit team concludes that management of the Lake Nipigon 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 LNFMI. Forest sustainability is being achieved, as assessed through the Independent Forest Audit Process and Protocol. The audit team recommends the Minister extend the term of Sustainable Forest Licence 550412 for a further five years.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| <b>Conclusion on Management (Thunder Bay District MNR)</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| <p>The audit team concludes that management of the Armstrong portion of the Lake Nipigon Forest was not in full compliance with the legislation, regulations and policies that were in effect during the term covered by the audit, and Thunder Bay District MNR did not fully meet its legal obligations. Forest sustainability has not been threatened in the short term as assessed through the Independent Forest Audit Process and Protocol. The audit team identifies the following problems that must be addressed to secure forest sustainability over the long-term:</p> <ul style="list-style-type: none"> <li>• silviculture programs were not initiated (Recommendation #2);</li> <li>• no tending was carried out during the audit period as needed to meet plan objectives (Recommendation #2 and #3);</li> <li>• seven previous IFA recommendations were either not acted upon or completed (see section 4.8);</li> <li>• outstanding compliance issues for more than two years have not been addressed (see section 4.6.1, Recommendation #1), and;</li> <li>• the Armstrong LCC did not feel it is being utilized enough to fulfill its role and to maintain the interest of its members (see section 4.2.2, Recommendation #1).</li> </ul> |
| <b>Recommendations Directed to the SFL Holder/MNR District</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| <ol style="list-style-type: none"> <li>1. Thunder Bay District MNR must immediately improve their management and oversight of the Armstrong portion of the Lake Nipigon Forest by addressing recommendations from the previous IFA, addressing outstanding compliance issues, and addressing the LCC's concerns about their engagement in the FMP process and implementation.</li> <li>2. Thunder Bay District MNR will immediately implement renewal, where appropriate, on all areas harvested, where silviculture has not yet been initiated, on the Armstrong portion of the Lake Nipigon Forest.</li> </ol>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |



|                                                                                                                                                                                                                                                                                                                                                                |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 3. Thunder Bay District with the assistance of Regional Operations Division MNRF will increase their efforts to inform LCCs and aboriginal communities about herbicide as a tool in forest management.                                                                                                                                                         |
| 4. Thunder Bay District MNRF will work with aboriginal communities to develop a tending protocol on the Armstrong portion of the Lake Nipigon Forest that will address FMP objectives.                                                                                                                                                                         |
| 5. Lake Nipigon Forest Management Inc. must follow the direction laid out in the FMP as identified through conditions on regular operations, particularly on shallow sites, and ensure the Forest Operations Prescription is appropriate for the ground conditions before operations commence.                                                                 |
| 6. Lake Nipigon Forest Management Inc. will develop and apply procedures as part of the Forest Operations Prescription for the judicious use of herbicides on the Nipigon east portion of the Lake Nipigon Forest consistent with the Tending Toolbox.                                                                                                         |
| 7. Lake Nipigon Forest Management Inc. must ensure that all aggregate pits are tracked, reported and in compliance with the requirements as identified in the Forest Management Plan.                                                                                                                                                                          |
| 8. Additional effort is required by the Thunder Bay and Nipigon District MNRF and Lake Nipigon Forest Management Inc. when preparing 10 Year and Annual Compliance Plans.                                                                                                                                                                                      |
| 9. Lake Nipigon Forest Management Inc. must complete a Memorandum of Agreement with AV Terrace Bay Inc. to meet their "Wood Supply Commitments" in Appendix "E" of their SFL.                                                                                                                                                                                  |
| <b>Recommendations Directed to Regional or Corporate MNRF</b>                                                                                                                                                                                                                                                                                                  |
| 10. The Forest Industry Division of MNRF must split the current "Available Wood Report" for the Lake Nipigon Forest into two separate reports; one for the Armstrong portion and the other for the Lake Nipigon East portion. The "split" reports should identify what volumes are committed and/ or included in the Provincial Wood Supply Competition offer. |
| 11. Corporate MNRF will review the " <i>Forestry Workers Lien for Wages Act</i> " with respect to its ability to ensure full utilization (delivery to processing facility) of harvested wood before the fibre is degraded to the point of being un-merchantable.                                                                                               |
| 12. Corporate MNRF will return the \$900,000 transferred from the Lake Nipigon Forest Renewal Trust Fund to enable Lake Nipigon Forest Management Inc. to address outstanding silviculture liabilities and meet their contractual obligations in the SFL (S.11.1(d)).                                                                                          |

*Table 2: Table of Best Management Practices*

|                                                                                                                                                                                                                           |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Best Management Practice #1:</b> Both Thunder Bay and Nipigon Districts are commended for their continuing efforts in working with the local First Nations.                                                            |
| <b>Best Management Practice #2:</b> The audit team commends LNFMI for facilitating the development of the <i>Forest Tending Toolbox</i> .                                                                                 |
| <b>Best Management Practice #3:</b> LNFMI is commended for their efforts to identify, survey and track water crossings on the Nipigon East portion of the forest and for their efforts to correct any deficiencies found. |

**Best Management Practice #4:** MNRF Nipigon District is commended for their efforts to develop and implement a system for identifying unmapped streams on the Lake Nipigon Forest to facilitate planning and to enable the appropriate water protection measures to be implemented.

## 3 INTRODUCTION

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### 3.1 AUDIT PROCESS

Independent Forest Audits (IFA) are a requirement of the Crown Forest Sustainability Act (S.O. 1994, c. 25) (CFSA). Every publicly-owned forest management unit in Ontario must be audited by an independent audit team at least once every five to seven years. The purpose of the IFA is to assess compliance with the CFSA, its regulated manuals (i.e. FMPM), the FMP for the management unit and whether the licensee has complied with the terms and conditions of its Sustainable Forest License (SFL). The effectiveness of forest management activities in meeting FMP objectives and improvements made because of previous IFA recommendations are also to be examined. The IFA is unique in that it reviews the performance of both the government (MNRF) and the licence holder (LNFMI).

Merin Forest Management conducted an IFA of the LNF covering the five-year term April 1, 2011 to March 31, 2016. The LNF was formed by MNRF through the amalgamation of the former Armstrong Forest and the former Lake Nipigon Forest with the new management designation (SFL) becoming effective April 1, 2011 (MU No. 815). Prior to the amalgamation LNFMI became the SFL holder for the former Lake Nipigon Forest in 2008. At the same time the former Armstrong Forest was surrendered to the Crown by Cascades Canada Inc. After the amalgamation LNFMI continued to manage the Nipigon east portion of the LNF and the Armstrong portion continued to be administered by Thunder Bay District MNRF. Also during this timeframe, negotiations for a new cooperative eSFL to manage the entire LNF began. The negotiations continued until May 2016 when the MNRF concluded the process due to an unwillingness by participant groups to continue with the eSFL negotiations.

The Forest falls into two MNRF administrative Districts (Thunder Bay and Nipigon), with Nipigon as the lead for planning. The audit scope covers; a) the implementation of 2011-2021 Phase I FMP for the amalgamated Forest, and b) the development of the Phase II 2016-2021 FMP for the amalgamated Lake Nipigon Forest.

IFAs are governed by eight guiding principles as described in the Independent Forest Audit Process and Protocol (IFAPP). Recommendations arise from audit team observations of material non-conformances and the identification of situations in which there is a significant lack of effectiveness in forest management activities. All recommendations made in this report are summarized in Table 1 Section 2 and are detailed in full in Appendix 1. Review of the achievement of management objectives for the Phase I FMP and contractual obligations are summarized in Appendices 2 and 3, respectively.

More detailed information on the audit process, including the sampling intensity, is provided in Appendix 4. A list of acronyms is presented in Appendix 5. Audit team members and their qualifications are presented in Appendix 6.

### 3.2 MANAGEMENT UNIT DESCRIPTION

This description of the forest is summarized from the 2011-2021 FMP for the Lake Nipigon Forest.

The LNF is located northeast of Thunder Bay and encompasses the northern and eastern shores of Lake Nipigon (Figure 1). It comprises 1,139,453 hectares of managed crown production forest. The forest is found in the central plateau in the Boreal forest region of Canada. The entire LNF surrounds Lake Nipigon extending west to Thunder Bay, south to Lake Superior and north to the boundary of the “area of the undertaking” (boundary of managed crown land in Ontario). The LNF is well accessed with Hwy 11 running in a northerly direction from the town of Nipigon. Hwy 17 (TransCanada) runs from east to west along the southern portion of the Forest and beyond.

Hwy 11 joins Hwy 17 at Nipigon and jointly continue west to Thunder Bay. The west side (Armstrong portion) of the LNF is accessed via Hwy 527.

The Lake Nipigon Forest has a long history of tourism, prospecting and mining use, all of which have had and will continue to have potential implications for forest management planning. Logging around Armstrong is relatively recent with limited activities dating back to the 1930’s, then a period of no logging activity and more recent activity beginning in the 1970’s. In contrast the Lake Nipigon east portion of the management unit has had continued and extensive logging history going back to the 1920’s.

This has resulted in a forest state that is no longer representative of a natural unmanaged forest landscape. The Lake Nipigon Forest lies completely within the Precambrian shield with the topography described as “bedrock controlled”. Approximately 4% of the managed crown

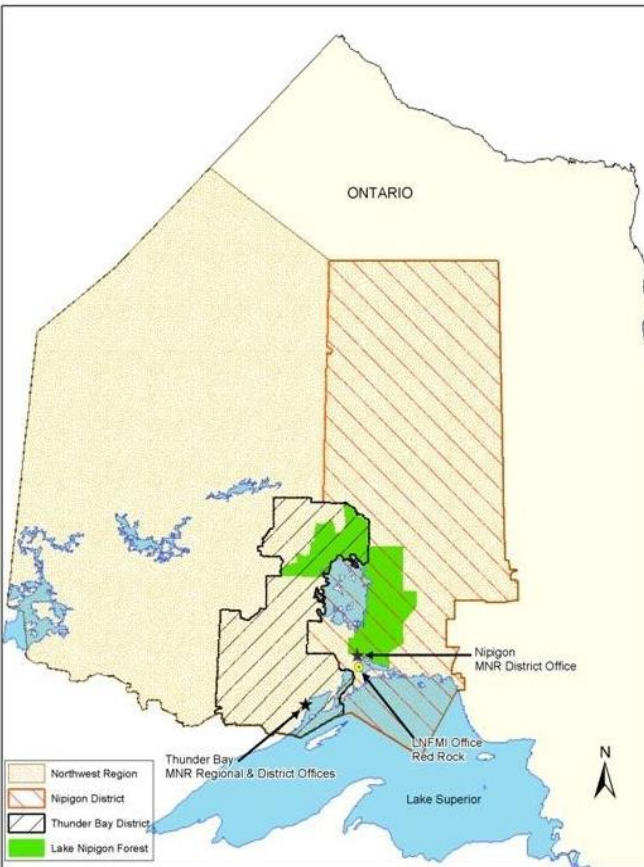


Figure 1: Location of Lake Nipigon Forest with administrative boundaries

productive forest falls into this category making forest operations challenging and costly in these areas. Ecosite 12 (shallow sites) was an exception to the silviculture guides during implementation of the Phase I FMP requiring special monitoring for operations carried out on the sites.



Figure 3 below presents the forest unit distribution on the Lake Nipigon Forest. The predominant forest units on the LNF are conifer leading such as SPL (Spruce Lowland), SPC (Upland Spruce), PJC (Jack Pine Upland) and CNM (Conifer Mixedwood). Hardwood forest units are represented by POHP (Poplar Hardwood Poor) POHR (Poplar Hardwood Rich) and POM (Poplar Mixedwood) and, by BWH (White Birch Hardwood) and BWM (White Birch Mixedwood). The CEUP (Upland Cedar) and BFM (Balsam Fir Mixedwood) represent less than 3% of the available production forest although both species are present to a lesser degree in most other FUs such as CNM, POM, BWM, OCL to name a few.

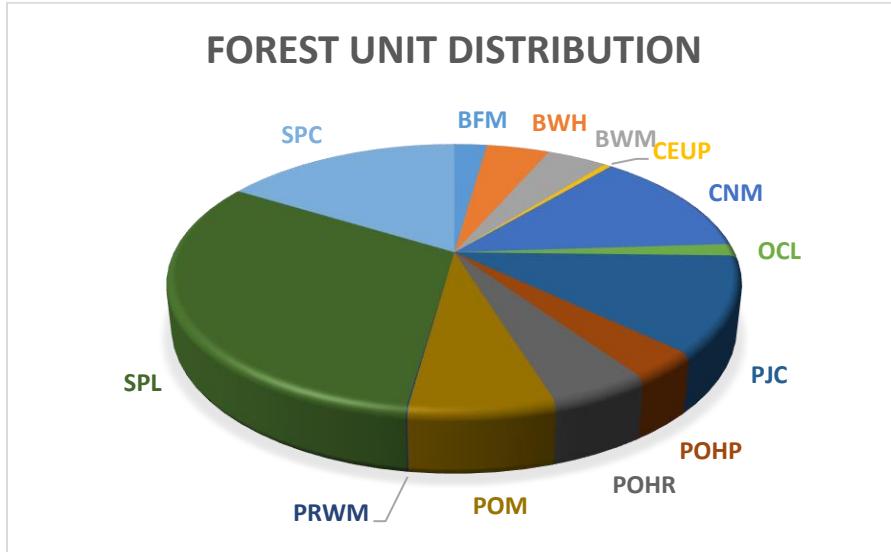


Figure 3: Summary of Managed Crown Production Forest by Forest Unit

As mentioned in Section 3.1 the LNF is a new forest management unit. Prior to April 2007 the Lake Nipigon Forest and the Armstrong Forest were managed under separate Sustainable Forest Licences (SFLs) granted to Norampac Inc. (SFL numbers 550412 and 542255 respectively). The SFLs for both management units were transferred to Cascades Canada Inc. effective April 10, 2007. On May 28th, 2008 the SFL for the Lake Nipigon Forest was transferred from Cascades Canada Inc. to LNFMI (LNFMI); on May 31, 2008 Cascades Canada Inc. surrendered the Armstrong Forest SFL to the Crown. The amalgamation of the former Armstrong and Lake Nipigon Forests into a new management unit was designated effective April 1st, 2011 along with the scheduled implementation of the approved Lake Nipigon Forest 2011-2012 Contingency Plan in advance of the approval of the final FMP. Discussions regarding the establishment of a new cooperative arrangement to manage the eSFL for the amalgamated forest were ongoing throughout the audit period. Those discussions were concluded by MNRF in May 2016 with no decision on a cooperative arrangement for the LNF.

Management for caribou habitat in the Armstrong portion of the forest began in the mid 1990s, with management striving to produce a mosaic of very large patches of predominantly conifer according to a defined harvesting schedule (see Racey, G. and T. Armstrong. 2000. Woodland caribou range occupancy in Ontario: past and present. Rangifer Special Issue 12:173-184). Over time the zone managed for caribou increased from 37% to 75% of the area of the combined

forest to comply with MNR's Caribou Conservation Plan (CCP). However, much of the Lake Nipigon East portion of the forest had been managed following MNR's moose habitat guidelines, which favoured smaller habitat patches, edges, hardwoods and mixedwoods. The increasing emphasis on caribou on a landscape previously managed for moose at a time when the market for hardwoods is poor presented significant challenges. This is discussed in more detail in section 4.1 (Commitment).

During the audit period, there were several changes to key personnel. LNFMI board of directors replaced their General Manager and service provider in 2015. Also, there were many staff changes within Nipigon and Thunder Bay District MNR during the audit period. Furthermore, the Lake Nipigon Forest has two local citizen's committees (LCC): the Armstrong LCC and the Lake Nipigon East LCC and twelve Aboriginal communities located on or adjacent to the Forest. Another factor that had a very strong influence, over the audit period, on how the Lake Nipigon Forest is managed and operations are conducted, are the requirements of the provincial Endangered Species Act (ESA) and the Caribou Conservation Plan (CCP). Lastly, the forest industry is still recovering from the 2007 crash of the U.S. housing market. The above-mentioned factors have contributed to the challenges and complexity of the LNF.

### **3.3 CURRENT ISSUES**

The IFAPP requires a review of high priority aspects (HPAs) of the auditees' systems and activities. There were two overriding issues affecting forest management on the Lake Nipigon Forest during the audit term: 1) the management arrangement on the Forest as two portions (Armstrong and Nipigon-east) managed by two separate entities (Thunder Bay District MNR and LNFMI) and 2) the ongoing eSFL discussions between MNR and the LNFMI board of directors. Although point 2 is outside of the scope of the IFA it is worthwhile to note there has been a cost to the effective, efficient planning and implementation of forest management activities on both portions of the LNF because of the ongoing eSFL discussions throughout the entire audit period.

Through document review, review of previous IFAs and interviews with SFL and MNR staff the following were identified as HPAs and received particular attention during the audit:

- actions on previous IFA recommendations;
- previous IFA conclusions on forest sustainability;
- inability to achieve planned harvest levels;
- hardwood utilization;
- herbicide use;
- compliance program;
- silviculture program in the Armstrong portion, and;
- caribou habitat management.

Findings related to these topics are discussed as appropriate throughout the audit report.

### 3.4 SUMMARY OF CONSULTATION AND INPUT TO AUDIT

Merin employed a variety of consultation options to obtain input from the public during the audit process. Those options included mail outs, a web survey, emails and newspaper advertisements to advise stakeholders of the audit and the opportunity to provide input into the process. A summary of the methods of consultation and input received is provided in Appendix 4.

## 4 AUDIT FINDINGS

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### 4.1 COMMITMENT

In 2013 LNF was certified to the Sustainable Forestry Initiative (SFI) but the shareholders chose to drop the certification in 2015. The IFAPP requires full assessment of the commitment principle if a forest is not certified to a third-party certification system. The IFAPP (Principle 1.1 and 1.2) states that "commitment" is evaluated by reviewing policy statements and whether operations adhere to legislation. During the 2016 IFA, thousands of hectares of forest were checked by helicopter and on the ground to determine whether operations had followed the FMP and the appropriate forest management guides and manuals, many documents were checked, and many planners, inspectors, LCC members, regional support staff, and forest workers were interviewed (see Appendix 4). The auditors found that both the company and MNRF staff were strongly committed to adhering to policy & legislation and were keenly aware of the requirements. However, some issues were identified, particularly related to management of the Armstrong portion of the forest, and caribou habitat management in general.

MNRF has well publicized policy statements related to adhering to legislation (CFSA, ESA, EA) and principles of sustainable forest management. Interviews, records, and field observations suggest MNRF Thunder Bay and Nipigon District and Regional staff are knowledgeable, well-trained, competent, and work hard to live up to these commitments. However, the audit found that silviculture programs were not initiated. Additionally, tending is a contentious issue on the Armstrong portion of the LNF so tending was not carried out during the audit period despite a recommendation from the 2011 IFA regarding the need for tending on the Armstrong Forest. Also, an LCC can make an important connection between MNRF and the public regarding forest management issues but as discussed in Section 4.2.2 the Armstrong LCC did not feel it was being utilized enough. Finally, some recommendations from the previous IFA on the Armstrong Forest were not fully acted upon by District MNRF. The foregoing suggests that Thunder Bay District MNRF was not fully committed to supporting sustainable management of the Armstrong portion of the forest and fulfilling their role as the forest manager over the audit period. **Recommendation #1** has been issued to address this concern. Since 2015, LNFMI has engaged an enthusiastic, knowledgeable service provider (HME Enterprises), to assist with the management of the Nipigon east portion of the LNF, whose staff appeared, through interviews and activities in the field, to be committed to sustainable forest management. The auditors found the service provider is working well with MNRF, the LCC, the public, and First Nations



communities. Vision and Mission statements are posted at the office of the service provider and confirm LNFMI's commitment to safety, compliance, training, and sustainable forest management. The Board of Directors of LNFMI includes representatives of 4 First Nations. To increase the involvement of First Nations people in management of the Nipigon-east portion of the forest, LNFMI held shareholder community engagement sessions in which aspects of management were discussed and participants were asked specifically what they wanted to "do in the forest".

It was obvious from an interview with the Board of Directors of LNFMI, that they are dedicated to the sustainable management of the Lake Nipigon Forest. They are proud to be the managers of the forest, and it is their intention to provide as many opportunities as possible to First Nation Communities.

The commitment of LNFMI to sustainable management of the forest was clearly demonstrated to the audit team.

## **4.2 PUBLIC CONSULTATION AND ABORIGINAL INVOLVEMENT**

### **4.2.1 Public Consultation**

Judging from interviews, a review of the FMP Phase II Supplementary Documentation [8.5 (Roads), 8.6 (AOCs), 8.7 (Summary of Public Consultation), and 8.8 (LCC Activity Reports)] and copies of the notices of consultation opportunities, there were many opportunities for public participation during development of the Phase II FMP. Notices announcing opportunities to participate in the planning process and to attend Information Centres to review proposed operations were:

- mailed out to potentially interested stakeholders (1,110 names are on MNRF's mailing list),
- placed on the Environmental Registry, and
- placed in 5 local newspapers.

MNRF Communications Services produced the notices which met all legal requirements and were written in straightforward, non-technical language. Members of the planning team and the LCC attended Info Centres. MNRF consulted both LCCs when FMP amendment requests were being considered to help to gauge the potential impact of the requests and the course of action that MNRF should take.

Additional opportunities for public input occurred when Annual Work Schedules were produced and when the two minor amendments to the Phase II FMP were prepared; potentially affected parties were notified by ads and mail-outs. The Company and MNRF were contacted by stakeholders responding to formal opportunities for consultation and are also outside this period. Records reviewed by the auditors show that both organizations treated the comments received seriously and attempted to find solutions to issues.

As a result of the public consultation during and after Phase II FMP development, many changes were made to prescriptions to address stakeholder concerns (see Supp. Docs 8.5 and 8.6). A

wide variety of specific concerns were brought forward by tourism businesses (remote tourism and road-based tourism) regarding preventing access (maintaining remoteness) or maintaining access for business purposes. Other public comments addressed issues such as new values (canoe routes, portages, trappers, cabins, trails), road maintenance & decommissioning, caribou & moose habitat, furbearer habitat, and requests for maps. MNRF prepared thoughtful responses to stakeholder comments and provided the information needed. The planning team made changes to AOC prescriptions where necessary to address issues, including adding reserves or timing restrictions, changing AOC widths, adding AOCs, relocating roads, and adding signage to restrict access. There were no requests for Issue Resolution or for Independent Environmental Assessments for Phase II of the FMP.

Based on the record of public consultation examined during the IFA, FMPM requirements were followed for the Phase II FMP, AWSs, and amendments.

#### **4.2.2 LCC**

Both LCCs consist of people with a diversity of interests in management and use of the forest. Over the audit period the LCCs met with MNRF, participated in the development of the Phase II FMP, reviewed potential amendments, reviewed the AWS, and supported FMP development by attending FMP Information Centres. Based on interviews, minutes, and activity reports in the FMP, the audit team concludes that members of both LCCs are very knowledgeable in forest management matters. The auditors heard that neither LCC appeared to be in favour of amalgamation of the two forests.

The audit team found that the Lake Nipigon East LCC is enthusiastic, engaged, has an excellent working relationship with Nipigon District MNRF, feels they are being listened to and consulted, and are generally satisfied with their involvement (although they have ideas for improvements).

However, the Armstrong LCC stated they don't know who to talk to because there have been 4 foresters in the last two years and, they find it hard to remain enthusiastic and involved. The LCC also commented that it is very difficult to get "follow through" on suggestions made to MNRF because of the high turnover. This is a secondary result of MNRF's lack of commitment to undertake the full role of forest manager in the Armstrong portion of the forest, which resulted in **Recommendation #1**.

#### **4.2.3 Aboriginal Involvement**

There were nine (9) First Nation communities involved on the Planning Team for the preparation of the Phase II plan. The First Nation communities represented included:

- a) The Animiigoo Zaagi'igan Anishinaabek (AZA) First Nation,
- b) The Biinjitiwaabik Zaaging Anishinaabek (BZA) First Nation,
- c) The Bingwi Neyaashi Anishinaabek (BNA) First Nation,
- d) The Kiashke Zaaging Anishinaabek (KZA Gull Bay) First Nation,

- e) The Namaygoosisagagun (Community of Collins),
- f) The Whitesand First Nation,
- g) The Red Rock Indian Band,
- h) The Ginoogaming First Nation, and
- i) The Aroland First Nation.

First Nations not represented included the Pays Plat First Nation, the Poplar Point Ojibway and the Long Lake 58 First Nation. Both Pays Plat First Nation and Long Lake 58 First Nation declined the offer to include a community representative as a member of the planning team. Instead, they requested to be kept informed of developments and outcomes of the planning process via regular contact from MNRF. Both of these First Nations are located outside of the forest. Poplar Point Ojibway did not respond to formal invitations to participate as a member of the planning team and the Community has been inactive for some time.

Native Background Information Reports were updated and/or prepared for all the First Nations except for Poplar Point. The “Summary of Aboriginal Involvement” for the production of the Phase II plan showed that both Nipigon and the Thunder Bay Districts made great efforts in having First Nation involvement in the planning process. These efforts have continued and both District Managers and their Resource Liaison Specialist meet regularly with all the First Nations. Interviews conducted with five First Nations reported that they have good communications and a good working relationship with the Districts.

The auditors were impressed with the level of effort to engage the large number of aboriginal communities on the LNF and their continued efforts in this regard and have issued **Best Management Practice #1**.

## **4.3 FOREST MANAGEMENT PLANNING**

### **4.3.1 Planning Team**

The planning team for the Phase II FMP consisted of well-qualified and experienced planning and management foresters, a resource liaison specialist, and MNRF management biologist. The LCC, First Nations and Overlapping licensees were well represented. There was a long list of advisors for the Phase II FMP with a wide range of forestry, biology, land use planning, archaeological and other expertise.

Evidence showed that the Planning Team worked well together. Concerns brought forward to the Team were addressed as shown in the Summary of Public Consultation. The Issue Resolution process was not needed and only one issue was brought to the attention of the Steering Committee.

There were no major changes required from the draft plan to the final plan. The SFL Manager also commented that the required alterations were reasonable. The plan was approved on schedule by the Regional Director on Dec 8<sup>th</sup>, 2015.



### 4.3.2 2016-2021 Phase II Planned Operations Development and Content

A review of the Phase II Plan showed that it was prepared in accordance with the 2009 Forest Management Planning Manual.

The areas selected for harvest for Phase II were for the most part, the same as areas that were presented during the 2011-2021 FMP planning process. Stands not harvested in Phase I were brought forward into Phase II. There was also some switching between regular allocations and contingency areas which is a normal occurrence. These adjustments will not have an impact on the strategic direction that was developed during Phase I FMP planning. There were no areas identified in the plan for salvage operations.

Section 8.2.2.2 of the FMP identifies "Conditions on Regular Operations" (CRO), for Phase II operations". The CROs were developed using the Stand & Site Guide, and, in some cases, local experience (for example, residual wildlife tree retention, where the requirements are different in the portion of the forest that overlaps with woodland caribou continuous range and where it overlaps with the discontinuous range).

As noted in Section 4.1 (Commitment), the Phase II FMP also contains a series of best management practices for operations in caribou habitat. These BMPs are designed to help facilitate the orderly completion of harvesting as per the DCHS. However, the low level of harvesting in the LNF, for economic reasons, has made it very difficult for MNRF and the Company to follow this schedule.

The Forest Management Guide for Natural Disturbance Pattern Emulation, used for both Phase I and II FMPs, states that 80% of planned new clearcuts within the Boreal forest should be less than 260 hectares in size. Of the planned clearcut areas in Phase II, this is exceeded with 24% of the planned clearcuts being greater than 260 hectares (66 out of 266 planned clearcuts). The 20% is exceeded due to the application of the Caribou Conservation Plan, which covers approximately 75% of the Lake Nipigon Forest. Of the 66 planned clearcuts over 260 hectares, there are 21 within the continuous caribou population zone, with the remaining 45 planned clearcuts are within the discontinuous caribou population zone (south of the caribou mosaic) exceeding 260 hectares. Table FMP-12, presents the planned clearcuts for Phase II FMP for each proposed planned clearcut that exceeds 260 hectares in size. A range of clearcut sizes was created to ensure that the size class distribution of planned clearcut trends towards those of natural fire disturbance size frequencies.

**Caribou Policy** - The requirements of the provincial Endangered Species Act (ESA) and the Caribou Conservation Plan (CCP) have a very strong influence on how the Lake Nipigon forest is managed and operations are conducted. Prior to the 2011 FMP, caribou habitat was managed following MNRF's "Forest management guidelines for the conservation of woodland caribou: a landscape approach". At that time a "caribou mosaic" was identified and applied to 37% of the area of the combined forest (see p. 31 in the Phase I FMP for 2011-2016). The focus was large patches of conifer-dominated habitat that were, or had the potential to be, suitable caribou habitat or to make important connections among patches. Initially, some areas were excluded from the mosaic because of their hardwood composition, their past history of moose habitat

management, a history of management for a variety of other uses not necessarily compatible with managing for caribou, and a lack of relatively recent records of caribou presence. The area managed for caribou was greatly increased over time to comply with MNRF's CCP and the ESA, so that in the Phase 2 FMP, 75% of the combined area of the forest was to be managed as caribou habitat in the continuous zone, and the remaining 25% of the forest in the southern end was in the discontinuous zone where habitat would be managed for caribou but not following a defined Dynamic Caribou Habitat Schedule (DCHS).

In a very detailed analysis for the Phase I FMP, MNRF identified suitable, capable, and used habitat patches for caribou in a series of large blocks (A, B, C, D and E blocks) that were linked to 20-year time slices of habitat supply. These blocks were carried forward into the Phase 2 FMP. The A blocks are theoretically to be harvested in the first 20 years, the B blocks in the second 20 years, etc. If an orderly progression of harvesting and renewal through the blocks is followed, a specified amount of caribou habitat can be produced on the landscape and tracked. Once a block is finished and the silviculture is completed, appropriate levels of road decommissioning are to occur. However, it has proven extremely difficult to operationalize an orderly DCHS in the LNF because of:

- the low level of harvesting due to the economic downturn and the closure of receiving mills,
- poor markets for hardwoods,
- the history of past management for moose and other uses, and
- the patchy nature of the forest.

To comply with the CCP, a DCHS of large blocks has been imposed on a patchy forest at a time when markets for hardwood are extremely poor.

The FMP (Phase I Analysis Package p. 271-271) explained that it was very difficult in modeling to allocate all the wood in specific DCHS blocks in the timeframe specified (20 years), and therefore much of this operational planning was done after the modeling. Thus, the Phase 2 FMP included a list of Best Management Practices (BMP) for operations in the caribou zone, and a hardwood utilization strategy (HUS). The HUS strives to assist in meeting caribou habitat objectives while recognizing the existing composition of the landscape (currently unsuitable for caribou in some areas), and the historical and current lack of markets for hardwood in the forest. The BMPs highlight the importance of harvesting in contiguous blocks and completing one block before another is started.

Based on interviews, it was confirmed that all parties are keenly aware of the requirements of the CCP, ESA, and the FMP and are trying to meet those requirements to the best of their ability, despite the low levels of harvesting in the forest, a lack of hardwood markets, turnover of staff at both MNRF and the Company, and operational realities. The Nipigon District biologist is frustrated however because blocks are not harvested and closed on time, decommissioning has not occurred on schedule, and more tending to produce conifer may be needed. Shifting some of

the responsibility for scheduling and layout from planning into operations (see also p. 271-271 Phase I FMP Analysis Package) has created problems as well.

It has been very difficult for MNRF and LNFMI to implement the simple concepts of the CCP on the ground in the LNF for all the reasons noted above. However, both parties appear to be committed to making progress. For example, efforts are being made to assess previously harvested areas to determine how to move ahead with requirements to finish work in the area, and LNFMI has moved to smaller Compliance Reporting Areas to facilitate the completion of activities in blocks. There is no simple solution to the challenge of complying with the CCP in this forest. The audit team is satisfied that MNRF, LNFMI and licensees are working hard and working well together to try to resolve these issues to the best of their ability.

### **4.3.3 Silviculture**

There were several changes to the Silvicultural Ground Rules (SGR's) for the Phase II FMP that included the addition of 7 new SGRs, site occupancy standards, tending where appropriate and options for prescribed burning. Some SGRs were modified to include additional harvest systems (i.e. CLAAG or clearcut). The SGRs in the Phase II FMP considered Phase I SGRs, new science, guidelines and manuals, field results and local experience in their development. Included in the Phase II FMP are silviculture treatments of special public interest. These include prescribed burning, herbicide use and fuelwood. Fuelwood areas are identified on the Areas Selected for Operations maps.

Table FMP-21 forecasts 50,484 hectares of renewal activity including 53,164 hectares (50% of Phase I) of tending. There is sufficient renewal support forecast for the 5-year FMP period through seed collection from tree improvement areas and bulk cone collections on the LNF. There are two seed orchards located on the LNF: Dragonfly Road Black Spruce orchard and Atigogama Lake Jack Pine test orchard. The orchards are associated with the Lake Nipigon Tree Improvement Association and managed cooperatively with assistance from the Superior Woods Tree Improvement Association (SWTIA).

### **4.3.4 Areas of Concern (AOCs)**

The Forest Management Guide for Conserving Biodiversity at the Stand and Site Scales (SSG; 2010) and the Cultural Heritage Guide were used during Phase I planning and incorporated into the final 2011-2021 FMP. During development of the Phase II FMP, the AOC's were reviewed and updated where necessary to reflect new requirements and new information (see Section 8.2.1 "Operational Prescriptions for Areas of Concern 2" of the Phase II FMP). For example, new prescriptions were added for bat hibernacula and bank swallow colonies.

Also, stakeholders and aboriginal people were consulted to develop suitable prescriptions where none existed, for example to address issues related to tourism businesses, canoe routes, trappers' cabins, trails, campsites and portages, and sensitive sites important to First Nations communities. Alternatives were evaluated where practical. Because of stakeholder input, many changes were made to prescriptions to address stakeholder concerns during development of the Phase II FMP

(see Supp. Docs 8.5 and 8.6), including adding reserves or timing restrictions, changing AOC widths, adding AOCs, relocating roads, adding signage to restrict access, and developing specific AOC prescriptions.

MNRF maintains a values database that is used for AOC planning and AWS planning, and conducts a wide variety of surveys to identify values and important habitat blocks. For example, during the audit the management biologist from Nipigon District described surveys that are undertaken in the LNF regularly for moose (and wolves), periodically for caribou (winter activity and calving surveys), for bats, woodcock, owls, whip-poor-will, and stick nests (eagle, osprey, heron, smaller stick nests such as goshawk). An interview with MNRF's Acting GIS Data Technician, IRM Specialist and Resource Management Technician in Thunder Bay during the audit confirmed that MNRF is maintaining their database of values information for the entire forest and updating it as new values are discovered or old values are confirmed to be no longer present.

The Phase II FMP contains prescriptions for values that probably exist somewhere in the forest but have not been discovered yet (e.g., species at risk occurrences such as common nighthawk nests, whip-poor-will nests). It is reasonable that not all occurrences of species at risk would be known in this large forest at the planning stage. Values other than species at risk occurrences are also discovered during operations and a process is in place to address new values of all types that are discovered during operations. The FMP also includes a "Flow Chart for Unmapped Stream Classification" (Section 6.1.7.7 Hydrological Impacts in the Supplementary. Documentation for the Phase I FMP), to enable unmapped streams that are discovered during operations to be classified according to permanency and the appropriate AOC prescription applied. This section of the FMP also describes a predictive stream model that is used by operators to find the likely locations of unmapped streams. LNFMI has incorporated potential unmapped streams that resulted from the above process onto their block sign-off sheets. The work described above that was undertaken by Nipigon District MNRF to improve the mapping and protection of streams in the Lake Nipigon Forest goes beyond MNRF requirements. The audit team has issued **Best Management Practice #4** in recognition of those exceptional efforts.

#### **4.3.5 Annual Work Schedules**

The auditors reviewed 5 Annual Work Schedules (AWSs) covering the audit period and found they were prepared in accordance with the 2009 FMPM, they were consistent with the approved FMP and, were submitted on time.

There were 51 revisions to the AWSs, ranging from 6 to 15 per year. The audit found all revisions were reasonable. Many of the revisions were a result of FMP amendments (switching blocks between phases, new aggregate extraction areas, minor road corridor changes etc.) or were clerical in nature.



## 4.4 PLAN ASSESSMENT AND IMPLEMENTATION

### 4.4.1 Areas of Concern

During the audit, AOCs were checked by helicopter and on the ground (see Appendix 4) and compliance reports were reviewed to:

- determine if the prescriptions written in the FMP were applied accurately and consistently on the ground, and
- whether the values they protected were present (streams, stick nests, lakes) and as described in the FMP.

One eagle nest marked on the maps was not found, but this is normal because stick nests are not permanent features. AOCs were well protected and appeared to be appropriate. FOIP reports also indicated a good record with respect to AOC protection.

### 4.4.2 Harvest

The Trend Analysis identified only 19% of the planned harvest was cut between April 1<sup>st</sup> 2011 and March 31<sup>st</sup> 2016. Over the entire forest, most of the harvesting (91%) was targeted at pure conifer forest units for the 2011-2016 period. Harvesting on the Armstrong portion of the forest has only occurred for three out of the last five years with most of the wood being cut in 2014-2015 (660 ha out of approximately 800 ha total harvest). Currently there are no markets for hardwood on the Armstrong portion of the forest, and long distances restrict the number of conifer sales that can be made, so there has been very little harvesting since 2014-2015. Harvesting on the Nipigon East portion of the forest has occurred annually, but also at reduced rates. A modest recovery is being experienced on the east portion of the forest with the re-opening of the pulp mill in Terrace Bay and the opening of a new saw mill in Atikokan and the restart of the Ignace saw mill (which caused an increase in the demand from Resolute's mills in Thunder Bay. The Trend Analysis makes the following recommendation: "*To increase desired economic and social benefits from the Lake Nipigon Forest through achievement of planned harvest area, an increased effort should be made to market wood from the Lake Nipigon Forest to regional mill facilities.*"

The auditors found the harvest areas viewed to be accurately mapped and within the boundaries of the approved FMP. Observed road corridors at water crossings were narrowed in accordance with the AOC prescriptions. A few cases of minor rutting were examined by the audit team during the helicopter portion of the field audit, but rutting was localized and patches were small, suggesting that operators had taken soil conditions and weather into account.

On the field portion of the audit, auditors found utilization good across the forest except for two areas. One instance on the Armstrong portion of the forest occurred in the Collins Road area where the Licensee was suddenly cut off from delivering hardwood. The second occurrence was in the Hanson Cliff Road area where a contractor quit leaving unutilized wood at the roadside. Both instances are discussed in more detail in Section 4.6.

Primary & Branch Roads inspected included: Inspiration Road, Collins Road, Spino Road, Gorge Creek Road, North Beatty Road, Sturgeon River Road, Lechance Road and the Hanson Lake Cliff Road. All roads were well maintained as per the guidelines and the Roads Construction and Maintenance Agreement. There were no issues with grading and all the roads were signed. The physical decommissioning of 0.9 km of the Spino Branch Road (Figure 4) was also examined from the air.



*Figure 2: Road decommissioning along Spino Road*

The treatment was very successful and there was no sign of unauthorized human activity. There was good signage to notify the public that the road had been decommissioned. Two additional water crossings were also removed in the area. There was no evidence viewed by the auditors of erosion and no sign of unauthorized human activity.

Thirteen (13) bridges were examined during the field audit. Auditors found all bridges were well constructed and properly signed. LNFMI is in the process of repairing or replacing the Rock Support bridges, which do not meet current engineering requirements. Fifteen (15) culvert installations were examined. The culverts viewed were imbedded 10% into the stream bed, they were the correct length for the overlying fill (except in one instance) and all were well armored with either rock or vegetation. Auditors observed that all but one installation was well done. The one culvert that could have been better installed was an emergency repair at a washout on the Collins Road. Five (5) water crossing removals examined by the audit team were found to be well done with no evidence of erosion problems. Auditors also examined 4 old crossings to verify LNFMI water crossing monitoring program. These crossings were well documented and 3 of them have been slated for replacement. **Best Management Practice #3** is issued to recognize that:

- LNFMI spent considerable efforts in identifying and surveying all the water crossings they are responsible for (since 2015);
- LNFMI placed a priority on public safety and the environment;
- Culverts and bridges that require replacement or repairs have been prioritized and many are already corrected;
- Quick action was taken to deal with Rock Support bridges either through removal, replacement or repairs, and;
- Proper signage was in place at all the bridges inspected on the audit.

Sixteen (16) aggregate pits were examined in the field, and all but two met the requirements. Two inactive pits in the Berry Area were not sloped and trees were either too close (within 5 m of the face) or were in falling over into the pit. Also, one of the two pits had not been reported and mapped. Furthermore, one inactive pit in Stop 1 (Black 6-1), had not been sloped properly. **Recommendation #7** is issued to address that additional effort is required by the SFL to track and monitor aggregate pits to ensure that they meet the requirements identified in the FMP.

There are two separate accounts for the Provincial Road Funding program on the Nipigon Forest. For the Nipigon east portion, the road funding is divided up with 15% going to the SFL for monitoring and the balance is divided up amongst the licensees according to their past three years of wood deliveries. The system is working well since the auditors did not hear of any concerns raised by the 5 licensees interviewed. A review of the provincial road funding invoices for the audit period showed there were signed agreements for all five years and “Flow Through Agreements” were also in place (with AV Terrace Bay & Resolute FP Canada). Invoices were found to be reasonable for the work performed and viewed on site. Invoices are submitted by the SFL to the Nipigon District for verification that the work has been completed. Over the five-year audit period most of the money was spent on primary road construction & maintenance with numerous bridges and culverts being replaced on the Gorge Creek Road, North Beatty Road, Sturgeon River Road, and the Hanson Lake/Cliff Road.

As there is only one Licensee operating in the Armstrong portion of the forest, “Sagatay Economic Development Corporation” and the Thunder Bay District MNRF meet to discuss priorities and key areas where the money will be spent on an annual basis. Sagatay signs the Provincial Road Funding Agreement each year and invoices the Thunder Bay District MNRF who verify that the work has been done. Road funding work reviewed in the field by the auditors included the construction & maintenance on the Inspiration Road (including a bridge replacement) and the maintenance of the Collins Road. The audit team concluded there were no concerns with how the Provincial Road Funding program is being implemented. It should be noted that the Thunder Bay District has spent considerable MNRF capital dollars on water crossing removals and road decommissioning as part of the overall caribou strategy and has strived to keep access open for other users of the forest where appropriate.

#### **4.4.3 Silviculture**

Table 3 below shows the actual silviculture work performed during Phase I of the 2011-2021 FMP which also aligns with the audit period. The table includes a comparison of actuals achieved versus planned levels forecast in the FMP that were based on full achievement of harvest levels. The table also includes a comparison of actual harvest to actual total regeneration for the same period. Not surprisingly, renewal levels are keeping pace with harvest levels. However, because harvest levels were not achieved, the planned renewal levels were not achieved for artificial or natural regeneration during Phase I. Of note is the overachievement of chemical site preparation, slash pile burning (represented as mech. SIP (PB)) and manual tending. The Trends Analysis report prepared for this audit states there was a “rigorous” renewal program proposed that included conversion of some hardwood-dominated mixedwood sites to conifer to meet plan

objectives. The report goes on to state “current and historical strong local opposition” to herbicide use accounts for its absence from the Armstrong portion of the LNF. No manual tending was conducted on the Armstrong portion during the audit period. Additionally, the previous IFA for the Armstrong Forest had a recommendation directing the manager to employ tending as needed to meet plan objectives. The audit team has issued **Recommendation #3** and **Recommendation #4** to address this long-standing issue.

Table 3: Comparison of Planned vs. Actual Renewal & Maintenance for Phase I of the 2011-2021 FMP for LNF

| Renewal Activities                    | Planned Activities 2011-2016 (Ha) | Actual Activities 2011-2016 (Ha) | % Actual/Planned | % Actual Regeneration/Actual Harvest |
|---------------------------------------|-----------------------------------|----------------------------------|------------------|--------------------------------------|
| Natural regeneration                  | 17,095                            | 4,780                            | 28.0             |                                      |
| Planting                              | 21,565                            | 3,375                            | 15.7             |                                      |
| Seeding                               | 2,750                             | 925                              | 33.6             |                                      |
| Total Artificial                      | 24,315                            | 4,300                            | 17.7             |                                      |
| <b>Total Regeneration</b>             | 41,410                            | 9,080                            | 21.9             |                                      |
| Site preparation(mech)                | 23,675                            | 4,630                            | 19.6             |                                      |
| Site preparation (chem)               | 70                                | 710                              | 1014.3           |                                      |
| Site preparation (PB)                 | 0                                 | 193                              | 193              |                                      |
| Tending (manual)                      | 0                                 | 225                              | 225              |                                      |
| Tending (aerial spray + ground spray) | 37,745                            | 8,445                            | 22.4             |                                      |
| Spacing (PCT)                         | 90                                | 0                                | 0                |                                      |
| <b>Harvest 2011-2016 (Ha)</b>         | 48,335                            | 9,312                            | 19.3             | 97.51                                |

Note: Figures taken from AR-7 and AR-9 IFA trend analysis\_2016\_LakeNipigonForest\_Tables.pdf

Most of the treatments reported during the audit period represent silviculture carried out on the Nipigon east portion of the LNF. Natural regeneration totaling 1,973.7 hectares was the only renewal reported on the Armstrong portion of the LNF from 2011-2016. During the field visit auditors viewed approximately 600 hectares of harvest (Randolph Block) more than 2 years old on the Armstrong portion that had yet to be treated. This shortcoming is the subject of **Recommendation #2**.

The auditors viewed more than 2,319 hectares of renewal representing 35% artificial (planting and seeding) and 11.3% natural completed during 2011-2016, on the Nipigon east portion of the LNF. All the sites viewed by the audit team were successfully regenerating with some minor exceptions. A cerkon seeding trial on slash piles did not yield any seedlings and, one aerial seeding site had variable success. The Phase I FMP identifies a silviculture treatment that is an exception to the recommended treatments as identified in the *Silvicultural Guide to Managing Black Spruce, Jack Pine and Aspen on the Boreal forest Ecosites in Ontario (MNR 1997)* for full tree logging on ecosite 12 (shallow soils over bedrock). The auditors viewed one identified ecosite 12 and one large block approximately 800 hectares that appeared to be an ecosite 12 but was not identified as such in the FMP or in the Forest Operations Prescription (FOP). **Recommendation #5** is issued to correct this deficiency.



During field visits auditors viewed more than 1,600 hectares of tending and approximately 100 hectares of chemical site preparation (see Appendix 4). Auditors observed that:

- some renewal sites required tending and were tended;
- some renewal sites did not require tending but were tended;
- some renewal sites required tending but had not received tending, and;
- some renewal sites did not require tending and were not tended.

Given the continued opposition by First Nations and the public to the use of herbicides on the LNF the auditors issued **Recommendation #6** to LNFMI to ensure aerial herbicide tending and chemical site preparation are implemented when and where needed.

The SFL had a modest cone collection program (69.21 hectolitres) during the audit period to support the 3.5 million trees planted during the audit period.

## 4.5 SYSTEM SUPPORT

Management of the Lake Nipigon Forest underwent a transformation during the 2011-2016 audit period, both at the SFL and at MNRF. During the first four years of the audit period LNFMI employed staff to carry out forest management duties on the Nipigon east portion. In 2015, LNFMI contracted all forest management duties, including General Manager, to a service provider. The SFL's new service provider (HME Enterprises) hired a full-time staff member to manage a compliance tracking system, a GIS expert to manage data layers, and recently a silviculture forester. With these staff and systems in place, the SFL is tracking the status of blocks and related compliance topics, and is working as quickly as possible to catch up on information that fell through the cracks before or that needs closer monitoring such as the closure of some aggregate pits, tracking water crossings, and outstanding free-to-grow surveys. The general manager of LNFMI (employee of HME Enterprises) stated that paper records that were inherited from the previous management are being transformed into digital format. Also, if there is a gap in the data, staff verify the information in the field.

MNRF staff also changed during the audit period, but MNRF maintains most of their records on a centralized computer system and uses a variety of corporate databases (e.g., FOIP, LIO) and web sites ([www.ontario.ca](http://www.ontario.ca)) that are protected and can be updated at district offices. Since about 2007 MNRF has required forest management documents to be submitted through their Forest Information Portal, which has screening capability. Also, throughout the audit period, MNRF reviewed the SFL's submissions to ensure that content requirements were met.

The auditors viewed records of LNFMI and MNRF joint meetings with operators each spring to review AOCs, CROs, stream model predictions, fire safety requirements and other important aspects. Operators were trained at these sessions. Operators also received on-the-job training from MNRF or SFL compliance inspectors. For example, the 2014-15 AWS (p. 19) stated that in the Nipigon east portion of the forest "the compliance inspector is also doubling as a technical advisor to the contractors to help them improve their compliance performance". Other training led by the MNRF northwest region is held periodically. Examples include Stand and Site Guide

training in 2011 (Armstrong portion), a forest succession workshop for MNRF foresters and “stump chats” bringing together MNRF scientists and SFLs.

Neither MNRF nor the SFL have consolidated records of training. However, interviews during the audit suggested that staff working for both organizations are well trained and highly competent in their jobs. MNRF stated that some contractors had been poor performers in the past, but efforts were being made to correct this. The Company noted that spring start-up meetings and block sign-off sheets have a training function. In 2015, LNFMI sponsored training which covered a wide variety of aspects. Evidence that the training is working is:

- compliance reports are detailed and cover the required elements (e.g., AOCs, site disturbance, residual trees & patches, and much more);
- the compliance record in the forest has been good overall, with a few exceptions mainly related to utilization that MNRF and the SFL continue to work to address;
- new stick nests were discovered during operations during the audit period and reported to MNRF, and the Company has been checking for Barn Swallow nests (species at risk) when they inspect bridges in the forest (suggesting that awareness training is working), and;
- MNRF and SFL staff that were interviewed are highly competent and knowledgeable in their jobs.

The auditors found one minor opportunity for improvement for LNFMI to consolidate training records.

## 4.6 MONITORING

### 4.6.1 Compliance

The wording in the Compliance Plan for both Phases of the FMP was found to be almost identical. The Phase II Compliance Plan should have addressed: the implementation of the new guide for Conserving Biodiversity at the Stand and Site Scales (SSG; 2010), the loss of markets, especially for hardwoods and identified strategies to meet caribou habitat requirements. Similarly, annual compliance plans were “cut and paste” from the previous and no efforts were made to assess recent compliance issues and potential solutions (including training required). None of the Annual Compliance Plans identify any targets for assessing renewal and maintenance activities. The above issues resulted in the issuance of **Recommendation #8**.

Based on interviews with MNRF staff in both the Nipigon and Thunder Bay Districts, it became clear that MNRF's compliance program is continuing to evolve as staff are given new assignments that reflect the realities of MNRF's latest transformation. MNRF has identified District Compliance Teams that consist of a forester, biologist, resource management technicians and an area supervisor. Interviews with MNRF compliance staff suggested that the team, holds bi-weekly compliance meetings in which they review issues and trends. The Teams also identify high risk areas and contractors, and reviews FMP and AWS requirements.

On the Armstrong portion of the forest, the Thunder Bay District is responsible for conducting compliance inspections. On the Nipigon east portion of the forest, the SFL is responsible for insuring compliance inspections are carried out. Both the District MNR and the SFL use the FOIP Reporting system to record their inspections.

FOIP Inspections were generally well done and complete. There were several instances of minor rutting and water ponding at roadside observed in the field but not identified in the FOIP reports. In the opinion of the audit team instances of ponding and rutting should be identified in FOIP reports even though they may still be in compliance, as a reminder to operators of the requirements to not impede water movement and to practice best management practices to avoid site damage.

The number of access and harvest FOIP Reports matched the activity level on the LNF. The renewal and maintenance FOIP reports did not cover all activities – but improvements were made over the last several years. FOIP Reports were submitted and approved within a reasonable time frame (including those submitted by the SFL), except for one report in 2015 covering the construction at the end of the Collins Road. Operational issues are not a non-compliance but must be identified in FOIP. These issues usually identified by the SFL are verified in the field by MNR. Both portions of the LNF have open FOIP reports with operational issues that are over two years old involving wood left on site and are the subject of **Recommendation #11**.

Joint inspections (MNR and SFL) are carried out on a regular basis and the two organizations have recently started to meet on a quarterly basis to discuss compliance issues. LNFMI provides training sessions annually to Licensees and their contractors. MNR staff also participates.

#### **4.6.2 Silviculture**

During the audit period the Thunder Bay District MNR, as forest manager of the Armstrong portion of the LNF, surveyed 19,529 hectares for FTG including 6,504 hectares of natural disturbance area. The LNFMI as SFL holder for the Nipigon east portion assessed 27,184 hectares of depletion for FTG. Table 4 presents the FTG results for the 2011-2016 period on the LNF.

Table 4: FTG survey results 2011-2016 for the Lake Nipigon Forest

| FMP Forest Unit | Total Area Surveyed (Ha) | Area renewed to projected FU (silviculture success) (Ha) | Area renewed to another FU (regen success) (Ha) | Total area renewed (Ha) | % Area renewed to projected FU vs. Total area renewed |
|-----------------|--------------------------|----------------------------------------------------------|-------------------------------------------------|-------------------------|-------------------------------------------------------|
| BFM             | 1545.5                   | 1473.5                                                   | 37.8                                            | 1511.3                  | 97.5                                                  |
| BWH             | 119.5                    | 109.4                                                    | 0                                               | 109.4                   | 100.0                                                 |
| BWM             | 1021.8                   | 979                                                      | 14.8                                            | 993.8                   | 98.5                                                  |
| CEUP            | 12.5                     | 12.5                                                     | 0                                               | 12.5                    | 100.0                                                 |
| CNM             | 6513.8                   | 6118.5                                                   | 278.5                                           | 6397                    | 95.6                                                  |
| OCL             | 64.3                     | 64.3                                                     | 0                                               | 64.3                    | 100.0                                                 |
| PJC             | 3669                     | 1892.3                                                   | 1777.2                                          | 3669.5                  | 51.6                                                  |
| POHP            | 1534.1                   | 1253.7                                                   | 238.7                                           | 1492.4                  | 84.0                                                  |
| POHR            | 2890.4                   | 2453.3                                                   | 355.9                                           | 2809.2                  | 87.3                                                  |
| POM             | 4700                     | 4164.9                                                   | 426.9                                           | 4591.8                  | 90.7                                                  |
| SPC             | 16640.4                  | 12491.1                                                  | 3181.9                                          | 15673                   | 79.7                                                  |
| SPL             | 8002.2                   | 6537.9                                                   | 2164.5                                          | 8702.4                  | 75.1                                                  |
| <b>TOTAL</b>    | <b>46713.5</b>           | <b>37550.4</b>                                           | <b>8476.2</b>                                   | <b>46027</b>            | <b>81.6</b>                                           |

Note: figures taken from AR-13 2016 IFA Trends Analysis for Lake Nipigon Forest

The table presents the results of FTG surveying carried out during the audit period and compares the area renewed to the projected forest unit against the total area renewed. Also, Table 4 shows area renewed to the projected forest unit (silvicultural success<sup>1</sup>) varies from 100% for smaller surveyed FUs (i.e. BWH, OCL, CEUP) to 52% (PJC a pure conifer forest unit). AR-13 from the Armstrong portion Trends Analysis shows a very low success rate (26.5%) for this forest unit that, in the auditor's opinion, is directly attributed to the lack of tending on the Armstrong portion of the LNF. In contrast, the silviculture success rate for the same PJC forest unit on the Nipigon east portion is 97.9%. This issued has been addressed through **Recommendations #3 and #4**.

Each year MNRF's Northwest Region (NWR) Forest Health and Silviculture Specialist requests MNRF Districts report on four SEM core tasks as per the *2011 Silvicultural Effectiveness Monitoring Tasks*. Nipigon District MNRF completed SEM for Core Task 1 for two of the five years of the audit period. Core Task 1 requires the verification of at least 10% of the FTG area submitted by the SFL in the previous annual reporting year. The surveys correspond with the frequency of SFL reporting of FTG results. Nipigon District MNRF uses a variation of the well-spaced free growing (WSFG) survey methodology. The results of the survey were summarized in detailed formal reports in the early years of the audit period. Later reports were in the format of a templated spreadsheet that is used to roll up information across the region.

<sup>1</sup> **Silviculture** is the art and science of controlling the establishment, growth, composition, and quality of forest vegetation for the full range of forest resource objectives. **Silvicultural success** is the ability to meet a predicted result or forest unit condition and defined metrics (species composition, average stand height, stocking, etc.).



Auditors aerially checked 7,739 hectares (14.2%) of the area declared Free-To-Grow during the audit period (see Appendix 4). The auditors found that areas reported as assessed in the ARs were accurately reflected and described in most instances. There were only a few minor discrepancies noted between what auditors saw from the air and the FTG stand description.

#### **4.6.3 Annual Reporting**

Documentation at the MNR office in Nipigon showed that MNR reviewed every annual report submitted, during the audit period, for completeness and accuracy before approval, and corrections were made. The required elements were present in the ARs as described in the FMP, but one AR was 2 months late (2012-13).

Hundreds of kilometers of forest access roads that were described in the ARs were checked during the aerial and ground portions of the field audit. This included roads within the blocks selected at random by the audit team, and en route to those blocks. Roads were well-maintained and as mapped. Invoices to the Provincial Road Funding Program were found to be accurate and costs were reasonable. Seven instances of road decommissioning carried out in the audit period were checked in the field by the auditors and found to be accurately reflected.

Depletions and silviculture treatments were well mapped; supplemental aerial photography (SAP) is used by forest managers to update depletion records. AOCs were protected as indicated on FMP maps. No major discrepancies were noted when compared to what auditors viewed in the field.

## **4.7 ACHIEVEMENT OF MANAGEMENT OBJECTIVES AND SUSTAINABILITY**

### **4.7.1 Trend Analysis Report**

A very thorough and informative Trend Analysis (TA) report was prepared for each management portion of the LNF by the company and Thunder Bay District MNR. The format outlined in the 2009 FMP Part E Section 4.0 formed the basis for each report. The Thunder Bay District MNR service provider (Green Forest Management Inc.) was tasked with compiling the two separate Trend Analysis reports into one document. The report combined tables and text for both portions of the LNF but included the separate TA for each portion in the appendices.

The TA report looks back on planned versus actual management activities over a 21-year period (1995-2016) on the Armstrong portion and the last 20 years (1996-2016) on the Nipigon east portion. One of the challenges in combining the reports for meaningful analysis is prior to 2011 these forests were separate management units. Therefore, several trends that required a comparison of objectives to modeling outputs could not be done in the individual TA reports because modeling was done on the amalgamated land base.

The audit team found the analysis in the TA report to be consistent with auditor observations over the course of the audit. A few minor edits are needed before the report is finalized and are noted in Appendix 2.

### 4.7.2 Assessment of Objective Achievement

Appendix 2 contains a detailed assessment of the level of achievement of the plan objectives for the 2011-2021 Phase I FMP to date. The 2011-2021 FMP contained 13 broad objectives with various sub-objectives for most of those objectives resulting in a total of 23. The majority of the sub-objectives had measurable targets, however, some social objectives (i.e. providing aboriginal communities with economic opportunities) did not. The audit did note that some of the objectives were part of the forest management planning process and were automatically achieved by following the process. The auditors suggest that the next forest management plan consider objectives that are meaningful and tied to plan implementation as opposed to plan completion.

Two key factors impacted on plan objective achievement thus far: low level of harvest on both portions of the LNF, and lack of timely renewal and tending on the Armstrong portion.

### 4.7.3 Assessment of Sustainability

The evaluation of the sustainability of management of the Lake Nipigon Forest during the audit period is challenging given the forest is managed as two separate management units. Some of the considerations in the assessment of sustainability are common to both units and some of the factors considered have both a positive and negative bearing on the assessment. However, the audit team believes there are sufficient indicators to support a positive assessment of sustainability for the entire Lake Nipigon Forest. These include:

- **Harvest levels** – Actual levels were considerably below what was planned as sustainable in the FMP but harvest levels rose steadily throughout the audit period;
- **Yields** – Actual yields/ha were consistent with planned yield projections in the FMP;
- **Renewal** – Actual renewal exceeded actual harvest levels indicating renewal is keeping pace with the harvest over the audit period considering no renewal took place on the Armstrong portion of the LNF;
- **Silvicultural Monitoring** – Silviculture effectiveness monitoring and FOP tracking are being carried out effectively;
- **Compliance** – compliance is being effectively conducted on the Nipigon east portion;
- **Values Protection** – The AOC prescriptions were appropriate for the value and were well implemented during the audit period. Water crossings, road maintenance and road decommissioning during the audit period were well done;
- **Planning** – The Phase II Planned Operations is a thorough and complete document and the AWSs and Annual Reports conform to the requirements of the FMPM;
- **Aboriginal** – Outreach and engagement of aboriginal communities was exceptional during the audit period.

This positive assessment is tempered by some significant issues noted during the audit on the Armstrong portion of the LNF including the frustrations of the LCC, and staff changes that appeared to result in a lack of direction regarding compliance and silviculture. Thunder Bay District MNRF has not dealt with the issue of tending during the audit period jeopardizing the achievement of some FMP objectives. These issues, while not directly affecting the sustainability

of the LNF over the long term, are sufficient enough to lead to a conclusion that the Thunder Bay District MNR is not fully committed to the management of the Armstrong portion of the LNF.

On the Nipigon east portion of the LNF there were issues with the effective use of herbicides during the audit period, management of slash piles and operations on shallow sites. Collectively these issues were not significant enough to impact on the long-term sustainability of management of the Nipigon east portion or on the recommendation for license extension to LNFMI (see Section 4.9).

## **4.8 CONTRACTUAL OBLIGATIONS**

Appendix 3 provides a detailed assessment of the SFLs performance relative to the obligations as specified in their Sustainable Forest Licence. The results of that assessment are summarized here.

There is currently only one wood supply commitment in the Sustainable Forest Licence issued to LNFMI. It required LNFMI to enter into a MOA with AV Terrace Bay Inc. A timeline of 90 days (starting June 5<sup>th</sup>, 2013) was given for completion. Negotiations between the two Companies were initiated, but due to changes in management staff affecting both companies, the MOA was never completed. While other business-to-business arrangements have recently been made for wood to be delivered to the AV's mill in Terrace Bay, there is still no MOA in place as required.

**Recommendation #9** has been issued to address this requirement.

MNR's current Available Wood Report (AWR) shows a shortage of poplar on the Lake Nipigon Forest during the 10-year FMP period. The AWR is based on fully meeting SFL and provincial Wood Supply Competition (WSC) offers. Currently the Poplar on the Armstrong portion of the LNF cannot be marketed because of haul distances and markets for all wood north of the CN rail line are said to be nonexistent. Poor and nonexistent markets are causing utilization problems and limiting licensees from properly completing caribou blocks started or scheduled for harvest during the 2011-2021 FMP. Freeing up some of the Poplar fibre in the Armstrong portion of the LNF may attract new facilities like the one being planned by the Whitesand First Nation. Currently, Whitesand has been allocated 94,000 m<sup>3</sup>/yr through the WSC offer, not enough to run the proposed mill. An accurate Available Wood report is needed to facilitate this. **Recommendation #10** is issued to correct this shortcoming.

Public and First Nations input was sought as required and opportunities for providing input were identified and advertised. Tourism concerns and sensitive First Nations values were addressed through the development of site-specific AOCs.

First Nations were well represented on the planning team, and there was a representative from each of the LCCs. MNR's manuals and guides were followed during development of the plan, and new AOCs were added to reflect potential occurrences of species at risk. The Dynamic Caribou Habitat Schedule that had been developed in the Phase I FMP remained in place for Phase II. Other caribou needs, as articulated in the Caribou Conservation Plan and the Landscape Guide, were highlighted in a series of Conditions on Regular Operations and in best management practices that were the same as those developed for the Phase I FMP.

The AWSs and ARs were prepared as required and, once reviewed by MNRF and approved, contained all the required elements.

As previously mentioned, utilization was found to be good across the forest except for two areas. In the Collins Road area on the Armstrong portion of the forest the Licensee was suddenly cut off from delivering hardwood to the receiving mill, so the wood was left at roadside. The second case occurred in the Hanson Cliff Road area where a contractor quit. Both instances have been reported as operational issues but have yet to be resolved and have been left open in FOIP. A further investigation into FOIP Reports shows that there are 5 areas on the forest where merchantable wood was left behind. These include:

- FOIP Inspection 672495, Issue 277438, Harvest Block BEATT-6, August 2014;
- FOIP Inspection 671591, Issue 277310, Harvest Block SUMM-1-A, > 2 years old;
- FOIP Inspection 671585, Issue 277308, Harvest Block BERRY-A, June 2015;
- FOIP Inspection 675238, Issue 277944, Harvest Block BUKM, >2 years old, and;
- FOIP Inspection 640902, Issue 270505, Harvest Block WILD-578, August 2013

Efforts to utilize this wood, either for public fuelwood or hog fuel have so far failed. Both Districts have been reluctant to lay fines or charges to the Licensees involved. Perhaps if all the Licensees, the SFL and MNRF develop strategies to prevent re-occurrences of this nature, the issues identified in the above FOIP Reports could be signed off.

The auditors were told that another part of the problem is when contractors quit or licensees become insolvent, liens are placed on the harvested wood, which prohibits the movement of the wood until debts are settled and, limits the chance of utilizing the wood before it becomes un-merchantable. The audit team saw thousands of cubic metres of wood from the Buchanan insolvency still at roadside and, after nearly 7 years, completely un-merchantable. The auditors feel a solution is warranted so this does not happen in future and are issuing **Recommendation #11** to find that solution.

One issue raised early in the audit process was the transfer of money from the Lake Nipigon FRTF into the Armstrong FRTF. This issue was raised in the previous IFA. No action was taken because discussions for a new cooperative management arrangement for the entire LNF were still ongoing. Now that those discussions have concluded the audit team believes the subject should be re-examined and has issued **Recommendation #12**.

The 2011 IFA of the Armstrong Forest and the 2011 IFA for the Lake Nipigon Forest each made 14 recommendations including the final recommendation. This audit focused on the actions taken and status of those recommendations directed to the District MNRF and/or the SFL holder. Only two recommendations from the 2011 IFA for Lake Nipigon Forest have not been fully completed in the opinion of the auditors. They are:

- **Recommendation 6** – to conduct tending as needed to ensure regeneration is consistent with planned future forest condition, and



- **Recommendation 13** – reimburse the Lake Nipigon FRTF to replace money transferred to the Armstrong FRTF.

Both recommendations are repeated in this audit in recommendations 6 and 12 respectively.

There are seven recommendations from the 2011 IFA for the Armstrong Forest that are not completed, partially completed or ongoing. They are:

- **Recommendation 1** – to fully meet obligations as managers of the Armstrong Forest
- **Recommendation 6** – conduct tending where required
- **Recommendation 7** – implement water crossing management strategy
- **Recommendation 9** – address backlog of area requiring FTG survey
- **Recommendation 12** – in Yr 3 AR, consider alternative approaches to meeting caribou habitat objectives, and
- **Recommendation 14** – obtain funding for forest renewal

Recommendation 1 has been reissued in this audit and addresses recommendation 12 and 14. Recommendation 6 is addressed in recommendations 3 and 4 in this audit. The audit team believes Thunder Bay District MNRF have made considerable progress on recommendations 7 and 9 and for that reason have not reissued those recommendations in this audit.

## 4.9 CONCLUSIONS AND FINAL RECOMMENDATION

This audit has assessed the management of the Lake Nipigon Forest covering the period April 1, 2011 to March 31, 2016. This period covered the implementation of Phase I for the 2011-2021 FMP and the preparation of the Phase II operating plan. The auditors were impressed with the knowledge and dedication of both Thunder Bay and Nipigon MNRF District staff and the SFL holder's service provider staff. The level of effort in engaging aboriginal communities by MNRF is clearly evident. The enthusiasm of the LNFMI Board of Directors in their role as SFL holder for the LNF was also apparent. The auditors found both LCC's are well established and take pride in their role, although greater engagement is needed for the Armstrong LCC. The auditors found sufficient evidence on which to base a conclusion that forest sustainability is being achieved. However, the audit made a number of recommendations for improvement to the management of the Lake Nipigon Forest to all auditees.

The Lake Nipigon Forest is not a typical management unit because of the division of the unit into two portions with two different management organizations Thunder Bay District MNRF and LNFMI. Also, the conclusion of the eSFL negotiations present a unique challenge for the MNRF moving forward. The auditors heard throughout the audit that an amalgamated forest is not a viable solution and is not favoured by any of the parties involved. This situation is outside of the audit scope and therefore no observation or recommendation is made.

The audit of the Lake Nipigon Forest makes two conclusions to address both forest managers:

- 1. The audit team concludes that Thunder Bay District MNR was not fully committed to supporting sustainable management of the Armstrong portion of the Lake Nipigon Forest or to fulfilling their role as the forest manager over the audit period. This conclusion is supported by the following:**
  - **silviculture programs were not initiated;**
  - **no tending was carried out during the audit period as needed to meet plan objectives;**
  - **some previous IFA recommendations were not acted upon or completed;**
  - **outstanding compliance issues for more than two years have not been addressed, and;**
  - **the Armstrong LCC did not feel it is being utilized enough to fulfill its role or to maintain the interest of its members.**
  
- 2. The audit team concludes that management of the Lake Nipigon 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 LNFMI Forest sustainability is being achieved, as assessed through the Independent Forest Audit Process and Protocol. The audit team recommends the Minister extend the term of Sustainable Forest Licence 550412 for a further five years.**

## APPENDIX 1 – RECOMMENDATIONS & BEST PRACTICES

| <b>Recommendation #1</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p><b>Principle 1: Commitment</b></p> <p><b>Criterion: 1.1 Policy Statements</b></p> <p><b>Procedure 1.1.1:</b> Review the organizations policy statements including whether</p> <ul style="list-style-type: none"> <li>• policy statements were developed and documented which include the organization's vision, mission, guiding principles and codes of management practice</li> <li>• the policy statement has been approved by the Board of Directors, the MNRF District Manager or other senior governing body within the organization</li> <li>• it is reflected in the daily operations of the unit and its employees</li> <li>• there is a commitment in the organization to ensure employees are aware of the organization’s sustainable forest management policy statements and to make the policy statements readily available to all internal and external parties (e.g. posted in appropriate locations, meetings, information sessions, etc.)</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| <p><b>Background Information and Summary of Evidence and Discussion:</b> The MNRF has well publicized policy statements related to adhering to legislation (CFSA, ESA, EA) &amp; principles of sustainable forest management. Interviews, records, and field observations suggest MNRF Thunder Bay and Nipigon District and Regional Staff are knowledgeable, well-trained and have worked hard to try to live up to these commitments. However, on the Armstrong portion of the forest:</p> <ul style="list-style-type: none"> <li>• no tending was carried out during the audit period as needed to meet plan objectives (see 4.4.3);</li> <li>• some previous IFA recommendations were not acted upon or completed (see below);</li> <li>• outstanding compliance issues for more than two years have not been addressed (see 4.6.1), and;</li> <li>• the Armstrong LCC did not feel it is being utilized enough to fulfill its role and maintain the interests of its members.</li> </ul> <p>The auditors viewed a large cutover (over 600 hectares) harvested in 2013/14 that silviculture had not been initiated on. During the audit the contract District Management Forester for the Armstrong portion completed her contract and was unavailable to the auditors. This is inconsistent with the FMP for the LNF which contains a statement that <i>“renewal operations appropriate to the site (as per the SGR) and management objectives (i.e. conifer renewal is essential within mosaic blocks) should be implemented in a progressive manner and as quickly as possible to aid in establishment and allow for road decommissioning activities (where required a per use management strategies) to implemented.”</i></p> |

Recommendations from the previous IFA for the Armstrong Forest that were not fully implemented include: 1) MNRF must fully meet their responsibilities as managers of the Armstrong forest (this was identified as a key issue in the current IFA as well); 6) Monitor conifer renewal sites & conduct tending to ensure regeneration is consistent with planned future forest condition (conifer regeneration remains an issue in this forest); 12) In the year 3 AR, consider alternate approaches to meeting caribou habitat objectives in the Armstrong portion of the forest (the low level of harvesting in 2011-16 (5% of planned) continued to make the achievement of some management objectives in this part of the forest impossible. There was very little movement toward increasing the amount of conifer for caribou over the audit period. There is no MNRF forester assigned to silviculture in this forest). 14. Obtain funding for forest renewal (MNRF facilitated a large FTG survey program, but there are harvested stands that remain to be treated.)

All of the above suggests that MNRF was not fully committed to supporting sustainable management of the Armstrong portion of the forest over the audit period (2011-2016).

**Discussion:** The auditors believe some important activities on the Armstrong portion of the LNF have fallen through the cracks or have been performed in a limited way.

**Conclusion:** The auditors conclude that to follow the FMP, Thunder Bay District MNRF should increase their presence on the Armstrong portion of the Lake Nipigon Forest. The recommendation below addresses aspects related to engagement of the Armstrong LCC, outstanding compliance issues, and previous IFA recommendations. Specific recommendations on silviculture follow in Recommendations # 2, 3 and 4.

**Recommendation:** Thunder Bay District MNRF must immediately improve their management and oversight of the Armstrong portion of the Lake Nipigon Forest by addressing recommendations from the previous IFA, addressing outstanding compliance issues, and addressing the LCC's concerns about their engagement in the FMP process and implementation.

## Best Practice #1

### Principle 3: Forest Management Planning

#### Criterion 2.5: Aboriginal Involvement in Forest Management Planning

**Procedure 2.5.1:** Aboriginal community consultation and involvement in FMPs, amendments, contingency plans

Review and assess whether reasonable efforts were made to engage each Aboriginal community in or adjacent to the management unit in forest management planning as provided by the applicable FMPM and assess the resulting involvement and consideration in the plan or amendment.

**Background Information and Summary of Evidence and Discussion:** Nine First Nations (out of twelve), had representatives on the Planning Team during the development of the Phase II FMP. Two of the First Nations that did not participate are located outside of the forest and the third Community (Poplar Point Ojibway) is inactive.

The summary of Aboriginal involvement in the preparation of the Phase II FMP showed the great efforts made by the Districts to have First Nation involvement in the planning process.

Both District Managers meet regularly with the Communities, not just during FMP preparation.

The Nipigon District has prepared a "Communication Protocol" with the Red Rock Indian Band that serves as a great template for others working with First Nations.

All five First Nations interviewed said they have good communications and a good working relationship with their District. The Board of Directors for the LNFMI is made up entirely of representatives from four First Nations.

**Discussion:** The minutes of meetings between the District Managers and the First Nations showed that sensitive topics were openly discussed. For example, the desire of local First Nations to manage the forest for moose and not caribou.

**Conclusion:** Continuous communications between the Districts and the local First Nations is one of the best ways to maintain good working relationships.

**Best Practice:** Both the Thunder Bay and Nipigon Districts are commended for their continuing efforts in working with the local First Nations.

## Recommendation #2

### Principle 4: Plan Assessment & Implementation

#### Criterion 4.4: Renewal

**Procedure 4.4.1:** Review and assess in the field the implementation of approved renewal operations including whether there are any gaps between the planned and actual levels of each type of renewal activity seen in the field; consider results of determination under Criterion 6.

**Background Information and Summary of Evidence and Discussion:** The auditors viewed a 600-hectare block (Randolph) on the Armstrong Forest portion of the Lake Nipigon Forest that was harvested in 2014-2015. There was a FOP completed after harvest that prescribed site preparation, plant and tend which, in the opinion of the audit team was the correct prescription. To date no silviculture has been initiated. The FMP for the Lake Nipigon Forest contains objectives to ensure harvested areas are renewed to conifer to meet caribou objectives. Furthermore, the FMP contains the following text related to this issue:

*"Renewal operations appropriate to the site (as per the SGRs) and management objectives (i.e. conifer renewal is essential within mosaic blocks) should be implemented in a progressive manner and as quickly as possible to aid in establishment and allow for road decommissioning activities (where required as per the use management strategies) to be implemented."*

**Discussion:** When asked why the block was not treated, the auditors were told there were two main reasons for the delay: 1) that MNR has an onerous procurement process that discourages contractors from bidding on work, and 2) the areas were often small and costly to treat. Both factors contributed to why there has been no silviculture initiated on areas harvested during the



audit period. The Thunder Bay District Manager made a decision not to utilize the Forest Renewal Trust Fund (FRTF) for eligible silviculture expenses during the audit period allowing the FRTF to remain at minimum balance. Subsequently, since 2011 the FRTF has continued to build because no renewal work was undertaken during the audit period such that at April 1<sup>st</sup>,2016 the Fund was approximately \$780,000 over minimum balance. Additionally, the District did not explore a silviculture agreement with the SFL or FRL. The auditors believe there are missed opportunities (i.e. cost savings) when there is a delay in the timely initiation of renewal including the opportunity to decommission roads. These delays may increase the cost of future renewal work, delay reaching FTG, and ultimately challenge the achievement of plan objectives to increase the level of conifer on the forest in the designated caribou zone.

**Conclusion:** The Thunder Bay District has not followed the direction in the FMP as stated above by not initiating silviculture on the Armstrong portion in a timely manner. The audit team concludes Thunder Bay District MNRF should explore the full range of options available to regenerate harvest areas in a timely manner to meet FMP objectives.

**Recommendation:** Thunder Bay District MNRF will immediately implement renewal, where appropriate, on all areas harvested, where silviculture has not yet been initiated, on the Armstrong portion of the Lake Nipigon Forest.

## Recommendation #3 & 4

### Principle 4: Plan Assessment & Implementation

#### Procedure 4.5: Tending and Protection

**Criterion 4.5.1:** Review and assess in the field the implementation of approved tending operations including whether there are any gaps between the planned and actual levels of tending seen in the field; consider results of determination under Criterion 6.

**Background Information and Summary of Evidence and Discussion:** There has been no chemical tending on the Armstrong portion of the Lake Nipigon Forest during the audit period. This issue was the subject of a previous IFA recommendation in 2011. There is strong opposition to the use of herbicides on the forest and has been for some time. Approximately one third of the Armstrong portion of the Lake Nipigon Forest is in a mixed wood or pure hardwood condition. The current FMP for the Lake Nipigon Forest includes an objective for conifer renewal success within caribou mosaic blocks.

Portions of two harvest blocks viewed during the field audit on the Armstrong portion were not yet treated but exhibited natural hardwood regeneration such that tending would be required to maintain conifer dominance in the stands.

**Discussion:** Interviews with Thunder Bay District staff indicate they have not looked at alternatives to herbicide treatments and instead chose not to implement a tending program during the audit period or to address the 2011 IFA recommendation related to tending. In the opinion of the audit team opportunities to inform the Armstrong LCC about the use of herbicides as a tending tool have not been capitalized on and there have been limited efforts to engage First Nation communities, in the Armstrong area, during the last five years in any discussions regarding herbicide use. The

auditors feel this is a lost opportunity as MNRF has many good scientific and impartial resources available to them. The use of herbicides is an important instrument in the silviculture “toolbox” especially if the objective is conifer renewal to meet caribou habitat objectives.

This issue is not unique to the Armstrong portion of the Lake Nipigon Forest. There are many instances around the province where education and cooperative efforts between LCCs, SFLs, MNRF Districts and aboriginal communities have found creative solutions to the issue of herbicide use in forestry. Many of these resources are at the fingertips of Thunder Bay District and Regional Operations Division.

**Conclusion:** The auditors conclude Thunder Bay District MNRF can do a better job of working with the Armstrong LCC and First Nations communities on a solution to the issue of herbicide use and vegetation management on the Armstrong portion of the Lake Nipigon Forest.

**Recommendation 3:** Thunder Bay District with the assistance of Regional Operations Division MNRF will increase their efforts to inform LCCs and aboriginal communities about herbicide as a tool in forest management.

**Recommendation 4:** Thunder Bay District MNRF will work with aboriginal communities to develop a tending protocol on the Armstrong portion of the Lake Nipigon Forest that will address FMP objectives and community concerns.

## Recommendation # 5

### Principle 4: Plan Assessment & Implementation

#### Criterion 4.4: Renewal

**Procedure 4.4.1:** Review and assess in the field the implementation of approved renewal operations including whether there are any gaps between the planned and actual levels of each type of renewal activity seen in the field; consider results of determination under Criterion 6.

**Background Information and Summary of Evidence and Discussion:** One large block (~800 ha) viewed during the field portion of the audit appeared to the auditors to be an Ecosite 12 (a shallow site; see picture below) but was not identified as such in the FMP. In Phase I of the 2011-2021 FMP for the LNF full tree logging on ecosite 12 defined as total soil depth of less than 20cm was identified as an exception to the *Silvicultural Guide to Managing for Black Spruce, Jack Pine and Aspen on Boreal Ecosites in Ontario (MNRF 1997)*. The release of the 2010 *Forest Management Guide for Conserving Biodiversity at the Stand and Site Scales (MNRF 2010)* replaced the requirement for monitoring with best practices. Specifically, the Stand and Site Guide suggests consideration of the following where there is the possibility of site disturbance:

- avoid harvesting that will cause erosion of the shallow organic layer over bedrock
- site prepare to provide minimum amount of soil exposure (i.e. bracke), and;
- where possible use low or no mineral soil exposure renewal options such as direct planting, hand scalping, seeding and natural regeneration.

The 2011-2021 FMP Phase II Planned Operations identifies the best practices through conditions on regular operations. A review of the forest operations prescription for the site did not identify the site as ecosite 12 or contain any direction to avoid site disturbance on rock outcrops during harvest and silvicultural operations. Most of these types of areas viewed by the audit team had been mechanically site prepared using a Bracke patch scarifier, while a few sites were prepared using a continuous furrow scarifier called a disc trencher.



**Discussion:** The forest inventory used to identify ecosite 12 in the FMP is likely at least 30 years old and should not be relied upon for this type of classification. Regardless, there is no evidence to suggest these sites were identified as ecosite 12 prior to operations commencing resulting in no exceptions monitoring being carried out as per the Phase I FMP exceptions to the silviculture guides requires.

**Conclusion:** It is the conclusion of the audit team that LNFMI did not follow the direction in the FMP when operating on shallow sites by not properly identifying these sites prior to commencing operations and then carrying out exceptions monitoring as required.

**Recommendation:** LNFMI must follow the direction laid out in the FMP as identified through conditions on regular operations, particularly on shallow sites, and ensure the Forest Operations Prescription is appropriate for the ground conditions before operations commence.

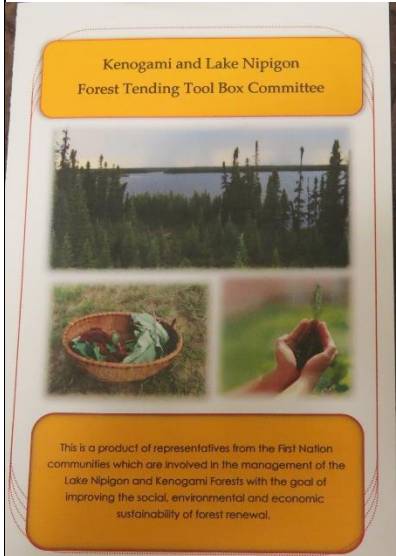
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| <b>Recommendation # 6</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| <b>Principle 4: Plan Assessment &amp; Implementation</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| <b>Criterion 4.5: Tending and Protection</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| <b>Procedure 4.5.1:</b> Review and assess in the field the implementation of approved tending operations including whether there are any gaps between the planned and actual levels of tending seen in the field; consider results of determination under Criterion 6.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| <b>Background Information and Summary of Evidence and Discussion:</b> Over the course of the field portion of the audit on the Nipigon east portion of the Lake Nipigon Forest the audit team viewed: <ul style="list-style-type: none"> <li>• sites that needed tending and were appropriately tended;</li> <li>• sites that needed tending but had not been tended, and;</li> <li>• sites that did not require tending but were tended.</li> </ul> <p>Tending on the Lake Nipigon Forest was the subject of recommendations in the 2011 IFA. Tending is a contentious issue with both aboriginal communities and the general public on both portions of the forest.</p> <p><b>Discussion:</b> Tending is critical to achieving conifer-dominated habitat for caribou in addition to the silvicultural success of some forest units. The sensitivity of this issue with First Nations communities and the general public should make the SFL more cautious and judicious in the use of herbicides for tending. The auditors are concerned that the inconsistent tending prescriptions may exacerbate this delicate issue of herbicide use. The audit team believes the Tending Toolbox (Best Practice #2) provides a starting point for creating a clear set of procedures that ensures; when herbicide tending is prescribed, it is warranted and justified.</p> <p><b>Conclusion:</b> It is the conclusion of the auditors that the SFL should develop a set of rules (procedures) to ensure the wise use of herbicides on the Nipigon east portion of the LNF. These rules should be considered at the FOP stage when prescribing tending treatments and should be consistent with the Tending Toolbox.</p> <p><b>Recommendation:</b> Lake Nipigon Forest Management Inc. will develop and apply procedures as part of the Forest Operations Prescription for the judicious use of herbicides on the Nipigon east portion of the Lake Nipigon Forest consistent with the Tending Toolbox.</p> |

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| <b>Best Practice #2</b>                                                                                                                                                                                                                                                |
| <b>Principle 4: Plan Assessment &amp; Implementation</b>                                                                                                                                                                                                               |
| <b>Criterion 4.5: Tending and Protection</b>                                                                                                                                                                                                                           |
| <b>Procedure 4.5.1:</b> Review and assess in the field the implementation of approved tending operations including whether there are any gaps between the planned and actual levels of tending seen in the field; consider results of determination under Criterion 6. |
| <b>Background Information and Summary of Evidence and Discussion:</b> Discussions with the LNFMI Board of Directors revealed a novel tool ( <i>Forest Tending Toolbox</i> ) developed by First Nations                                                                 |



for First Nations regarding how herbicides will be reduced on the Nipigon east portion of the Lake Nipigon Forest.

The purpose of the toolbox (see picture below) is scribed on the front cover of the leaflet “with the goal of improving the social, environmental and economic sustainability of forest renewal” by reducing herbicide use on the forest.



There were 9 First Nation communities and two medicine gathering representatives involved in the production of the toolbox.

**Discussion:** The auditors were impressed with the clarity and creativeness of the leaflet. The messages regarding the strategy for reducing herbicide use on the forest is spelled out in a simple 4-step communication plan. Additionally, the production of the leaflet was a combined effort from 9 First Nation communities.

**Conclusion:** It is the conclusion of this audit team that the Forest Tending Toolbox is a best practice and LNFMI should be recognized for their efforts to facilitate this innovative approach to dealing with the sensitive issue of herbicides.

**Best Practice:** The audit team commends LNFMI for facilitating the development of the *Forest Tending Toolbox*.

### Best Practice #3

#### Principle 4: Plan Assessment and Implementation

**Criterion 4.7:** To review and assess through field examination whether information used in preparation of the FMP was appropriate and assess the implementation of the management strategy.

**Procedure 4.7 1:** Access - Road construction, various types of water crossings including crossing structures, road monitoring, maintenance, aggregates and any other access activities must be conducted in compliance with all laws and regulations, including the CFSA, and approved activities of the FMP, AWS.

Assess whether the planned monitoring program for roads and water crossings was implemented as planned and whether it was effective in determining any environmental or public safety concerns.

#### Background Information and Summary of Evidence and Discussion:



All 13 of the bridges examined were well constructed and properly signed. LNFMI is in the process of repairing and or replacing the Rock Support Bridges- which do not meet engineering requirements

All 15 culvert installations examined were well done except one installation. The culverts were imbedded into the stream, they were the correct length for the amount of fill on them and all were well armored with either rock or through seeding grass. The one culvert that could have been better installed was an emergency repair at a washout on the Collins Road in the Armstrong portion of the forest.

All 5 water crossing removals examined were well done (there were no erosion problems). Primary & Branch Roads inspected included the: Inspiration Road, Collins Road, Spino Road, Gorge Creek Road, North Beatty Road, Sturgeon River Road, Lechance Road and the Hanson Lake Cliff Road. All roads were well maintained. There were no issues with grading and all the roads were well signed.

**Discussion:** The new service provider for LNFMI has spent considerable efforts in identifying and surveying all of the water crossings they are responsible for within a very short time frame of 2 years.

Culverts and bridges that require replacement or repairs have been prioritized and many have already been corrected.

Quick action has been taken to deal with Rock Support bridges either through removal, replacement or repairs.

Proper signage was in place at all the bridges inspected on the audit.

**Conclusion:** LNFMI has an excellent system in place for tracking and monitoring water crossings. Action is being taken to correct deficiencies. It is this quick action and the excellent monitoring system that has been put in place (in a relatively short period of time), that the Audit Team feels that LNFMI warrants a Best Management Practice.

**Best Practice:** LNFMI is commended for their efforts to identify, survey and track water crossings on the Nipigon East portion of the forest and for their efforts to correct any deficiencies found.

## Best Practice #4

### Principle 4: Plan Assessment and Implementation

**Criterion 4.7:** To review and assess through field examination whether information used in preparation of the FMP was appropriate and assess the implementation of the management strategy.

**Procedure 4.7 1:** Access - Road construction, various types of water crossings including crossing structures, road monitoring, maintenance, aggregates and any other access activities must be conducted in compliance with all laws and regulations, including the CFSA, and approved activities of the FMP, AWS.

Assess whether the planned monitoring program for roads and water crossings was implemented as planned and whether it was effective in determining any environmental or public safety concerns.

### Background Information and Summary of Evidence and Discussion:

The FMP includes a "Flow Chart for Unmapped Stream Classification" (Section 6.1.7.7 Hydrological Impacts in the Sup. Doc for the Phase I FMP) to enable unmapped streams that are discovered during operations to be classified according to permanency and the appropriate AOC prescription applied. The FMP also describes a predictive stream model that is used by operators to find the likely locations of unmapped streams. LNFMI has incorporated potential unmapped streams that result from the above process onto their block sign-off sheets.

**Discussion:** The work described above that was undertaken by Nipigon District MNRF to improve the mapping and protection of streams in the Lake Nipigon Forest goes beyond MNRF requirements.

**Conclusion: MNRF** has an excellent system in place for identifying unmapped streams across the landscape to facilitate planning and to enable application of appropriate AOC prescriptions.

**Best Practice 4:** MNRF Nipigon District is commended for their efforts to develop and implement a system for identifying unmapped streams on the Lake Nipigon Forest to facilitate planning and to enable the appropriate water protection measures to be implemented.

### Recommendation #7

**Principle 4: Plan Assessment & Implementation**

**Criterion: 4.7: Access**

**Procedure 4.7.1:** Review and assess in the field the implementation of approved access activities...

Include category 14/forestry aggregate pits for new and existing roads

**Background Information and Summary of Evidence and Discussion:** Sixteen aggregate pits were examined in the field. All but three were found to be in compliance with either their active pit face properly sloped and/or the pit had been completely rehabilitated.

Two inactive pits in the Berry Area were not sloped and trees were either too close (within 5 m of the face) or were falling over into the pit. Also, one of the two pits had not been reported and mapped. One inactive pit in Stop 1 (Black 6-1), had not been sloped properly.

**Discussion:** Section 8.5.4.3 "Conditions on Forestry Aggregate Pits" in the Phase II FMP requires that all existing forestry Aggregate Pits will be identified in each AWS and reported in the applicable Annual Report. Section 8.5.4.4 "Operational Standards for Aggregate Pits" from the Phase II FMP reads as follows: "All trees within 5 metres of the excavation face must be removed and when the site is inactive, all pit faces must be sloped at the angle of repose."

**Conclusion:** The auditors conclude these three pits do not meet the above requirements, and are a safety matter therefore a recommendation is issued to the SFL to correct this deficiency.

**Recommendation:** LNFMI must ensure that all aggregate pits are tracked, reported and in compliance with the requirements as identified in the Forest Management Plan.

### Recommendation #8

**Principle 6: Monitoring**

**Criterion 6.2:** To determine whether the monitoring program developed for the management unit, as well as associated reporting obligations met the requirements...

**Procedure 6.2.1:** To review and assess whether an SFL compliance plan has been developed and implemented to effectively monitor program compliance and effectiveness in accordance...  
Review the Five or Ten Year Compliance Strategy (Plan) and the Annual Plans of Action (Schedule).

**Background Information and Summary of Evidence and Discussion:** The wording in the Ten Year Compliance Plan for both Phase I & II is almost identical.

The Phase II FMP should have spoken to the reduction in the harvest level, hardwood utilization issues and strategies to meet caribou habitat.

The wording in the Annual Compliance Plans for the first 3 years is also almost identical.

None of the Annual Compliance Plans identify any targets for assessing renewal and maintenance activities.

The number of reports on Renewal and Maintenance activities has increased lately, but is still very low (averaging just 3 reports per year over the 5-year period).

There were no efforts made in the plans to assess recent compliance issues and potential solutions (including training required).

The District Compliance Plans ("ACOP"), are just a table showing what activities need to be monitored and who is responsible. There was no text and no discussion on previous year's compliance issues.

**Discussion:** For the 2011 to 2016 period there were 186 FOIP reports prepared in total by LNFMI and MNRF. For harvest activities 89 reports were filed and 18 of these showed non-compliance (20%). For access FOIP reports, 81 reports were prepared and 21 of then showed an instance of non-compliance (26%). For renewal activities all 16 reports showed that the activities were in compliance (100%). While the number of compliance inspections carried out is considered normal, this compliance record of non-compliances is above industry average. A recommendation to this effect is not being made at this time as the instances of non-compliance are steadily dropping with the opportunity for the licensees to take corrective actions.

While it is recognized that the Districts and SFL do discuss compliance issues – their efforts are not reflected in the Compliance Plans.

**Conclusion:** The audit team concludes more effort is required to analyse compliance issues and identify strategies to prevent the chances of their re-occurrence when developing the compliance plans. An analysis of compliance issues also serves to identify training requirements for Licensees. Also, targets for assessing compliance for renewal and maintenance activities should be identified.

**Recommendation:** Additional effort is required by the Thunder Bay and Nipigon District MNRF and LNFMI when preparing 10 Year and Annual Compliance Plans.

**Recommendation #9**

**Principle 8: Contractual Obligations**

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

|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
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| <p><b>Procedure 8.1.2:</b> Determine whether wood supply commitments and any special conditions have been complied with, including completing any required MOAs or sharing arrangements by: reviewing the applicable Appendix and comparing with any MOAs, contractual arrangements, annual reports or other requirements of any special conditions.</p>                                                                                                                                                                                                                                                                                                                                           |
| <p><b>Background Information and Summary of Evidence and Discussion:</b> There is currently a “Wood Supply Commitment” in the Sustainable Forest Licence issued to Nipigon Forest Management Inc. (LNFMI), which requires them to enter into a MOA with AV Terrace Bay Inc. A timeline of 90 days (starting June 5<sup>th</sup>, 2013) was given for completion. Negotiations between the two Companies were initiated, but due changes in management staff affecting both Companies, they were never completed. While other “business to business” arrangements have been recently made for wood to be delivered to the AV’s mill in Terrace Bay, there is still no MOA in place as required.</p> |
| <p><b>Discussion:</b> While wood is flowing to AV Terrace Bay and there is a good working relationship between the SFL and the Company, there is still no MOA in place to ensure that the mill receives the volumes it requires.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| <p><b>Conclusion:</b> A MOA between LNFMI and AV Terrace Bay is needed to meet the requirements of the conditions of the Sustainable Forest Resource Licence for the Nipigon Forest.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| <p><b>Recommendation:</b> LNFMI must complete a Memorandum of Agreement with AV Terrace Bay Inc. to meet their “Wood Supply Commitments” in Appendix “E” of their SFL.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |

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| <p><b>Recommendation #10</b></p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| <p><b>Principle 8: Contractual Obligations</b></p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| <p><b>Criterion 8.1: Wood supply commitments, MOAs, sharing arrangements, special conditions</b></p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| <p><b>Procedure 8.1.2:</b> Determine whether wood supply commitments and any special conditions have been complied with, including completing any required MOAs or sharing arrangements by: determining whether the allowable harvest level in the FMP was sufficient as described in the actual SFL or Agreement condition; where it was not sufficient determine whether sharing arrangements (or pro rata) were made, as stated in the actual condition</p>                                                                                                                                                                                                                           |
| <p><b>Background Information and Summary of Evidence and Discussion:</b></p> <p>MNRF’s Available Wood Report for the Lake Nipigon Forest shows the volumes committed by the Minister to AV Terrace Bay. It also shows wood that has been assigned to a number of mills that were successful in the 2010 Wood Supply Competition (which is considered by the Audit Team as a type of commitment).</p> <p>The current Available Wood Report shows a shortage of Poplar on the Nipigon Forest - but there are currently no markets at all for poplar on the Armstrong portion of the forest. Markets for all wood north of the CN rail line is said to be nonexistent by the licensees.</p> |

Poor and nonexistent markets are causing utilization problems and limiting Licensees from properly completing caribou blocks started or scheduled for harvesting.

Freeing up more fibre in the northern portion of the unit may attract new facilities like the one being planned by the Whitesand First Nation, who are hoping to obtain 365,000 m3 annually from the Armstrong portion of the Lake Nipigon Forest.

**Discussion:** Available Wood Reports (AWRs) are developed for all forests in Ontario by each Region. The purpose of the AWRs is to identify fibre that is available on a long-term basis for a new processing facility and/or the expansion of an existing facility. Showing wood in the report as being utilized by a facility, when they have no intention of utilizing the wood (manly because of haul distances) results in incorrect volumes being shown as available.

The concern with the current Available Wood Report is that it does not identify what volume of wood has been committed or planned to be committed from the Armstrong portion of the forest.

**Conclusion:** MNRF should meet with the existing facilities listed in the AWV for the Nipigon Forest to determine what areas from the forest they are willing to purchase wood from. The Region should then split the current Available Wood Report to show what wood is available on the Armstrong portion of the forest separate from the Nipigon East portion of the forest. Splitting the report is also consistent with the decision not to amalgamate the Armstrong portion into the SFL issued to LNFMI.

**Recommendation:** The Forest Industry Division of MNRF must split the current "Available Wood Report" for the Lake Nipigon Forest into two separate reports; one for the Armstrong portion and the other for the Lake Nipigon East portion. The "split" reports should identify what volumes are committed and/ or included in the Provincial Wood Supply Competition offer.

### **Recommendation #11**

**Principle 8: Contractual Obligations**

**Criterion 8.1:** Wasteful practices not to be committed

**Procedure 8.1.5:** Refer to Criterion 4, 6 and related procedures (including associated direction, direction, evidence and risk).

Criterion 4.3.1 - determine whether wood utilization followed the scaling manual by considering... wood left on site

Criterion 6.2.1- determine whether the FOIP Reports have been submitted ...in accordance with requirements including timelines specified in MNRF procedures and FIM

**Background Information and Summary of Evidence and Discussion:** Utilization was found to be good across the forest except for two areas. One area on the Armstrong portion of the forest occurred in the Collins Road area where the Licensee was suddenly cut off from delivering hardwood - so they left with wood still at roadside. The second case occurred in the Hanson Cliff Road area, in the Nipigon East portion of the forest, where a contractor suddenly quit. Both instances have been reported as an operational issue but have yet to be resolved and have been left open in FOIP. A further investigation into the FOIP Reports shows that there are actually 5 areas currently on the



forest where merchantable wood has been left behind for a considerable period of time and up to the point where it is no longer merchantable. These include:

- FOIP Inspection 672495, Issue 277438, Harvest Block BEATT-6, pending since August 2014
- FOIP Inspection 671591, Issue 277310, Harvest Block SUMM-1-A, pending for > 2 years
- FOIP Inspection 671585, Issue 277308, Harvest Block BERRY-A, pending since June 2015
- FOIP Inspection 675238, Issue 277944, Harvest Block BUKM, pending for >2 years old
- FOIP Inspection 640902, Issue 270505, Harvest Block WILD-578, pending since August 2013

**Discussion:** Efforts to utilize this wood, either for public fuelwood or hog fuel are continuing, but have so far failed. Both Districts have been reluctant to lay fines or charges to the Licensees involved. Perhaps if all the Licensees, the SFL and the Districts develop some strategies to prevent re-occurrences of this nature, the issues identified in the above FOIP reports could be signed off.

Another part of the problem is that when Contractors just quit or when Licensees become insolvent, liens could be placed on the harvested wood. This restricts the chance of the wood being utilized before it becomes un-merchantable. This was the case on Lake Nipigon Forest. On the audit we saw thousands of cubic metres of wood left over from the Buchanan insolvency that are still lying at roadside after approximately 7 years.

The Forestry Workers Lien Act for Wages is almost 122 years old and has not changed much since then. In 2013, the Law Commission of Ontario recommended in a report that the Act be repealed by the government. This review did not look at the impacts of utilizing the fibre; the report’s recommendations are based on whether it actually protected the workers.

**Conclusion:** MNRF should review the Act with respect to how it has or could potentially affect the full utilization of harvested fibre.

**Recommendation:** Corporate MNRF will review the “*Forestry Workers Lien for Wages Act*” with respect to its ability to ensure full utilization (delivery to processing facility) of harvested wood before the fibre is degraded to the point of being un-merchantable.

### Recommendation #12

**Principle 8: Contractual Obligations**

**Criterion: 8.1: SFL**

**Procedure 8.1.13:** 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 and Discussion:** One of the issues raised during the pre-audit for the LNF was regarding \$900,000 that was transferred from the Lake Nipigon Forest FRTF to the Armstrong Forest FRTF in 2008 to bring the Armstrong FRTF to minimum balance. The auditors reviewed the minimum balances for both FRTFs during the audit period, reviewed the renewal rate on the Nipigon east, interviewed both Districts MNRF and the SFL and

spoke to the LNFMI Board of Directors to determine the impact of this decision. Also, auditors looked at the 2011 IFA recommendation related to this issue and the action taken on the recommendation.

The decision to transfer the funds was predicated on the amalgamation of the Lake Nipigon and Armstrong Forests managed through separate SFLs held by Cascades Canada Inc. at that time. In 2007 Domtar, forest manager on behalf of Cascades, initiated the amalgamation. Cascades surrendered the SFL for both management units to the Crown in May 2008. Shortly after the Lake Nipigon Forest was transferred to LNFMI from the crown. At that time the FRTF for the Armstrong Forest was below minimum balance by approximately \$290,515. In May 2008, the Director of Forest Management Branch MNRF authorized the transfer of \$900,000 from the Lake Nipigon FRTF into the Armstrong FRTF to bring that fund up to the minimum balance. The total amount transferred included \$609,485 to allow Thunder Bay District MNRF to address the silvicultural liability on the Armstrong Forest without going below minimum balance. In December 2008 LNFMI requested the return of the \$609,485. The request was denied in a February 2009 letter from the Director of Industry Relations Branch MNRF. In 2011 the Armstrong Forest was amalgamated into the Lake Nipigon Forest, however, the amalgamated forest was managed as two management units: Armstrong portion and Nipigon east portion and, by two different organizations: Thunder Bay District MNRF and LNFMI, respectively. The FRTFs remained separate.

When the license was transferred to LNFMI negotiations began for a new forest management model (eSFL) for both the Armstrong and Nipigon Forests. Those negotiations were ongoing throughout the audit period concluding in May 2016 with no agreement for the management of the Armstrong portion of the LNF.

The 2011 IFA for the Lake Nipigon Forest contained a recommendation (#13) for Thunder Bay District MNRF to return the transferred funds. The Status Report for this recommendation stated no action was required as *"The Armstrong Forest and the former Lake Nipigon Forest are now included in the amalgamated Lake Nipigon Forest MU 815, managed under the same 2011-2021 Lake Nipigon Forest FMP. The former Armstrong Forest is currently managed by MNR Thunder Bay District and the former Lake Nipigon Forest is managed under a SFL issued to LNFMI. Given that the above is still the intent (i.e. one SFL and FRTF) reversing the transfer will not change what needs to be addressed collectively."*

Currently the FRTF for the Armstrong portion is above minimum balance (see Table 1. below) because of a decision by the Thunder Bay District Manager not to utilize the Armstrong FRTF for eligible silviculture expenses (purpose of the FRTF) during the audit period. There is enough built up in the FRTF to run a small silviculture program to address the backlog (recommendations #2).

Table 1: Armstrong FRTF balances 2011-2016

| Minimum Balance | Year (ending March 31) | Market Value | Variance |
|-----------------|------------------------|--------------|----------|
| 1,303,400       | 2012                   | 1,612,928    | 309,528  |
|                 | 2013                   | 1,672,166    | 368,766  |

|  |      |           |         |
|--|------|-----------|---------|
|  | 2014 | 1,717,309 | 413,909 |
|  | 2015 | 2,065,385 | 761,985 |
|  | 2016 | 2,082,149 | 778,749 |

Additionally, auditors were told the impact of the transfer of the \$900,000 on the Nipigon east portion of the LNF, resulted in having to immediately increase the renewal rate from \$3.75 to \$5/m<sup>3</sup> to accommodate the silviculture program that year (2008) on the Nipigon east portion. The rate of \$3.75/m<sup>3</sup>, although low, was reflective of the requirements for intensive renewal at that time (i.e. harvesting was primarily in lowland Spruce that does not require artificial renewal). That rate continued until 2011 when it was increased to \$7.00/m<sup>3</sup>. This increase was required to treat developing backlog. Auditors were also told the renewal rate was the highest in the province at that time making the cost of harvesting wood on the LNF cost-prohibitive. That rate remained in effect until 2013 when it was lowered to \$6.20/m<sup>3</sup> and then in 2016 LNFMI negotiated a rate of \$5.20/m<sup>3</sup> in an effort to increase harvesting. This rate is more in line with adjacent forests (i.e. Kenogami \$5.50/m<sup>3</sup>, Black Spruce \$4.50/m<sup>3</sup>).

As mentioned above, LNFMI shareholders originally agreed to transfer \$290,515 for the Armstrong FRTF to meet minimum balance with the understanding that eventually the two funds would become one. LNFMI also decided to reduce the size of the yearly silviculture program to allow funds to build up above the minimum balance such that there would be a sufficient amount in the FRTF to support a “normal” silviculture program. Interviews with LNFMI stated the cost of a normal silviculture program (without backlog) is approximately \$1.5 million dollars. Table 2 presents the minimum balance throughout the audit period, and the amount of harvest and artificial renewal on the Nipigon east portion of the LNF. Of note, harvesting occurred primarily in conifer forest units in the first four years of the FMP. Most conifer forest units require some intensive renewal to ensure they regenerate to a conifer forest unit that is tracked on an intensive yield curve.

Until March 31, 2016, as presented in Table 2, LNFMI was at or above minimum balance during most of the audit period. The variance figures show the amount of funds above or below the minimum balance requirement and represent funds available in the event of a harvest decline (buffer). The table above also shows the area being renewed through artificial means represents 51% of the harvest area. Historically, artificial renewal has comprised approximately 60-70% of the renewal program on Nipigon east portion of the LNF.

Table 2.: Nipigon FRTF balances and expenditures (includes harvest and artificial renewal) 2011-2016

| Minimum Balance  | Year<br>(ending March 31) | Market Value | Variance  |
|------------------|---------------------------|--------------|-----------|
| <b>1,748,242</b> | 2012                      | 2,649,808    | 901,566   |
|                  | 2013                      | 3,098,162    | 1,349,920 |

|               | 2014         | 2,521,805               | 773,563                    |
|---------------|--------------|-------------------------|----------------------------|
|               | 2015         | 2,338,917               | 590,675                    |
|               | 2016         | 1,554,522               | 193,720                    |
|               |              |                         |                            |
| Year          | Harvest (Ha) | Artificial Renewed (Ha) | FRT Expenditures (\$000's) |
| 2011-2012     | 1,556        | 296.6                   | 779.88                     |
| 2012-2013     | 2,345        | 1,165.9                 | 1,137.07                   |
| 2013-2014     | 2,549        | 1,108.5                 | 1,587.07                   |
| 2014-2015     | 896          | 1,000                   | 2,116.37                   |
| 2015-2016     | 1,243        | 850                     | 1,341.24                   |
| <b>Totals</b> | <b>8,589</b> | <b>4,421</b>            | <b>6,961.63</b>            |

*\* Figures derived from RBC Dexia statements, Trends Analysis 2016 combined LNF*

**Discussion:** The unsuccessful conclusion of the eSFL negotiations suggest the original rationale for the transfer of funds from the Lake Nipigon FRTF to the Armstrong FRTF should be revisited. This transfer of funds has had a lasting impact on the forest management on the Nipigon east portion of the LNF. LNFMI originally agreed to the transfer of \$290,515 on the premise that the two funds would eventually be amalgamated and LNFMI would assume management responsibilities for the entire LNF.

The removal of funds from the LNF FRTF in 2008 had an immediate impact on the silviculture program on the Nipigon east portion of the LNF, has continued throughout the audit period and is likely to continue for several years. That action was further compounded by the housing market crash that rippled through the forest industry for the next four years, followed by the bankruptcy of a major harvester/shareholder on the forest. The solution to increase the renewal rate to address the developing backlog resulted in the highest renewal rate in the province for the period it took to address the backlog resulting in a decline of harvest activities; Red Rock Indian Band, the only harvesting contractor throughout much of the audit period moved operations temporarily to an adjacent forest where renewal fees were lower. Also, Resolute, a major purchaser of fibre from the LNF suspended deliveries to their mill for a period. It should be noted that there were additional unrelated reasons (Cliff Lake Road construction) that factored in to the above decisions. Additionally, treatment of caribou harvest blocks and associated road decommissioning to meet FMP objectives was delayed because there were not enough funds in the FRTF to carry out the silviculture (road decommissioning is not an eligible silviculture expense). LNFMI has worked hard to address the treatment of backlog over the last three years of the audit period and plans to treat the caribou blocks in 2017.

At the time of writing the FRTF for the Nipigon east is approximately \$400,000 below minimum balance and is not expected to reach minimum balance by March 31<sup>st</sup>.

**Conclusion:** The evidence presented above can be summarized into four observations:

1. MNRF should reconsider the 2008 transfer of \$900,000;
2. The impact of the transfer on the renewal rate since 2008 should be investigated;
3. MNRF should review the renewal rate based on 2016 FRTF balance, and;
4. MNRF should review the declining trajectory of the LNF renewal trust fund balance in consideration of SFL obligations, fmp objectives and all the above.

The auditors believe that with the conclusion of the eSFL negotiations and no agreement, the MNRF should return the funds transferred from the Lake Nipigon FRTF in 2008. The audit team believes the evidence presented above confirms that the transfer of funds has hampered the timely initiation of silviculture on the Nipigon east portion during the audit period and resulted in an unreasonable and unsustainable renewal rate at the expense of harvest levels and the timely achievement of some FMP management objectives. The auditors are also concerned that this situation may not be unique to the LNF and a review of the sufficiency of funding to fully meet renewal obligations at a provincial scale may be warranted.

**Recommendation:** Corporate MNRF will return the \$900,000 transferred from the Lake Nipigon Forest Renewal Trust Fund to enable Lake Nipigon Forest Management Inc. to address outstanding silviculture liabilities and meet their contractual obligations in the SFL (S.11.1(d)).



## APPENDIX 2 – ACHIEVEMENT OF PHASE I FMP MANAGEMENT OBJECTIVES

Summary of the status of the 2011-2021 FMP Objectives

| No.                                                                         | Objectives& Indicators                                                                                                                                                                                                                           | Achievement                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | Auditor Explanation/Comments                                                                                                                                                                                                                                  |
|-----------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>CFSA Criterion: Conserving Biological Diversity in Ontario’s Forests</b> |                                                                                                                                                                                                                                                  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                                                                                                                                                                                                                                                               |
| 1                                                                           | <p><u>Objective:</u> To create a range of forest disturbances that emulate the frequency distribution of natural landscape patterns</p> <p><u>Indicators:</u></p> <p>Percent frequency distribution of forest disturbances by size class</p>     | <p>As of March 31, 2016 only 19% of the 2011-2016 planned harvest has been achieved, Phase I is complete and Year Six of the FMP is in progress. A Trend Analysis Assessment indicates that the similar to the values at plan end, disturbance sizes at 2016 are moving closer toward the natural disturbance template values for six of the seven disturbance size classes. However, by the end of the 2011-2016 term the disturbance frequency in the 5,001-10,000 ha size class has dropped to 0 for disturbances, thus moving away from the natural disturbance template. By the end of the 2011-2016 term the disturbance frequency in the 200 hectare size class is moving towards the natural disturbance template rather than away as projected at plan end.</p> <p>This objective is partially achieved.</p> | <p>Audit team agrees with the Trends Analysis discussion. With AV Terrace Bay mill now taking fibre from the Nipigon east portion it is expected the harvest levels will continue to increase for the balance of the plan.</p>                                |
| 2                                                                           | <p><u>Objective:</u> To maintain the biological diversity (forest structure, composition and abundance) of the Lake Nipigon Forest (compared to the Natural Benchmark) while providing habitat for forest-dependent provincially and locally</p> |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | <p>The audit team agrees with the Trends Analysis assessment of objective achievement for the first 3 indicators.</p> <p>However, the auditors do not entirely agree with the trend analysis discussion on the achievement of indicator four. Most of the</p> |

| No. | Objectives& Indicators                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | Achievement                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | Auditor Explanation/Comments                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
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|     | <p>featured species habitat and species at risk habitat in Ontario.</p> <p><u>Indicators:</u></p> <p>1. Percent of caribou on-line habitat (available and suitable) within the caribou mosaic.</p> <p>2. Woodland Caribou habitat area – Winter (used and preferred) and Refuge habitat within the caribou continuous distribution range</p> <p>3. Percent of suitable marten habitat arranged in core areas in crown productive forest outside of the caribou mosaic (includes U and Y subunits).</p> <p>4. Percent of suitable marten habitat arranged in core areas in Total Crown productive forest.<br/>Area of habitat for forest-dependent provincially and locally featured species in Ontario</p> <p>5. Area of habitat for forest-dependent species at risk in Ontario. (Refer also to</p> | <p>1. Objective achievement for caribou habitat on-line remains as described at 2011 FMP implementation since 2011-2021 FMP harvest is only planned in DCHS Blocks A and AB3 (2011- 2021, 2011-2041 Timing).</p> <p>2. Objective achievement for area of winter and refuge habitat remains as described at 2011 FMP implementation since 2011-2021 FMP harvest is only planned in DCHS Blocks A and AB3 (2011- 2021, 2011-2041 Timing).</p> <p>3. Objective achievement for percent of suitable marten habitat remains as described at 2011 FMP implementation since no harvest was planned or has occurring in marten core areas during the 2011 -2016 term.</p> <p>4. Objective achievement remains as described at 2011 plan implementation since no harvest was planned or has occurring in marten core areas during the 2011 -2016 term.</p> <p>5. Objective achievement remains as described at 2011 plan implementation. Species at Risk habitats are considered during operational planning with the application of FMP mechanisms such as but not</p> | <p>featured species in the FMP prefer mature &amp; old forest, and thus if there was no forest harvesting the targets would be exceeded. However, preferred moose foraging habitat (browse) is pre-sapling forest, which depends on the level of forest harvesting. The low level of harvesting to date has a negative effect on the supply of moose habitat (and habitat for all the other species preferring young forest that were not identified as featured species in the FMP). The broad habitat supply targets in the FMP may be met but the negative impact of the low level of harvesting on young forest habitat should be acknowledged.</p> <p>The auditors agree with the discussion around species at risk. The process in place for reporting new values is working. MNRF's values database is being updated continually. The GM of the SFL stated that every operator</p> |

| No. | Objectives& Indicators                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | Achievement                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | Auditor Explanation/Comments                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
|-----|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|     | indicators 2.1and 2.2 for Woodland Caribou.)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | <p>limited to Areas of Concern and Condition on Regular Operations.</p> <p>The objective is achieved for indicators 1-3 and 5 and, only partially achieved for indicator 4 Area of habitat for forest-dependent provincially and locally featured species in Ontario.</p>                                                                                                                                                                                                                                                                                              | <p>&amp; operation will receive SAR training. MNRF takes the lead on managing for SAR in the Armstrong portion of the forest.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| 3   | <p><u>Objective:</u> To provide forest structure, composition and abundance that is representative of the forest condition under the Natural Benchmark scenario (natural disturbance regime) over time</p> <p><u>Indicators:</u> 1. Total Area of Crown Productive forest by forest unit</p> <p>2.Total Area of Crown Productive young forest (0-50 years) by forest unit</p> <p>3.Total Area of Crown Productive mature forest (51 years to old growth onset age) by forest unit.</p> <p>4.Total Area of Crown Productive old growth forest by forest unit</p> | <p>There have been no natural disturbances to affect the desirable levels and targets which were achieved at plan implementation. However, should the low level of harvesting continue during the next 5 years, the desirable levels and targets may not be achieved since they are based on the completion of planned harvest operations.</p> <p>The indicator (#1 and #2) for total area by forest unit and young forest is only partially met.</p> <p>The indicators for total area of mature(#3) and old growth forest by forest unit (#4) is met or exceeded.</p> | <p>The auditors agree with the discussion presented in the Trends Analysis related to young forest and forest unit. The FMP projected 406,381 ha of young forest (0-50 years old) by 2021, compared with 341,871 at plan start (2011). The additional young forest (64,510 ha) cannot be produced with the current low level of harvesting.</p> <p>The new eFRI will contain totally updated information.</p> <p>The auditors disagree with the discussion around mature forest. The supply of mature and old forest is likely to increase over the life of the FMP with the low level of harvesting. An effect of no or little harvesting on the supply of mature and old of each FU would only be detectable over the very long term (e.g., for PJC, POM and perhaps BWH). Harvesting is not required to produce mature or old growth in most cases.</p> |

| No.                                                 | Objectives& Indicators                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | Achievement                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | Auditor Explanation/Comments                                                                                                                                                                                                                                                                             |
|-----------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 4                                                   | <p><u>Objective:</u> To provide forest structure, composition and abundance that is representative of natural landscape composition (as defined in the OLT) over time</p> <p><u>Indicators:</u>1.Total Area of Crown Productive Forest by Landscape Class</p>                                                                                                                                                                                                                                       | <p>There have been no natural disturbances to affect the desirable levels and targets achieved at plan implementation (overall most targets and desirable levels are met with a few exceptions). However, should the low level of harvesting continue during the next 5 years, the desirable levels and targets may not be achieved since they are based on the completion of planned harvest operations. This objective is partially met.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | <p>Auditors agree with the discussion presented in the Trends Analysis. Pre-sapling-sapling, immature hardwoods, and immature conifer landscape classes are likely to be negatively affected by the low level of harvesting.</p>                                                                         |
| <b>CFSA Objective Category: Social and Economic</b> |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                                                                                                                                                                                                                                                                                                          |
| 5                                                   | <p><u>Objective:</u> To provide a continuous and predictable supply of fibre, over the planning horizon, to local mills</p> <p><u>Indicators:</u> <b>1.</b>Long-term <b>projected</b> annual available harvest area (SFMM) by forest unit and L/T projected volume by species group</p> <p><b>2.Forecast</b> annual available harvest area (SFMM) by forest unit.</p> <p><b>3.Forecast</b> available harvest volume (SFMM) by species group</p> <p><b>4.Actual</b> harvest area, by forest unit</p> | <p>The desirable levels and targets were achieved (based on SFMM model results) for the indicators (#1) for long-term projected available area and volume. Over the short, medium and long-terms, the projected available harvest areas and projected available harvest volume for the major species groups was maximized while achieving other desirable levels related to future wildlife habitat and old growth forest area.</p> <p>The allocation of target levels of forecast annual available harvest area (#2) was not achieved for all forest units at final plan or Amendment #15; BWH, BWM, PJC, POHP, POHR &amp; SPL Forest Units are under allocated by very minor amounts. Forecast available volume by species group (#3) target levels were achieved at final plan and Amendment #15.</p> <p>The 2011-2012 AWS under allocated harvest area in all 12 forest units compared to the planned area due</p> | <p>The auditors agree with discussion in the Trend Analysis. The desirable levels and targets are completed for this FMP with the exception of the last indicator (#5). The information will change for the next FMP with the new eFRI and results of management activity over the 2011-2021 period.</p> |

| No.                                          | Objectives& Indicators                                                                                                                                                                                                                                                                                                                                                                  | Achievement                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | Auditor Explanation/Comments                                                                                                                                                                                                                                                                                                                            |
|----------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                                              | 5.Percent of forecast volume utilized, by mill                                                                                                                                                                                                                                                                                                                                          | to an attempt to match the planned area as close as possible without exceeding it. The following four AWSs all allocated greater than the annual available harvest area except for CEUP and POHP in the 2012-47 AWS. Actual annualized harvest area (#4) compared to planned over the 2011-2016 period by forest unit is CNM: 15%, PJC 35%, SPC 23%, SPL 20%, CEUP 3%, BWH 8%, BWM 4%, POHP 2%, POHR 12% and POM 5%. Overall actual to planned harvest is 19%. An assessment of achievement of this objective will be measured in Year 7 and Year 10.<br>This objective is met for all indicators except Actual harvest and volumes utilized (#5). This indicator is only partially met.        |                                                                                                                                                                                                                                                                                                                                                         |
| <b>CFSA Objective Category: Silviculture</b> |                                                                                                                                                                                                                                                                                                                                                                                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                                                                                                                                                                                                                                                                                                                                                         |
| 6                                            | <p><u>Objective:</u> To maintain and enhance the forest ecosystem condition and productivity through silvicultural practices</p> <p><u>Indicators:</u> 1.Percent of the forest area that management standards or is Free-to-Grow.</p> <p>2.Percent of treated forest area successfully regenerated to the projected forest unit and assessed as free-growing (silvicultural success</p> | <p>(#1)FTG backlog was the subject of an IFA recommendation on both portions of the LNF in the last audit. Armstrong portion has carried out approximately 25,000 hectares of FTG surveys using large-scale photography. Approximately 10,000 hectares is outstanding. As of March 31, 2016 94% of treated forest area assessed on the LNF was free-to-grow and successfully regenerated which is a slight underachievement of the 95% target at this point in the FMP.</p> <p>(#2)Regeneration assessments show that 77% of treated forest area successfully regenerated to the projected forest unit and is assessed as free-to-grow.</p> <p>(#3)As a result of post-harvest FOPs and the</p> | <p>The auditors agree with the discussion in the Trends Analysis in most instances. The lack of silviculture in the Armstrong portion of the forest is not consistent with achieving the objective of maintaining or increasing conifer.</p> <p>The audited FTG Areas were almost 100% conifer dominated stands within the continuous caribou zone.</p> |



| No.                                                                    | Objectives& Indicators                                                                                                                                                                                                                                                                                                                                                                                    | Achievement                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | Auditor Explanation/Comments                                          |
|------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------|
|                                                                        | <p>3.Planned and actual percent of harvest area treated by silvicultural intensity</p> <p>4.To maintain or increase conifer species composition levels of Crown managed productive forest within the caribou continuous distribution range</p> <p>5.To maintain or increase conifer species composition levels of Crown managed productive forest within the caribou discontinuous distribution range</p> | <p>application of an updated renewal treatment some SGR change has occurred during the 2011-2016 period and is reported in the Annual Reports. Specifically, 334 ha of upland spruce (SPC) sites were treated with aerial seeding of Jack Pine in the absence of an approved SGR, thus moving these areas from an intensive to basic treatment.</p> <p>(#4,#5)The desirable levels were achieved during plan development. Target is to monitor only conifer species composition, conifer-dominated forest unit levels and conifer species composition in conifer-dominated forest units within the caribou continuous range and discontinuous range in the short term.</p> <p>This objective is met.</p>                                   |                                                                       |
| <b>CFSA Criterion: Continuous Flow of Economic and Social Benefits</b> |                                                                                                                                                                                                                                                                                                                                                                                                           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                                                                       |
| 7                                                                      | <p><u>Objective:</u> To maintain the area of Crown Productive Forest which is managed for timber production.</p> <p>Indicator: Managed Crown productive forest available for timber production</p>                                                                                                                                                                                                        | <p>The desirable levels and targets were achieved during plan preparation. As a result of the low amount of harvest activity during the 2011-2016 period the planned amount of activity which may contribute to a loss of Crown Managed productive forest available for timber production has not occurred. The planned amounts of Primary and Branch road construction have not occurred and productive area lost to slash and chipper debris is less than planned. Slash and debris treatment is undertaken on the Forest annually to recover productive forest area and is reported in the LNF Annual Reports. In addition, 6.3 kilometres of branch road decommissioning has been reported during the 2011-2016 period. No natural</p> | <p>The auditors agree with the discussion in the Trends Analysis.</p> |

| No. | Objectives& Indicators                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | Achievement                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | Auditor Explanation/Comments                                                                                                                                                                                                                                                                                                                                           |
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|     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | <p>disturbances or land withdrawals have occurred on the Forest during the 2011-2016 period.<br/>This objective is met.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                                                                                                                                                                                                                                                                                                                                                        |
| 8   | <p><u>Objective:</u> To ensure a healthy forest ecosystem and the protection of natural resources and non-forest values through the development and implementation of the forest management plan.</p> <p><u>Indicator:</u> 1.Percent of annual forest operations inspections in compliance (by activity and remedy type) with prescriptions developed for: the protection of natural resource features, land uses or values dependent on forest cover; the protection of water quality and fish habitat; and the prevention, minimization, or mitigation of site damage.</p> <p>2.Percent of forest operations inspections in compliance (by activity and remedy type) with AOC prescriptions developed for the protection of resource-based and road-based tourism values</p> <p>3.Percent of annual forest operations inspections in compliance (by activity and remedy type) with AOC prescriptions</p> | <p>The target for the first indicator (#1) is to have 90% of all forest operations inspections reports in compliance with prescriptions developed to protect areas of Concern and avoid site damage. Compliance inspections on the Lake Nipigon Forest have determined that 90% of operations have been in compliance, with another 3.5% having compliance issues which were resolved through corrective actions. Many of the non-compliance activity was reported during the first two years of operations during the 2011-2016 period with significant improvements in the following years.</p> <p>The target for the second indicator is to have 95% compliance for the AOC prescriptions to protect resource-based and road-based tourism values. There have been 2 non-compliances issued which effect Potential Canoe Route AOC's and can be considered resource-based tourism values. There is a 99% compliance with protection of resource-based tourism values on the Lake Nipigon Forest. The underlying reason for the first infraction was a lack of training with regards to boundary layout.</p> <p>The target for the next indicator (#3) is 100% compliance and this target has been met at this time</p> | <p>Based on document review, interviews and field audit compliance has improved over the audit period. Training has been provided to Licensees and their Contractors. There are good communications between the SFL and the Nipigon District and co-operative efforts are being made to improve operations. Training is provided to contractors on a regular basis</p> |

| No. | Objectives& Indicators                                                                                                                                                                                                                                                                                                                                                             | Achievement                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | Auditor Explanation/Comments                                                                                                                                                                                           |
|-----|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|     | <p>developed for the protection of known (identified and mapped) cultural heritage value(s)</p> <p>4.Percent of annual forest operations inspections in compliance (by activity and remedy type) with AOC prescriptions developed for the protection of archaeological potential area cultural heritage value(s) which have been identified and mapped</p>                         | <p>as 100% of compliance inspections found that known cultural heritage values were protected on the Lake Nipigon Forest.</p> <p>The target for the final indicator (#4) of this objective is 80% compliance. There was one compliance inspection that noted a mechanical site preparation incursion into an APA but that site disturbance did not exceed the mandated threshold. The compliance with this objective is over 99%.<br/>This objective is met.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                                                                                                                                                                                                                        |
| 9   | <p><u>Objective:</u> To manage SFL-responsible forest-access roads on the Lake Nipigon Forest</p> <p><u>Indicators:</u> 1.Woodland Caribou: Kilometres of SFL-responsible forest-access roads per square kilometre of Crown Managed Forest within the caribou continuous distribution range</p> <p>2.Kilometres of SFL-responsible forest-access roads per square kilometre of</p> | <p>1.The target for the first indicator is to minimize the increase in the number of kilometres of drivable operational roads per square kilometre of Crown land within the caribou continuous range to no more than 0.4281 km/km2 (total) in the short term and to minimize the increase to 0.1251 km/km2 for primary and branch roads combined. As of April 1, 2016 there is 0.12 km / km2 of SFL-responsible drivable operational roads per square kilometre of Crown managed land within the caribou continuous range on the Lake Nipigon East portion of the forest, and, there is 0.0787 km/ km2 of SFL-responsible drivable operational roads per square kilometre of Crown managed land within the caribou continuous range on the Armstrong portion of the forest.</p> <p>2.As of April 1, 2016 there is 0.10 km / km2 of SFL-responsible drivable Primary/Branch Roads per square kilometre of Crown managed land within the</p> | <p>The SFL is starting to set up a cohesive system for monitoring roads and crossings.</p> <p>Good efforts have been made to restrict public motorized access and to decommission roads within the caribou blocks.</p> |

| No. | Objectives& Indicators                                               | Achievement                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | Auditor Explanation/Comments |
|-----|----------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------|
|     | Crown Managed Forest in the caribou discontinuous distribution range | <p>caribou continuous range on the Lake Nipigon East portion of the forest, and, there is 0.0805 km/ km2 of SFL-responsible drivable Primary + Branch roads per square kilometre of Crown managed land within the caribou continuous range on the Armstrong portion of the forest (the entire Armstrong portion of the forest is within the caribou continuous range).</p> <p>The target for operational roads has been achieved during the 2011-2016 term and the amount of road/km2 is less than plan start. This is attributable to work undertaken on the Lake Nipigon Forest to update the roads information in preparation for the development and implementation of Phase II. The true condition of primary, branch and operational roads could not be interpreted with confidence at the time of the 2011- 2021 FMP development, due to quality of the available digital data. The new Lake Nipigon Forest imagery used in association with the new LNF eFRI is greatly improved. As such, roads that were and are now vegetated and not drivable are now clearly visible on the imagery, enabling an update of FMP roads data to show this condition which was present but not recorded.</p> <p>The amount of km/km2 primary + branch roads on the forest exceeds the target. Primary and branch road construction has occurred on the forest to access planned harvest areas. Road decommissioning is planned and 6.27 km has been completed and reported, however it appears that the progress of road decommissioning is not offsetting road</p> |                              |

| No. | Objectives& Indicators                                                                                                      | Achievement                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | Auditor Explanation/Comments                                                                                                                                 |
|-----|-----------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------|
|     |                                                                                                                             | <p>construction. In addition, with the low amount of harvest completion to-date planned harvest areas with existing road networks remain as drivable roads. To limit the increase in the number of kilometres of drivable SFL-responsible primary and branch roads (combined) per square kilometre of Crown Land within the caribou discontinuous range, no more than .1605 km/km<sup>2</sup> (total) in the short term and the increase in the number of kilometres of operational roads per square kilometre of Crown Land within the caribou discontinuous range, no more than .3665 km/km<sup>2</sup> (total) in the short term.</p> <p>As of April 1, 2016 there is 0.10 km / km<sup>2</sup> of SFL-responsible drivable Primary + Branch Roads* per square kilometre of Crown managed land within the caribou discontinuous range on the Lake Nipigon Forest.</p> <p>As of April 1, 2016 there is 0.08 km / km<sup>2</sup> of SFL-responsible drivable Operational Roads per square kilometre of Crown managed land within the caribou discontinuous range on the Lake Nipigon Forest.</p> <p>The target for both primary + branch and operational roads has been achieved during the 2011-2016 term and the amount of road/km<sup>2</sup> is less than plan start. This objective is met for both indicators.</p> |                                                                                                                                                              |
| 10  | <p><u>Objective:</u> To develop a consultation approach with Aboriginal Communities that will provide opportunities for</p> | <p>1.The desired level of aboriginal consultation was achieved during the preparation of the 2011-2021FMP.</p> <p>4 shareholders of LNFMI are from 4 FN communities including: Red Rock Indian Band, AZA (Lake Nipigon),</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | <p>The auditors also note that LNFMI has been actively working to understand the kind of employment opportunities aboriginal people desire in this area.</p> |



| No. | Objectives& Indicators                                                                                                                                                                                                                                                                             | Achievement                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | Auditor Explanation/Comments                                                    |
|-----|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------|
|     | <p>participation in forest management plan development and implementation</p> <p><u>Indicators:</u> 1.provide Aboriginal communities with opportunities to participate in development of the FMP</p> <p>2. Provide Aboriginal communities with employment opportunities in the forest industry</p> | <p>BZA (Rocky Bay) and BNA (Sand Point). Contracted service provider negotiated an agreement with local mills that receive wood off the forest to pay in advance for their wood based on 5-year FMP planned harvest. Three of the 4 shareholders receive a direct economic benefit as a result of this arrangement.</p> <p>2.Silviculture planting contractors employ annually approximately 26 individuals from local aboriginal communities as tree planters.</p> <p>The Thunder Bay District contracts Whitesand FN to carry out road maintenance and decommissioning on the Armstrong portion on an annual basis. Sagatay Enterprises has an overlapping license on the Armstrong portion. Sagatay is the only harvest contractor that operated on the Armstrong portion during the audit period.</p> <p>This objective has been achieved.</p> |                                                                                 |
| 11  | <p><u>Objective:</u> To maintain tourism opportunities on the Lake Nipigon Forest</p> <p><u>Indicators:</u> Provide opportunities to eligible resource-based tourism operators in plan development</p>                                                                                             | <p>There are many tourism AOCs in Table FMP-10.</p> <p>This objective is achieved.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | <p>This objective was achieved during the preparation of the 2011-2021FMP.</p>  |
| 12  | <p><u>Objective:</u> To provide opportunity for community well-being</p> <p>Indicator: 1.Opportunities for involvement provided to the general public and local stakeholders in plan development.</p>                                                                                              | <p>1.There are several opportunities in the FMP process for the public to be involved in the FMP development. Additionally, the LCC represents many stakeholders and are involved in the planning process at the planning team level as a member and throughout the implementation of the plan through regular consultation on amendments/revisions, AWS</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | <p>The auditors agree with the discussion presented in the Trends Analysis.</p> |

| No. | Objectives& Indicators                                                  | Achievement                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | Auditor Explanation/Comments |
|-----|-------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------|
|     | <p>2. Provide local employment opportunities in the forest industry</p> | <p>presentation and for any other item the plan author or MNRF that requires their input.</p> <p>The FMP includes an endorsement by the LCC including a report summarizing their involvement in the FMP process. The report is included in the Supplementary Documentation of the FMP.</p> <p>2. Review of the indicator for local employment opportunities in forest industry will occur at Year seven with the LNFMI board of directors. Currently there are renewal activities reserved as local employment opportunities and road maintenance and harvesting opportunities have been provided.</p> <p>Sagatay Development, an Aboriginal resource development company in the Whitesand First Nation has undertaken harvesting, road maintenance and decommissioning work on the Armstrong portion of the Forest.</p> <p>This objective is met.</p> |                              |

## APPENDIX 3 – CONTRACTUAL OBLIGATIONS

| Licence Condition                                                                                                  | Licence Holder Performance                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
|--------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1. Payment of Forest Renewal Trust, Forestry Futures and Ontario Crown charges                                     | There were no monies owing to the Renewal Trust, Forestry Futures or for crown charges during the audit period. The audit has issued <b>Recommendation # 12</b> for MNRF to re-evaluate the Lake Nipigon FRTF and the Armstrong FRTF.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| 2. Wood supply commitments, MOAs, sharing arrangements, special conditions                                         | <p>There is currently a "Wood Supply Commitment" in the Sustainable Forest Licence issued to LNFMI(LNFMI), to sign a MOA with AV Terrace Bay Inc. (within 90 days from the June 5<sup>th</sup>, 2013 amendment to the Licence). Negotiations between the two Companies were started, but due recent changes in management affecting both Companies, they were never completed. While other "business to business" arrangements have recently been made to have wood delivered to the mill in Terrace Bay, there is still no MOA in place as required. This is the subject of <b>Recommendation # 9</b>.</p> <p>There are no other "Special Conditions" listed in Appendix "F" of the current SFL. There are also no other commitments identified in the July 8<sup>th</sup>, 2016 "Available Wood Report" for the entire Lake Nipigon Forest (including the Armstrong portion).</p> |
| 3. Preparation of FMP, AWS and annual reports; abiding by the FMP, and all other requirements of the FMPM and CFSA | The Phase II FMP for the combined forest was developed by a capable, knowledgeable planning team with input from a long list of technical advisors. Public and First Nations input was sought as required and opportunities for providing input were identified and advertised. The CFSA, FMPM and other regulated manuals and guides were followed during development of the FMP, and new AOCs were added to reflect potential occurrences of species at risk. The AWSs and ARs were prepared as required and, once reviewed by MNRF and approved, contained all the required elements.                                                                                                                                                                                                                                                                                            |
| 4. Conduct inventories, surveys, tests and studies; provision and collection of information in accordance with FIM | During the audit period Thunder Bay District MNRF surveyed approximately 25,000 hectares for FTG. Green Forest Management Inc. (GFMI), Thunder Bay District MNRF service provider, has a mature GIS system that meets all FIM requirements. On the Nipigon east portion LNFMI carries out plant quality assessments each year in addition to formal vegetation competition surveys and informal post-tending surveys. LNFMI surveyed approximately 27,000 hectares for FTG during the audit period. The GIS services provided by HME Enterprises tracks treatments over time meeting all FIM requirements.                                                                                                                                                                                                                                                                          |
| 5. Wasteful practices not to be committed                                                                          | Wasteful practices (of both conifer and hardwood), were seen on both the Armstrong and Nipigon East portions of the Lake Nipigon Forest. These have been identified in FOIP Reports submitted by both the SFL and the Nipigon and Thunder Bay Districts. This is dealt with in <b>Recommendation #11</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| 6. Natural disturbance and salvage SFL                                                                             | There were no salvage operations on the Armstrong portion of the Lake Nipigon Forest during the audit period. There was only a small 52.6 ha of                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |

| Licence Condition                                                                          | Licence Holder Performance                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|--------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| conditions must be followed                                                                | salvage (near the Blackwater Block) reported in the trend analysis for the Nipigon East portion of the forest. Additional blowdown has occurred on the forest due to snow loads, but these occurred in remote un-accessed areas. When these areas are eventually accessed the SFL holder is hoping to obtain a reduction in stumpage rates due to the low volume per hectare remaining in these stands. Overall the SFL is following the natural disturbance and salvage conditions identified in their licence.                               |
| 7. Protection of the licence area from pest damage, participation in pest control programs | No insect pest control was required or implemented during the 2011-2016 audit period on either portion of the LNF.                                                                                                                                                                                                                                                                                                                                                                                                                             |
| 8. Withdrawals from licence area                                                           | There have been no withdrawals on the Lake Nipigon Forest since the OLL decision (SFL amendment "LakeNi-1), made in May 2003.                                                                                                                                                                                                                                                                                                                                                                                                                  |
| 9. Audit action plan and status report                                                     | Separate action plans to address recommendations of the 2011 IFAs were prepared for the Armstrong and Lake Nipigon portions of the forest in 2012, within 2 months of finalization of the IFAs, as required by the license. Both action plans were signed by MNRF authorities. The license requires a status report on the action plan within 2 years; this timeline was met for both portions of the forest.                                                                                                                                  |
| 10. Payment of funds to Forest Renewal Trust                                               | There were no outstanding payments owed to the Forest Renewal Trust during the audit period.                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| 11. Forest Renewal Trust eligible silviculture work                                        | There was no eligible silviculture work carried out on the Armstrong portion of the LNF during the audit period. The auditors viewed 2319 ha of renewal, 1832 ha site preparation and 1602 ha tending carried out on the Nipigon east portion during the audit representing 11-34% of eligible silviculture invoiced to the FRT during the audit period. The audit also viewed 10,391 ha of renewal, tending and FTG survey invoiced in 2014 as part of the Specified Procedures audit sample. Maps were consistent with auditor observations. |
| 12. Forest Renewal Trust forest renewal charge analysis                                    | A renewal charge analysis was carried out for both portions of the LNF during the audit period.                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| 13. Forest Renewal Trust account minimum balance                                           | There are two Forest Renewal Trust (FRT) accounts on the LNF one for the Armstrong portion and the other for the Nipigon east portion. A minimum balance of \$1,748,242 was maintained for 4 years during the audit period for the Nipigon east portion. At March 31,2016 a small balance was owing in the account (\$193,720). The Armstrong portion of the LNF maintained a minimum balance \$1,303,400 at March 31 for each year in the audit period. The Lake Nipigon FRTF is the subject of <b>Recommendation # 12.</b>                   |
| 14. Silviculture standards and assessment program                                          | For the 2011-2016 Phase I FMP period the total renewal effort on the Nipigon east portion was 17,750 hectares (22%) of a possible 79,155 hectares planned. The renewal achievement is in line with the harvest area depleted (9,312 hectares) during the same period. No artificial renewal was carried                                                                                                                                                                                                                                        |

| Licence Condition                         | Licence Holder Performance                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
|-------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                                           | <p>out on the Armstrong portion during the audit period and has resulted in <b>Recommendation #2</b>. The company has a silviculture assessment program that has been well developed over time. Tending treatments are surveyed the year after treatment. FTG assessments are conducted aerially 7-10 years post-treatment as per the SGR. Forest operation prescriptions are completed for each stand and any changes reflected in GIS data layers and shared with MNRF at the AR stage.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| <p>15. Aboriginal opportunities</p>       | <p>Both Districts and the SFL have made excellent efforts to work with the local First Nations. (<b>Best Management Practice #1 &amp; #2</b>)</p> <p>Nine First Nations out of twelve, had representatives on the Planning Team during the development of Phase II. Two of the First Nations that did not participate are located outside of the forest and the third Community (Poplar Point Ojibway), is inactive.</p> <p>There are four First Nations that have Overlapping Licenses with LNFMI (Red Rock Indian Band, BZA, AZA, and BNA). These Overlapping Licensees are also the Shareholders of LNFMI and have representatives on the Board of Directors.</p> <p>Sagatay Economic Development LP has been provided opportunities to harvest and do road construction and road maintenance work on the Armstrong portion of the Forest.</p> <p>In addition to actively participating in the development of Phase II, both District Managers have ongoing regular meetings with the First Nations.</p> <p>LNFMI is actively working with the First Nations to provide additional economic opportunities such as tree planting, manual tending, cone collection and involvement in compliance inspections.</p> <p>Both Districts and the SFL are supportive of the two First Nations that are planning to establish facilities to utilize surplus volumes. For example, Whitesand First Nation is planning to build a co-gen/pellet plant in Armstrong.</p> |
| <p>16. Preparation of compliance plan</p> | <p>The Compliance Plan for Phase II is included in the text of the FMP (Section 8.7.1). The Phase II Compliance Plan is basically a re-iteration of the plan originally submitted for Phase I of the FMP. It was disappointing that very little effort was made to update the Phase II Plan with more current goals and to identify strategies to deal with compliance issues such as the low level of utilization (especially for hardwoods). Compliance priorities should have also been identified for caribou management such as ensuring that road use strategies were being followed (road closures and decommissioning).</p> <p>Annual Compliance Plans for all 5 years are included in the Annual Work Schedules (AWS). The first three Annual Work Schedules have basically the same wording with respect to ongoing issues and the tardiness of FOIP reporting. The last two Annual Work Schedules included a more up-to-date assessment of "Compliance Performance" from the previous year's activities.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                         |



| Licence Condition                                                                | Licence Holder Performance                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
|----------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                                                                                  | <p>The relationship between the District’s Annual Compliance Plans and the Annual Compliance Plan in the Annual Work Schedule is unclear. There are no links between the two plans. For example, who is going to monitor access restrictions that are not near any active operations? <b>(Recommendation #8)</b></p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| <p>17. Internal compliance prevention/ education program</p>                     | <p>There was excellent evidence provide for an internal compliance prevention/education program by LNFMI for the 2013 to 2015 period. These included completed Fuel Tank Check Lists, Environmental Monitoring Forms, Pre-Start Check List, Spill Response Forms, and MNRF Notifications. A change in Staff resulted in the loss of evidence for the 2015/2016 period but there was a record of “Operations Training” that included such topics as; Wild Life Tree Retention, Harvest Strategies for Areas with Greater than 30% Hardwood, Reducing Hydrological Impacts, Rutting (Site) Damage Standards, Skid Trail Location, Operational Road Boundaries and Wasteful Practices. MNRF Staff also confirmed their participation and involvement in past training.</p> <p>For the Armstrong portion of the forest, MNRF&amp;F hosted in 2015 a Spring Start-Up meeting and an Operators meeting.</p> <p>While documentation is lacking in the earlier years (mainly due to staff changes), for both parts of the forest there is evidence that a compliance prevention/education program has recently been put in place.</p>                                                                                        |
| <p>18. Compliance inspections and reporting; compliance with compliance plan</p> | <p>The number of inspections for Harvesting and Access, reflects the level of activity on the forest (i.e. the greater the activity the greater number of reports prepared by Industry &amp; MNRF&amp;F). The general trend shows that the number of non-compliances has dropped significantly over the last five years – which is very encouraging. An Opportunity for Improvement has been identified with respect to additional inspection reporting of incidence of ponding along operational roads and documenting minor instances of rutting.</p> <p>The FMP Compliance Plan for Phase II and the Annual Compliance Plans do not specify any targets for assessing compliance on Renewal and Protection Activities. The number of reports on Renewal activities has increased lately but is still considered to be very low (averaging just 3 reports per year over the 5 year period). <b>(Part of Recommendation #8)</b></p> <p>Overall, all FOIP reports filed by MNRF and LNFMI were well written, complete and matched the observations of the audit team at the various field sites examined. There were no suspicions raised about Industry Compliance Inspectors not reporting what they observed.</p> |
| <p>19. SFL forestry operations on mining claims</p>                              | <p>MNRF's mailing list for the forest of more than 1,100 names includes mining claim holders. Claim holders were advised by mail about AWS operations. AWS inspection notices for were prepared by MNRF Communications Services and met all legal requirements. The notices were written in straightforward, non-technical language</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |

## APPENDIX 4 – AUDIT PROCESS

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The Independent Forest Audit Process and Protocol (IFAPP) was developed by MNRF to provide a comprehensive and consistent method of evaluating forest management activities on Crown land. The IFAPP (2016) states that the purpose of an Independent Forest Audit is to:

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

There are two types of findings – recommendations and best practices. Recommendations are defined in the IFAPP as *“a high level directional approach to [a] non-conformance. In most cases, recommendations follow from the observation of material non-conformances. In some instances, however, auditors may develop recommendation to address situations where they perceive a critical lack of effectiveness in forest management activities, even though no non-conformance with law or policy has been observed.”* The IFAPP states that a best practice is *“a highly effective novel approach(es) to various aspects of forest management”* and *“applications of established management approaches which achieve remarkable success may represent best practices.”* Forest management that *“simply meets a good forest management standard”* does not qualify. Recommendations can be directed to the company and/or the MNRF (District, Region or Corporate). Auditees must address all recommendations through an Audit Action Plan with a follow up Status Report. Recommendations to corporate MNRF are addressed at the corporate level separate from the Audit Action Plan.

### Audit Procedures and Sampling

The audit for the Lake Nipigon Forest consisted of eight components:

1. Audit Plan: Merin prepared an audit plan that described the schedule of audit activities, audit team members and their qualifications, audit participants, and auditing methods. The audit plan was submitted to MNRF, the Forestry Futures Trust Committee (FFTC), and the Armstrong and Nipigon LCCs.

2. **Public Consultation:** Merin placed an advertisement in local newspapers prior to the pre-audit meeting advising the public of the upcoming audit. The advertisement identified the purpose of the audit and invited the public to submit comments to Merin by using an online survey or by contacting Merin directly.
  
3. **Aboriginal Engagement:** Twelve Aboriginal communities are part of forest management on the Lake Nipigon Forest.

|                                          |                                         |
|------------------------------------------|-----------------------------------------|
| Animbiigoo Zaagi'igan Anishinaabek       | Biinjitiwaabik Zaaging Anishinaabek     |
| Bingwi Neyaashi Anishinaabek             | Kiashke Zaaging Anishinaabek (Gull Bay) |
| Namaygoosisagagun (Community of Collins) | Red Rock Indian Band                    |
| Pays Plat First Nation                   | Poplar Point Ojibway                    |
| Whitesand First Nation                   | Ginoogaming First Nation                |
| Aroland First Nation                     | Long Lake 58 First Nation               |

Following discussions held with the MNRF Resource Liaison Officer, Merin contacted the Chief of each of these First Nations through email and telephone to request an interview. MNRF Nipigon District provided Merin with contact information for the Aboriginal communities within or adjacent to the Lake Nipigon Forest. A letter was sent to each of the Aboriginal communities and invited them to provide input to the audit. The letter asked for their input and encouraged them to contact Merin if they wish to participate in the audit or if they require more information before making a decision. Merin also offered to arrange in-person meetings with each Aboriginal community. Merin met with five aboriginal communities and spoke with one community by phone.

4. **Field Site Selection:** The audit team conducted a preliminary site selection prior to the pre-audit meeting. Annual Work Schedules and Annual Reports were used to ascertain the amount and type of forest operations carried out on the Forest during the audit period. A stratified random sample of sites was then selected to ensure that selected sites were representative of a cross section of all activities conducted on the Forest during the audit period. The auditees were informed of the site selections before the field visit. Table 5 presents actual site sample at the conclusion of the field audit.
  
5. **Pre-audit Document Review:** Prior to the nine-day site visit, the audit team reviewed documents provided by the auditees, including the:
  - a. 2011-2021 Phase I/II FMPs for the Lake Nipigon Forest;
  - b. Annual Work Schedules and Annual Reports associated with the above FMPs for the audit term;
  - c. 2006-2011 Lake Nipigon Forest and Armstrong Forest Independent Forest Audit Report; and,
  - d. Armstrong Forest and Lake Nipigon Forest 2006-2011 Independent Forest Audit Action Plan and Audit Action Plan Status Report.
  - e. Provincial Independent Forest Audit Action Plan and Provincial Independent Forest Audit Status Report.

## f. The Trends Analysis Report.

6. On-Site Audit: The objectives of the field site visit was to confirm that activities were conducted according to plan, that they conformed to provincial laws, regulations, and guidelines, and that they were effective. The site visit began on September 22nd, 2016. Four days were spent in the field, with the remainder spent reviewing documents and conducting interviews. Face to face interviews were conducted with five First Nations. The closing meeting was held in Nipigon on September 29th, 2016. The meeting provided a forum for the audit team to present and discuss preliminary audit findings with the auditees.
7. Audit Report: The audit results are presented in this report, following a brief description of the audit process and the forest licence area under review. Within the report, the audit team has made recommendations to address instances of a non-conformance to a law and/or policy, or an identified lack of effectiveness in forest management activities.

Table 5. Sampling intensity for each forestry activity examined

| Year     | Harvest Area (ha) | Regeneration Artificial (ha) | Regeneration Natural (ha) | Site preparation (ha) | Tending (ha) | FTG area surveyed (ha) | **Primary & Branch Maintenance & Construction (km) | ** Water Crossing Installations # |
|----------|-------------------|------------------------------|---------------------------|-----------------------|--------------|------------------------|----------------------------------------------------|-----------------------------------|
| 2015/16* | 1,700             | 850                          | N/A                       | 547                   | 1,240        | 3,032                  | 4.75 construction<br>651.3 maintenance             | 7 installs                        |
| 2014/15  | 1,559.5           | 1,000                        | 1,321                     | 1,654                 | 3,411        | 8,273                  | 44 construction<br>342 maintenance                 | 9 installs<br>12 removals         |
| 2013/14  | 2,591.7           | 1,108.5                      | 155.7                     | 1,716.1               | 3,132.4      | 7,727.2                | 19.0 construction<br>703.1 maintenance             | 17 installs<br>8 removals         |
| 2012/13  | 2,310.3           | 1,165.9                      | 5,271.9                   | 1,340.5               | 0            | 32,337                 | 2.3 construction<br>425 maintenance                | 8 installs                        |
| 2011/12  | 1,495.6           | 269.6                        | 0                         | 56.0                  | 1.8          | 495.5                  | 32.8 construction<br>287.2 maintenance             | 10 installs                       |

| Year                      | Harvest Area (ha) | Regeneration Artificial (ha) | Regeneration Natural (ha) | Site preparation (ha) | Tending (ha)           | FTG area surveyed (ha) | **Primary & Branch Maintenance & Construction (km) | ** Water Crossing Installations #                           |
|---------------------------|-------------------|------------------------------|---------------------------|-----------------------|------------------------|------------------------|----------------------------------------------------|-------------------------------------------------------------|
| <b>Total</b>              | 9,657.1           | 4,394                        | 6,748.6                   | 5,313.6               | 7,785.2                | 51,864.7               | 102.85 construction<br>481.72 average maintenance  | 51 installs<br>20 removals                                  |
| <b>Min. 10% Sample</b>    | 965.7             | 439.4                        | 674.9                     | 531.4                 | 778.5                  | 5186.5                 | 10.3 construction<br>48.2 maintenance              | 5 installs<br>2 removals                                    |
| <b>Actually Sampled</b>   | 2,991             | 1,555 (210 ha in 2014)       | 764 (344 ha in 2014)      | 1,832 (856 in 2014)   | 1,602 (869 ha in 2014) | 7,379                  | 29.8 construction<br>212.7 maintenance             | 15 culvert & 13 bridge installations<br>6 crossing removals |
| <b>% Actually Sampled</b> | 30.1%             | 35%<br>21% in 2014           | 11.3%<br>26% in 2014      | 34.4%<br>51.7%        | 20.5%<br>25.4%         | 14.2%                  | 29% construction<br>44% maintenance                | 29% installs<br>30% removals                                |

\* Estimated by Auditee \*\* Information on water crossing installations, roads constructed and maintained is taken from the Road Funding Invoices for 2011-2012, 2012-2013 and 2015-2016. The Annual reports for these years did not contain this information in tabular or text form. 16 Aggregate Pits were also checked in the field.

### Consultation During the Audit

Input to the audit process and assistance throughout the audit were provided by:

- LNFMI and their service provider HME Enterprises,
- GreenForest Management Inc., MNRF's service provider for the Armstrong portion of the forest,
- MNRF at Nipigon District,
- MNRF at Thunder Bay District,
- MNRF representing northwest region,
- The Forestry Futures Committee,
- the Armstrong Local Citizens Committee (LCC),
- the Lake Nipigon East LCC, and
- 2 members of the public who responded to the request for comments (see below).

The audit team followed up comments that were received throughout the audit by checking documents, checking sites in the field, or by phone interviews.



Prior to the field portion of the 2011-2016 IFA, the audit team wrote to all members of each LCC (Lake Nipigon East and Armstrong), the licensees, and a sample of 105 businesses and members of the public on MNRF's mailing list. The auditors' letters asked for opinions on management of the forest, functioning of the LCC, and issues that should be followed up during the audit. Ads were also placed in 5 local newspapers (Geraldton Times Star, Terrace Bay-Schreiber News, Thunder Bay [2 papers] Chronicle Journal and Thunder Bay Source, and Nipigon Gazette). All of these communications identified the auditors and LCC chairs as contacts for responses, and provided a link to an anonymous internet-based survey where interested parties could comment privately on management of the forest over the audit period.

The auditors also met with the Board of Directors of LNFMI, which includes 4 First Nations, and conducted other First Nation interviews by phone.

There were 2 comments received by the auditors. One tourist operator described a particular forest access road as being in deplorable condition. This was checked in the field. The second comment was very general and philosophical in nature.

For the 2011-2016 IFA, the audit team wrote to all members of each LCC (Lake Nipigon East and Armstrong), the licensees, and a sample of 105 businesses and members of the public on MNRF's FMP mailing list. The auditors' letters asked for opinions on management of the forest, functioning of the LCC, and issues that should be followed up during the audit.

MNRF arranged a face-to-face meeting for the audit team with the Armstrong LCC in Armstrong, and the Nipigon East LCC at MNRF's Nipigon District office during the audit week. Five members attended the meeting in Armstrong and 3 attended the meeting in Nipigon; the LCC chair for Lake Nipigon east participated in the field trip for one day.

Participation by MNRF in the audit is summarized in section 3.4 of this report. MNRF staff from Thunder Bay District and Lake Nipigon District participated in all aspects of the audit, including the pre-audit, the on-site portion of the audit, and the post-audit period. Interviews were held with the District Manager for Nipigon and Thunder Bay Districts, Management Foresters, Regional and Management Biologists, Resource Technicians, Compliance Specialists, GIS Data Technicians, and other support staff. The audit team spent 4 days in the field. District staff (Management Biologist, Management Foresters, Resource Technicians) accompanied the audit team. Two Regional MNRF biologists and a regional Compliance Specialist also accompanied the auditors and LNFMI in the field for one day by truck. MNRF provided all the documents needed, access to the LCC, and meeting space.

Input to the audit process and assistance throughout the audit were provided by LNFMI service provider (HME Enterprises) staff and General Manager. As mentioned above the auditors interviewed the Board of Directors for the LNFMI.

Two members of the Forestry Futures Trust Committee participated in the pre-audit meeting, the truck field tour and the closing meeting.

## APPENDIX 5 – LIST OF ACRONYMS

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|           |                                               |
|-----------|-----------------------------------------------|
| AOC       | Area of Concern                               |
| AR        | Annual Report                                 |
| AWS       | Annual Work Schedule                          |
| CFSA      | Crown Forest Sustainability Act               |
| CCP       | Caribou Conservation Plan                     |
| CLAAG     | Careful Logging Around Advanced Growth        |
| CMU       | Crown management Unit                         |
| CRO       | Conditions on regular operations              |
| DCHS      | Dynamic Caribou habitat Schedule              |
| DM        | District Manager                              |
| ESA       | Endangered Species Act                        |
| eSFL      | Enhanced Sustainable Forest Licence           |
| FFTC      | Forestry Futures Trust Committee              |
| FIM       | Forest Information Manual                     |
| FMP       | Forest Management Plan                        |
| FMPM      | Forest Management Planning Manual             |
| FOIP      | Forest Operations Information Program         |
| FOP       | Forest Operations Prescription                |
| FRI       | Forest Resource Inventory                     |
| FRTF      | Forest Renewal Trust Fund                     |
| FTG       | Free-To-Grow                                  |
| HPA       | High Priority Aspect                          |
| HUS       | Hardwood Utilization Strategy                 |
| Hwy       | Highway                                       |
| IFA       | Independent Forest Audit                      |
| IFAPP     | Independent Forest Audit Process and Protocol |
| LCC       | Local Citizens Committee                      |
| LNFM Inc. | Lake Nipigon Forest Management Inc.           |
| LTMD      | long-term management direction                |
| M3        | cubic metres                                  |
| MNRF      | Ministry of Natural Resources and Forestry    |
| MOA       | Memorandum of Agreement                       |
| OLL       | Ontario Living Legacy                         |
| RD        | Regional Director                             |
| ROD       | Regional Operations Division                  |
| RPF       | Registered Professional Forester              |
| SEM       | Silviculture Effectiveness Monitoring         |
| SFL       | Sustainable Forest Licence                    |
| SFMM      | Strategic Forest Management Model             |

SGR Silviculture Ground Rule  
SWTIA Superior Woods Tree Improvement Association  
TA Trends Analysis

## APPENDIX 6 – AUDIT TEAM MEMBERS AND QUALIFICATIONS

| Auditor                                | Role                                             | Responsibility                                                                                                                                                                                                                                                                                                                                                                         | Credentials                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
|----------------------------------------|--------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p><b>Sarah Bros,<br/>R.P.F.</b></p>   | <p>Lead Auditor and Silviculture Auditor</p>     | <ul style="list-style-type: none"> <li>• overall audit coordination;</li> <li>• oversee activities of other team members;</li> <li>• liaise with Company &amp; MNRF;</li> <li>• review and inspect Phase II FMP Silviculture;</li> <li>• review and inspect aspects of forest management related to silviculture;</li> <li>• review renewal/silviculture success &amp; FTG;</li> </ul> | <p>BScF, R.P.F. Sarah has over 30 year’s experience in forest management planning and silviculture for the forest industry. She is a member of the Board of the Algonquin Forest Authority and practices large scale private land forestry across the province. Sarah was a contract IFA Audit Analyst for Forestry Futures Trust and has observed on and reviewed more than 70 IFA reports. Sarah is a certified Lead Auditor with Bureau Veritas and Rainforest Alliance and has worked for both organizations since 2013.</p> |
| <p><b>Peter Street,<br/>R.P.F.</b></p> | <p>Harvest Auditor and First Nations Auditor</p> | <ul style="list-style-type: none"> <li>• review and inspect Phase II FMP Harvest and Compliance,</li> <li>• Compliance,</li> <li>• Forest Operations &amp; Access,</li> <li>• First Nations Consultation</li> </ul>                                                                                                                                                                    | <p>Peter has over 35 year of forestry experience in Ontario: including; supervising (harvesting &amp; silvicultural operations), forest management planning and SFL Management responsibilities. As the Project Manager for the development of eight Forest Management Plans, he has knowledge and experience with forest management planning, monitoring and reporting. Peter has been an auditor on six Independent Forest Audits in Ontario and five Internal Forest Management Audits for Price Waterhouse</p>               |

|                                         |                                     |                                                                                                                                                                                                                                                                                    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
|-----------------------------------------|-------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p><b>Kandyd Szuba, PhD, R.P.F.</b></p> | <p>Wildlife and Social Auditor.</p> | <ul style="list-style-type: none"> <li>• Public Consultation and LCC,</li> <li>• Phase II AOC planning,</li> <li>• Forest Operations &amp; Access related to wildlife and environmental protection,</li> <li>• habitat management for caribou and other species at risk</li> </ul> | <p>Coopers.<br/>BScF, PhD Kandyd has extensive experience operationalizing fish &amp; wildlife considerations into forest management guidelines (NDPE Guide, Landscape Guide), forest management planning, and operations. The auditor served as the company biologist for Domtar Inc. (2001-2010) in Ontario and Quebec, and for EACOM Timber Corporation (2010-2012) in Ontario, and has performed a variety of forest certification audits (SFI and FSC) and fish &amp; wildlife related consulting assignments for the forest industry and MNR across Ontario (2012-2016). The auditor spent 10 years (to 2001) teaching courses in conservation biology, zoology, and environmental science at Nipissing University.</p> |
|-----------------------------------------|-------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|