FINAL AUDIT REPORT

Kenogami Forest

Independent Forest Audit

2010 – 2015

Arbex Forest Resource Consultants Ltd.

February, 2016

TABLE OF CONTENTS

List of Tables

List of Maps and Figures

1

1.0. Executive Summary

This report presents the findings of an Independent Forest Audit (IFA) of the Kenogami Forest (KF)[1] conducted by Arbex Forest Resource Consultants Ltd. for the period of April 1, 2010 to March 31, 2015. The KF became a Crown Unit on August 1, 2012 and an Enhanced Forest Resource Licence (eFRL) was issued to Ne-Daa-Kii-Me-Naan Inc. (Nedaak) on November 9, 2012 to manage the Forest in conjunction with the Crown.

The KF is located approximately 300 kilometers (kms) northeast of Thunder Bay in the Ministry of Natural Resources and Forestry (MNRF) Northwest Region. It is situated within the Nipigon District and is administered through the MNRF Geraldton Area Office. The Nedaak Office is located in Longlac. There is one Local Citizens Committee[2] (LCC) associated with the Forest. The Forest is not certified under any of the forest management certification systems.

Procedures and criteria for the IFA are specified in the 2015 Independent Forest Audit Process and Protocol (IFAPP). The audit scope covers one-year implementation of the 2010 Contingency Plan (CP) and four years' implementation (years 1-4) of the 2011-2021 FMP and the development of Phase I of the 2011 FMP[3]. The CP was required to enable the use of 2005 forest inventory information for the development of the 2011 FMP. FMP documents were reviewed in relation to relevant provincial legislation, policy guidelines and Forest Management Planning Manual (FMPM) requirements. Audit field site examinations were completed by helicopter and truck in September 2015.

Public input to the audit process, was garnered by a notice in a local Greenstone newspaper (*Times Star*) and a mail out survey to 100 individuals/organizations on the 2011 FMP mailing list. GANRAC members and First Nations (FN) communities with an interest in the KF were notified of the audit by letter and invited to participate in the field audit and/or express their views on forest management during the audit term. Individuals, businesses and organizations involved with, or impacted by, forest management activities were also interviewed.

Arbex completed the 2010 IFA and made 13 recommendations (4 SFL holder, 1 MNR District, 6 joint (SFL holder and District MNR)) and 2 Corporate) to address forest management program shortcomings and improve forest management performance. A conditional recommendation on the extension of the licence was issued which required that a significant volume of felled and unutilized timber be addressed and that outstanding Crown charges and other forest management charges be reconciled. Other audit recommendations included requirements to address the backlog in area requiring free-to-grow survey, design and implement a roads monitoring program, address invoicing errors associated with the Forest Roads and Maintenance Agreement (FRMA) and improve the delivery of the tree planting program. This audit determined that action

[1] KF and the Forest are used interchangeably in this report
[2] Geraldton Area Natural Resources Advisory Committee (GANRAC)
[3] Although development and implementation of a 2011 CP was not included in the audit scope, we included it since it was developed and implemented in the audit term.

was still required on some of the past recommendations and those are addressed in the body of the report.

The late delivery and issues with the quality of data with the Forest Resource Inventory (FRI), the incorporation of new landscape guidelines and the Caribou Conservation Plan (CCP), and issues associated with the economic downturn in the forestry sector all resulted in planning and operational challenges during the audit term.

Licencing issues also affected the delivery of the forest management program. The transfer of management responsibilities to the eFRL and the "*learning curve*" for the new management entity has been tested by a difficult regional economic environment for the forest sector. Several significant issues associated with the licence's short-term duration and arrangement affected the cost effectiveness and efficiency of the delivery of the forest management program. There were legitimate concerns related to the stability of the wood flow to the Aditya Birla mill in Terrace Bay (AVTB), Lecours Lumber (Calstock) and Columbia Forest Products Inc. (Hearst). These issues included:

- Business uncertainty associated with the licence arrangements including the capacity of the eFRL to secure contractors and the capacity of Overlapping Forest Resource Licencees (OFRLs) to access and harvest allocations.
- Uncertainty amongst the OFRLs with respect to the stability of the wood supply and operational concerns related to long term access planning and construction, silviculture costs and management fees.
- Disagreement between the MNRF and Nedaak with respect to some of the management obligations of the eFRL.

We were concerned with the emergence of these issues during the relatively short duration of the eFRL, but we note that in September 2015, Nedaak and Aditya Birla Terrace Bay (AVTB) signed a "*Mutual Understanding on the Development of a 5-Year Memorandum of Agreement*". We were informed that this agreement would address some of the specific issues and concerns between Nedaak and AVTB.

MNRF has a legislated responsibility to ensure the orderly management of the Forest and protection of the public interest in the management of the provinces natural resources. An MNRF review/analysis of the current licence arrangement is to be completed prior to the expiry of the licence in March 2016. We do not provide a recommendation with respect to the extension of the eFRL as the KF is currently a Crown management unit.

The audit team concluded that forest sustainability as it is assessed through the IFAPP, was being achieved. There are however, some potential risks to long term forest sustainability linked to the performance of the forest sector economy. The lack of markets has resulted in the underachievement of silviculture targets and without the harvest of both hardwoods and softwoods (or large scale disturbance event(s)) the caribou mosaic will not be achieved within the allotted timeframe.

In addition to economic, social and operational constraints, portions of the KF have been heavily fragmented by past management practices. This led the audit team to question the practicality of the application of the caribou conservation strategy on these areas. Since the FMP was developed and implemented in accordance with legislation and policies in effect during the audit term a recommendation is not provided.

We did have some concerns with the delivery of the forest management program, and a number of recommendations have been provided. A significant concern of this audit, and the 2010 IFA, is the variation in results between forest industry and the MNRF in the reporting of regeneration and silviculture success. We were concerned by the apparent lack of management priority assigned to address and resolve this longstanding issue, particularly in the context of the management focus to create/maintain caribou habitat.

We provide joint recommendations to the forest managers to investigate the reasons for the differences in FTG survey results, to adjust their FTG survey methodologies to address the discrepancies and to reconcile data differences in the reported area of lands below regeneration standards in the forest inventory, FMP and other management reports.

Recommendations are directed at Nedaak to assess the effectiveness of its use of less active ingredient (a.i.) in its aerial herbicide program, to improve the tracking and management of slash at landings where poplar is being merchandized for veneer and to increase its field compliance presence.

Recommendations directed to the Nipigon District require District staff to ensure FOIP reports are closed within an appropriate time period, to increase the number of compliance inspections, to place a higher priority on the delivery of Core Tasks 1 and 2 in its Silvicultural Effectiveness Monitoring (SEM) program and for the District Manager ensure that the Action Plan is produced in accordance with the due date established by the IFAPP.

A recommendation is provided to the MNRF Region to address management shortcomings (Steering Committee) in the development of future forest management plans.

A recommendation is directed to MNRF Natural Resource Information Section (Forest Resources Inventory Unit) to improve on its delivery schedule and the quality of forest resource inventory products.

We recognize the GANRAC website as a best practice for its application as a public communications outreach tool.

The audit team concludes that management of the Kenogami Forest was generally in compliance with the legislation, regulations and policies that were in effect during the term covered by the audit and the MNRF met its legal obligations.

2.0. Table of Recommendations

TABLE 1. RECOMMENDATIONS

Conclusion:
The audit team concludes that management of the Kenogami Forest was generally in compliance with the legislation, regulations and policies that were in effect during the term covered by the audit and the MNRF met its legal obligations. Forest sustainability is being achieved, as assessed through the Independent Forest Audit Process and Protocol.
Recommendations Directed to Nedaak Inc.
Recommendation # 4: Nedaak must augment its forest renewal program to reduce the gap between the area harvested and the area renewed. **Recommendation # 5:** Nedaak must assess the efficacy of reducing the active ingredient (a.i.) in herbicide tending program to determine 1) the effectiveness of reduced levels of a.i. in suppressing competing vegetation and preventing/minimizing the establishment of undesirable species 2) cost-effectiveness and 3) its implications on the achievement of the FMP desired future forest condition. **Recommendation # 6:** Nedaak must effectively track OFRL operations merchandizing poplar veneer and ensure that slash from the operations is appropriately managed. **Recommendation # 7:** Nedaak must enhance its training of seasonal staff to include broader contextual information on FMP requirements and their implementation rationale.
Recommendations Directed to the Nipigon District MNRF
Recommendation # 11: The MNRF District should place a priority emphasis on the completion of Core Task 1 and Core Task 2 SEM monitoring functions until there is less discrepancy between industry and MNRF statistics for regeneration and silviculture success.

Recommendation # 13:

The MNRF District Manager must ensure that the IFA Action Plan is submitted in accordance with the due date established in the Independent Forest Audit Process and Protocol (IFAPP) and that all Action Plan items are addressed within an appropriate period of time.

Recommendations Directed to the MNRF Regional Office

Recommendation # 1:

The MNRF Region must ensure that the FMP Steering Committee meets its obligations and responsibilities to provide guidance and direction to the FMP Planning Team to ensure that the FMP is produced and approved on time.

Recommendations Directed to the Crown Forests and Lands Policy Branch

Recommendation # 2:

The MNRF Natural Resource Information Section (Forest Resources Inventory Unit) must meet planned timelines for the delivery of the Forest Resource Inventory and ensure the quality of the inventory products.

Recommendations directed jointly to Nedaak and the MNRF District Office

Recommendation # 3:

Nedaak must improve the quality of its AWS revisions and FMP amendment requests and the MNRF District must adhere to FMPM/FIM schedules for the approval of amendments and revisions.

Recommendation # 8:

The MNRF District must ensure that outstanding MNRF FOIP inspections are closed and Nedaak must monitor the compliance program implemented by the OFRLs to ensure that all obligations and responsibilities for compliance monitoring and reporting are met.

Recommendation # 9:

The MNRF District and Nedaak must adhere to compliance direction and targets described in the FMP, approved compliance plans and the AWS.

Recommendation # 10:

MNRF District and Nedaak staff must investigate the reasons for the differences in FTG survey results and adjust their FTG survey methodologies to address the discrepancies in the results reported for silviculture and regeneration success.

Recommendation # 12:

The MNRF District Office and Nedaak must reconcile area reported as lands below regeneration standards in the forest inventory and make the appropriate corrections to tables in the ARs, FMP and Trends Analysis Report. Forest management surveys and/or assessments within this area should be completed as necessary, and if required, silviculture treatments implemented to ensure that renewal standards are achieved.

Best Practice

Best Practice # 1:

The GANRAC website is a sophisticated and effective public communications outreach tool.

3.0 Introduction

This report presents the findings of an Independent Forest Audit (IFA) of the Kenogami Forest (KF) conducted by Arbex Forest Resource Consultants Ltd. for the period of April 1, 2010 to March 31, 2015.

Sustainable Forest Licence (SFL) # 542256 was surrendered to the Crown by Terrace Bay Pulp Inc. (TBPI) in August 2012. An Enhanced Forest Resource Licence (eFRL)[4] was issued to Ne-Daa-Kii-Me-Naan Inc. (Nedaak) on November 9, 2012 to manage the Forest in conjunction with the Crown. Nedaak is a First Nations-owned forest management company, which represents seven regional First Nations. Until the surrender of the SFL, GreenForest Management Inc. provided forest management planning and silvicultural program support to TBPI.

The Forest is located within the Ontario Ministry of Natural Resources and Forestry (MNRF) Nipigon District in the Northwestern Region. The forest is administered by the MNRF Geraldton Area Office.

The Forest is currently not certified under any of the forest management certification systems recognized by the Ontario Government[5].

3.1. Audit Process

The Crown Forest Sustainability Act (CFSA) requires that all Sustainable Forest Licences (SFLs) and Crown Management Units (CMUs) be audited every five years by an independent auditor. Arbex Forest Resource Consultants Ltd. (Arbex) undertook the IFA utilizing a five-person team. Profiles of the audit team members, their qualifications and responsibilities are provided in Appendix 6.

The audit reviews the applicable Forest Management Plans (FMP) in relation to relevant provincial legislation, policy guidelines and Forest Management Planning Manual (FMPM) requirements. The audit reviews whether actual results in the field are comparable with planned results and determines if the results were accurately reported. The results of each audit procedure are not reported on separately but collectively provide the basis for reporting the outcome of the audit. Recommendations within the report "*set out a high level directional approach to address a finding of non-conformance*"[6]. In some instances, the audit team may develop recommendations to address situations where "*a critical lack of effectiveness in forest management activities is perceived even though no non-conformance with the law or policy has been observe*d"[7]. A "Best Practice" is reported when the audit team finds the forest manager has implemented a highly effective and novel approach to forest management or when

[4] An eFRL assigns "enhanced" responsibilities (as a condition of FRL) to the licensee including forest management planning and operational responsibilities. eFRLs are used on Crown management units as a bridge mechanism until such a time that a tenure model (SFL, eSFL) can be implemented.
[5] The KF was SFI certified until October 2012.
[6] 2015 Independent Forest Audit Process and Protocol.
[7] Ibid

established forest management practices achieve remarkable success. A further discussion of the audit process is provided in Appendix 4.

The procedures and criteria for the delivery of the IFA are specified in the 2015 Independent Forest Audit Process and Protocol (IFAPP). The audit scope covers one year implementation of the 2010 Contingency Plan (CP), four years' implementation (years 1-4) of the 2011-2021 FMP and the development of Phase I of the 2011 FMP[8]. The 2010 CP was required to enable the use of 2005 forest inventory information for the development of the 2011 FMP.

3.2. Management Unit Description

The KF is situated approximately 300 kilometers northeast of Thunder Bay. The municipalities of Terrace Bay, Schreiber, Longlac, Geraldton and Nakina are located within the boundaries of the Forest. There are eight aboriginal communities with an interest in the Forest (Section 4.2).

The KF is a large management unit with 1,873,988 hectares classified as Crown managed land. The unit is reasonably well accessed by primary roads. The productive forest land area is 1,610,154 ha. The Forest is comprised mainly of spruce dominated forest units that occupy approximately 67% of the production forest land base. Historic wildfires and human fire suppression activities have affected the age class area distribution and to a lesser extent the species composition. Audit term harvest levels were well below planned targets (~ 22%) due to the closure of many of the mills which traditionally received wood from the KF. No harvesting took place in 2009-2010. Conifer utilization levels were higher than hardwood utilization levels over the audit term. The purchase of the Terrace Bay pulp mill by Aditya Birla Group is expected to continue to improve wood utilization. All harvesting utilized the clear cut silvicultural system.

[8] Although development and implementation of a 2011 CP was not included in the audit scope, we included it since it was developed and implemented in the audit term.

MAP 1. LOCATION OF THE KENOGAMI FOREST (SOURCE: MNRF)

TABLE 2. AREA SUMMARY OF MANAGED CROWN LAND BY LAND TYPE

Managed Crown Land Type	Area (Ha)
Unsurveyed	1,448
Water	173,538
Other Land (Grass and Meadow, Unclassified Land)	8,829
Subtotal Non-Forested Land	183,816
Non-Productive Forest Land	
Non-Productive Forest[9]	78,567
Protection Forest[10]	136,289
Subtotal Non-Productive Forest Land	214.857
Production Forest[11]	
Forest Stands	1,192,489
Recent Disturbance	74,630
Below Regeneration Standards [12] (Older Low Stocked Stands/Recent Not Yet FTG)	206,744
Subtotal Production Forest	1,473,865
Subtotal Forested Land	1,688,722
Total Crown Managed Land	1,873,988

Source: FMP-1

The area occupied by forest unit[13] on managed Crown land (production forest) is shown in Figure 1. The KF is a typical, fire-driven boreal forest ecosystem. Historic wildfires

[9] Non-Productive Forest is land within a forested area which is currently incapable of commercial timber production owing to its very low productivity or because of competing vegetation cover.
[10] Protection forest land is land on which forest management activities cannot normally be practiced without incurring deleterious environmental effects because of obvious physical limitations such as steep slopes and shallow soils over bedrock.
[11] Production forest is land at various stages of growth, with no obvious physical limitations on the ability to practice forest management.
[12] Lands Below Regeneration Standards are lands comprised of older stocked stands, areas of natural disturbance and depleted areas that have not yet met the free-to-grow standard for height and/or stocking.
[13] Standard forest units that reflect the different forest conditions found across the province and the different forest types. Each FMP forest unit is tagged to a provincial forest type.

and human fire suppression activities have affected the age class area distribution and to a lesser extent the species composition. There is a higher proportion of mixedwood forest types and an older age class structure than would be expected to occur with a natural fire regime. The desired forest condition is one with a lower proportion of mixedwood forest types and a higher proportion of purer conifer-dominated forest types.

Forest cover is predominately conifer with spruce-dominated forest units occupying approximately 67% of the production forest land base. The other dominant tree species are poplar and jack pine, which occur either in pure stands or mixed associations. Balsam fir, white birch, larch and cedar occur less frequently. Lowland forest units (Slow1, Slow3 and OCon) comprise almost 30% of the forest and present planning and operational challenges for seasonal harvest operations. Figure 2 presents the proportional representation of forest cover types.

FMP-1 in the 2011 FMP reports that approximately, 14% of the productive forest area is classified as "*below regeneration standards*". This area is significant, and we are concerned with the magnitude of area reported, as typically these lands are comprised of low stocked older stands, areas of natural disturbance and depleted areas which have not yet met the free-to-grow standard for height and/or stocking. Our interviews with forest management staff indicated that approximately 63,000 ha are free-to-grow but were not included in the current forest inventory (approximately 17,000 ha are below FTG survey age and are awaiting survey) and approximately 31,000 ha were natural depletions. There is a gap of approximately 14,000 between the harvest areas reported in the Trends Analysis Report and the depletion records maintained by the forest manager. It is possible that the information gap is the consequence of the management of the forest inventory information by several entities and/or the incomplete transfer of records following the bankruptcy of the SFL holder and the surrender of the licence to the Crown. We provide a recommendation to reconcile the information gap in the forest inventory records (Recommendation # 10, Appendix 1).

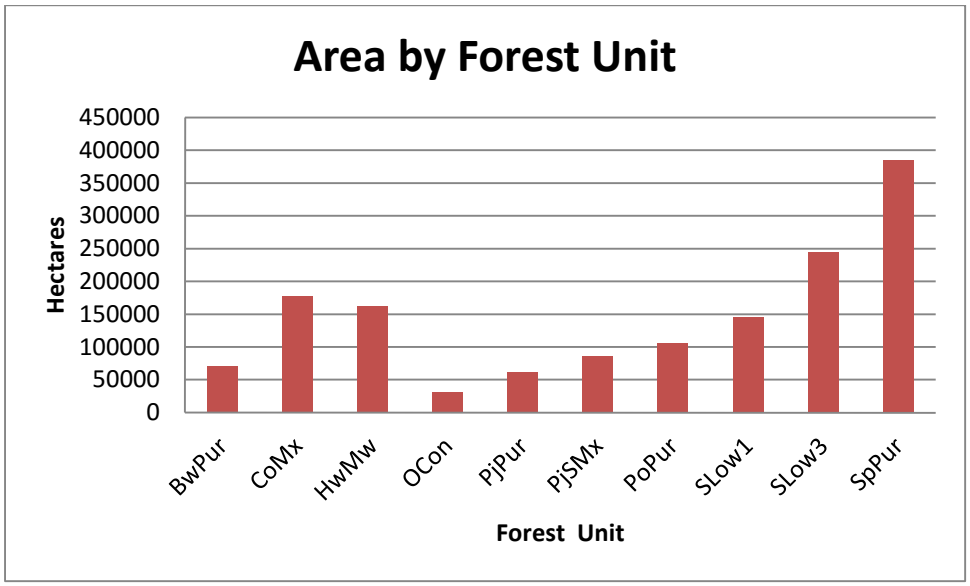

FIGURE 1. AREA OF MANAGED CROWN PRODUCTION FOREST BY FOREST UNIT
SOURCE: FMP-2, 2008 FMP[14]

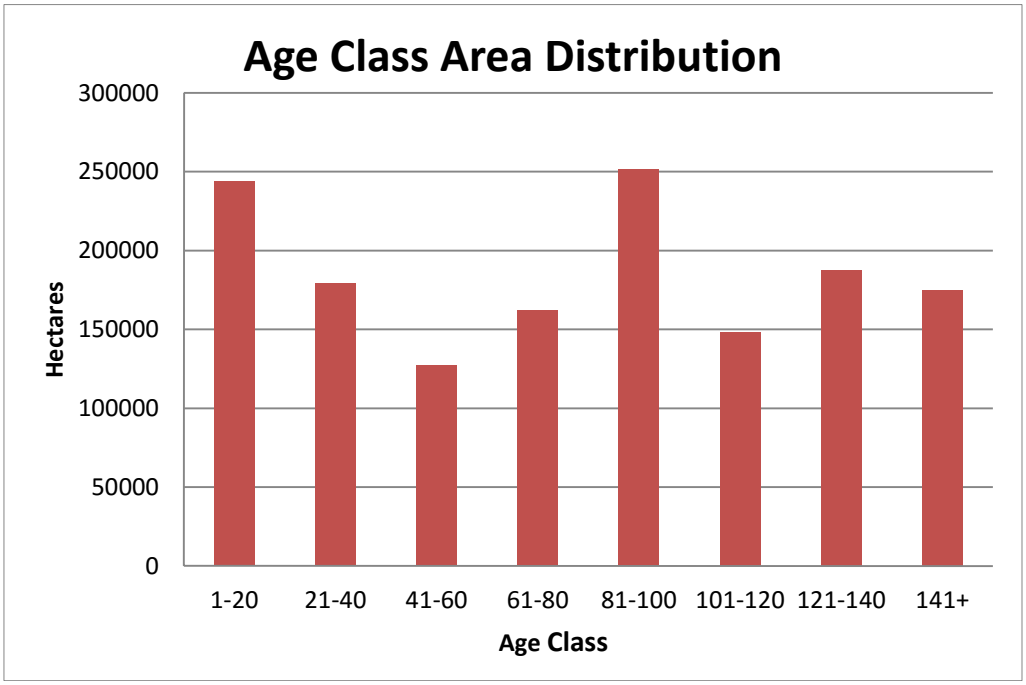

Figure 2. Age Class Area Distribution (Crown Managed Land).
Source: FMP-2

[14] Forest Types are as follows: BwPur=White Birch Pure, CoMx=Conifer Mixedwood, HwMx=Hardwood Mixedwood, OCon=Other Conifer, PjPur=Jack Pine Pure, PjSMx=Pine Spruce Mixedwood, PoPur=Poplar Pure, Slow1=Black Spruce Lowland Site Class 0 (X),1, or 2 Slow3=Black Spruce Lowland Site Class 3 and 4 and SpPur= Spruce Pure.

The age class area distribution of forest units is shown in Figure 2. Age class area imbalances are most pronounced in the 1-20, 41-60 and 81-100 age class categories. The age class area structure has implications for the provision of a balanced wood supply and habitats for some wildlife species through time. There is also a potential for declining stand yields and increased fuel loading as mature and over-mature stands age and break up.

The KF provides habitat for a diversity of wildlife species including black bear, moose, beaver, marten, snowshoe hare, ruffed grouse, spruce grouse and a variety of waterfowl. Species at Risk (SAR) include woodland caribou (threatened), peregrine falcon (threatened) and bald eagle (special concern).

The KF is within the area of continuous and discontinuous distribution of woodland caribou habitat[15] and the implementation of a dynamic caribou habitat schedule (DCHS) influences caribou habitat management on approximately 72% of the Forest. As such, caribou habitat management was the overriding consideration affecting forest management planning and operations. The DCHS is intended to create and maintain a landscape that provides suitable and sustainable year-round caribou habitat. Forest planners are required to develop a caribou habitat mosaic which schedules harvesting operations (20-year schedule) to emulate natural disturbance frequency and landscape pattern over time. Sub-units within mosaic blocks are assigned various timing schedules dependent on the current stand conditions, infrastructure and previous disturbance history.

3.3. Current Issues

Our initial document review and preliminary discussions with Nedaak and MNRF staff identified the following issues as high priority aspects for the 2015 IFA.

Several Forest Managers: During the audit term the KF has been managed by several entities; TBPI with support from GreenForest Management Inc. and following the surrender of the SFL, by the MNRF and Nedaak (Section 3.0).

Caribou Management Strategy: The KF has both continuous and discontinuous caribou management zones. The DCHS (and marten core deferrals) influences available wood supply and habitat for some wildlife species through time (Section 4.3).

Poor Economic Performance of the Forestry Sector: The lack of markets has resulted in the underachievement of FMP harvest and related silviculture targets (Section 4.4).

Action of recommendations from the previous audit: The Action Plan was prepared but it was submitted late. Some of the recommendations in the previous IFA were not adequately addressed or acted upon (Section 4.8).

[15] The management strategy for the continuous distribution zone is to maintain/increase caribou habitat with the application of a dynamic caribou habitat schedule (DCHS). Within the discontinuous zone the strategy is to maintain/enhance connectivity between the northern continuous range and the southern coastal range.

Production of the 2011 FMP: The planning process missed a number of scheduled targets and the FMP was approved late (Section 4.3).

3.4. Summary of Consultation and Input to the Audit

Details on the public consultation process are provided in Appendix 4. Comments and opinions on the forest management activities of Nedaak and the MNRF were solicited from the general public, Aboriginal communities, tourism operators and other stakeholders using a direct mail out[16], the posting of a notice in local media and telephone contacts.

Nedaak (staff and external consultants), MNRF (District and Regional), Columbia Forest Products Inc. (Columbia) and AVTB staff participated in the field audit and/or were interviewed by the audit team. GANRAC members also participated in the field audit and/or were interviewed.

4.0 Audit Findings

4.1. Commitment

The IFAPP requires the MNRF to have policy statements and display operational performance that demonstrates the organization's commitment to sustainable forest management. The MNRF has updated policy and mission statements that are prominently displayed on the MNRF website. All interviewed staff were aware of the MNRF direction, sustainable forestry commitments and Codes of Practice.

In October 2012 the SFL was transferred to the Crown, and then subsequently an Enhanced Forest Resource Licence (eFRL) was issued to Ne-Daa-Kii-Me-Naan Inc. (Nedaak) in November 9, 2012 to manage the Forest in conjunction with the Crown. The eFRL expires in March 31, 2016. Nedaak is a First Nations-owned forest management company, which represents seven regional First Nations. The Nedaak management structure consists of a Board of Directors comprised of representatives from the seven constituent FNs. Technical and professional forest management services are provided by an external consulting firm. Seasonal field staff are hired from local FN communities.

Nedaak has a website with a corporate mission statement stating that the corporation will "… *provide a strong voice in forest management that ensures traditional values are weaved into the three aspects of sustainability – economic, social and environment"* Nedaak field staff were generally unaware of any formal corporate sustainability commitments and the website was off-line during the time of the field audit. We concluded that the relatively short term of the eFRL did not provide the time or certainty

[16] A random sample of 100 individuals and organizations listed in the 2008 FMP mailing list received a letter and questionnaire requesting input to the audit process.

conducive to the formal development of corporate vison, long term staff training, etc. as would be expected under a Sustainable Forest Licence.

The transfer of management responsibilities to the eFRL has been challenging and the "*learning curve*" for the new management entity has been steep and tested by the difficult regional economic environment. During the audit term there was disagreement between Nedaak and the MNRF with respect to some forest management obligations and responsibilities on the Forest (Section 4.9).

We were also informed of concerns with respect to:

- Business uncertainty associated with the current licence arrangement was affecting the capacity of Nedaak to effectively manage the Forest.
- A lack of efficient and economic flow of wood to the AVTB, Columbia Forest Products Inc. and Lecours Lumber.
- Uncertainty with respect to the stability of the wood supply.
- The current allocation and licensing model is not conducive to long term operational planning (i.e. ability to pre-build road networks to meet long term allocation commitments).
- The harvest allocation process is "stranding" volumes when operators are unable or unwilling to harvest their allocations.
- An Overlapping Forest Resource Licence Holder (OFRL) concern that it had limited input in the setting of management fees and silviculture rates.

We were concerned with the emergence of these issues during the relatively short duration of the eFRL, but we note that Nedaak and AVTB have signed a "*Mutual Understanding on the Development of a 5-Year Memorandum of Agreement*" (September, 2015) which establishes a business framework to cooperatively operate on the KF and develop longer term business stability. The terms of this business arrangement are expected to provide a framework for the resolution of many of the issues and concerns identified. We note that Columbia Forest Products Inc.[17] and Lecours Lumber, which also have assigned wood rights on the KF, have not entered into a similar agreement.

Our assessment is that Nedaak has made significant steps in addressing its commitment responsibilities and we did observe that additional staffing, training and policy development are underway.

MNRF has a legislated responsibility to ensure the orderly management of the Forest and protection of the public interest in the management of the province's natural resources. An MNRF review/analysis of current licence arrangement is to be completed

[17] A wood supply commitment with Columbia Forest Products Inc. is pending.

prior to the expiry of the licence in March 2016. MNRF staff will make a recommendation to the Minister as to a future licencing/tenure model for the KF.

4.2. Public Consultation and Aboriginal Involvement

Requirements of the FMPM for public consultation related to the development of the Contingency Plans (2010 and 2011) and the Phase I 2011 were met. However, as we discuss in Section 4.3., the production of the 2011 FMP was a disrupted process which required major changes to the original planning schedule and the timing of public consultation initiatives and communications.

The constituencies contacted during the audit (e.g. tourism, LCC members, forest industry, other interest groups) indicated that they had been made aware of the FMP process and that they were provided with opportunities to become involved and to identify values. Plan information centres were well attended and included participation by planning team members.

Issue Resolution and Individual Environmental Assessment

Opportunities to make a request for Issue Resolution (IR) or an Individual Environmental Assessment (IEA) were identified but no requests were made.

Local Citizens Committee

The Geraldton Area Natural Resources Advisory Committee (GANRAC) is a standing committee with members appointed by the MNRF District Manager. Established in 1994 the Committee has dual responsibility for the Kenogami and Ogoki Forests and an impressive history of active participation in natural resource management.

Committee membership reflects the full range of stakeholder interests on the Forest and alternate members[18] are appointed as a backup for each of the represented stakeholder groups. Member participation during the audit term was excellent and our sample of minutes indicated that there was always a quorum at Committee meetings. The GANRAC Terms of Reference (TORs) were regularly updated and conformed to FMPM requirements.

The Committee was actively involved in all aspects of the implementation of the 2010 and 2011 Contingency Plans and the development and implementation of Phase I 2011 FMP. Minutes of committee meetings show their active engagement in all aspects of the forest management process and other resource management issues (fisheries, wildlife, etc.). As required by the FMPM, the LCC was represented on the FMP planning team, and the full committee received regular updates during the planning process.

Our interviews indicated that Committee members were satisfied with the efforts by the MNRF and Nedaak to respond to questions, provide information and solicit their input

[18] Alternates regularly attend meetings and participate in all discussion; however, they do not have voting privileges unless the primary member is absent.

on the management of the forest. The GANRAC statement in the FMP states *"… that the planning process followed the guidelines, and that the Planning Team made every effort to accommodate concerns that were raised by GANRAC members."* Interviewed committee members indicated that their involvement was of value to the forest management program. Interviewed MNRF and Nedaak staff concurred with that assessment.

GANRAC has a very sophisticated and impressive website[19] for public outreach and communications. The site is user friendly and regularly updated providing information on LCC activities and events[20] and communications from Nedaak and/or the MNRF. In our audit experience, this is the best LCC website we have encountered, and we recognize this public outreach initiative as a best management practice (Best Management Practice #1, Appendix 1).

Aboriginal Involvement in Forest Management Planning

First Nations with an interest in the KF include the;

- Pays Plat First Nation
- Long Lake 58 First Nation
- Ginoogaming First Nation
- Constance Lake First Nation
- Aroland First Nation
- Animbiigoo Zaagi'igan Anishinaabek First Nation
- Biinjitiwaabik Zaaging Anishinaabek First Nation and the
- Bingwi Neyaashi Anishinaabek First Nation

For the development of the Phase I FMP all the Aboriginal communities were invited to have representation on the Planning team. Two of the communities accepted the offer. Aboriginal values maps were updated (based on available information) and the maps were appropriately utilized for the development of the management plan.

Condition 34 of the Class Environmental Assessment requires MNRF District Managers to conduct negotiations with Aboriginal peoples to identify and implement ways of achieving a more equitable participation in the benefits provided through forest management planning. Condition 34 reports were prepared during each year of the audit term. These reports met FMPM format and content requirements.

Nedaak is a First Nations-owned forest management company, which represents seven regional First Nations. The company has engaged FN community members in the forest management process (planning and implementation) and accommodated the cultural concerns of its member communities in the delivery of its forest management program. Harvest contractors also provide employment opportunities to local FNs.

[19] www.ganrac.com
[20] The website provides the public with information on Committee members, minutes of meetings, FMP updates, AWS links, ongoing projects, current natural resources issues, etc.

Our assessment is that all IFAPP requirements for Aboriginal participation in the forest management planning process were met.

4.3 Forest Management Planning

The Terms of Reference for the development of the 2011FMP met all 2009 FMPM requirements. However, delays in the FMP planning process, the transition of the management unit from an SFL to a Crown Unit and then to an eFRL and staff changes (including five Planning Team Chairs) lead to a lack of continuity within the FMP Planning team during the 2008 to 2012 planning period.

Minutes of the planning team were reviewed and we found that in most instances, the meetings were well-documented.

A Steering Committee comprised of the MNRF Regional FMP Specialist, the Buchanan Forest Products Limited Chief Forester and the MNRF Area Supervisor was in place during Phase I planning. Our assessment is that assisting in dealing with the factors contributing to delays in planning[21] fell within the purview of the Steering Committee. The audit team found that the committee had a minimal involvement in the planning process (the Steering Committee did not formally meet during the 2008-2012 planning processes) and there were no minutes of any formal or informal discussions they may have had. We provide a recommendation to address these concerns (Recommendation # 1, Appendix 1).

Originally, a 2010 FMP was to be prepared, however, a one-year Contingency Plan (CP) was required to facilitate forest operations between April 1, 2010 and March 31, 2011 due to a delay in the production and review of a new digital FRI[22] which left insufficient time to prepare the FMP. The shortened timeframe for data checks (to verify the accuracy of the FRI data) also resulted in on-going management and operational issues related to a significant number of inaccuracies in stand ages and forest unit descriptions. We provide a recommendation to address the delay in FRI production and the data quality issues (Recommendation # 2, Appendix 1).

It is noteworthy that the new FRI indicated a forest-wide reduction in stocking between 10-20% which had implications for yield predictions and wood supply. We note that the Analysis Package did not provide a rationale for the reduced stocking levels but our discussions with MNRF and Nedaak staff indicated that the reduction reflected, in part, past spruce budworm mortality and blowdown damage, which reduced stocking levels within the affected stands. It was their opinion that the revised stocking levels more accurately reflected forest conditions.

It was anticipated that a new FMP would be approved in 2011. Due to further delays an additional one-year CP was required (2011). The areas of operations selected for the

[21] Including the late delivery and data quality issues associated with the FRI, difficulties related to policy implementation, changes to the planning team membership, and changes to forest management responsibilities.
[22] FRI utilized 2005 imagery updated to 2008.

CP were selected from eligible harvest areas[23] presented to the public during information centres on the Long Term Management Direction (LTMD). These areas became first year areas of operation in the approved 2011 FMP.

The 2011-2021 FMP was approved more than one year late (April 2012) which in turn resulted in late approval of the 2012-2013 AWS (July 8 2013). In addition to the delay in the production of the FRI, other factors cited for the delays in the planning process included:

- The incorporation of the directions associated with landscape guidelines and species at risk protection (specifically caribou),
- Revisions to the planning inventory and long-term strategic modeling,
- The transfer of management responsibilities and staff changes,
- The requirement to prepare the 2011 CP.

The delays in planning contributed to uncertainty with respect to wood supply availability and the commencement of normal operations (Recommendation 1, Appendix 1).

Our review of amendments and revisions to the 2010 and 2011 Contingency Plans, the 2011 FMP and Annual Work Schedules found that they were appropriate. We were concerned with the turn-around period between amendment submission and approval and provide a recommendation to address that concern (Recommendation # 3, Appendix 1).

The DCHS (caribou mosaic) is the overriding consideration affecting forest management decisions and long term management objectives on the Kenogami Forest. The objective of the strategy is to ensure suitable and sustainable year-round caribou habitat. This requires forest planners to develop a habitat mosaic which emulates natural disturbances and landscape patterns. The mosaic dictates the amount of area and locations where harvesting can occur for a particular period of time. There were a number of challenges associated with the creation of the mosaic, including requirements to develop habitat strategies that minimize impacts to caribou, support the development of the desired future forest condition and consider a balance with other FMP objectives. Caribou mosaic blocks are harvested according to a 20-year schedule with as much of the eligible wood as feasible harvested in a contiguous/concentrated manner as economically feasible. The 2011 FMP caribou mosaic was refined from previous plans to accommodate an extension of the range to more closely align with the defined continuous habitat zone and to increase the size of individual blocks within the mosaic. We note that the FMP planned harvest area for the PjPur, CoMx and PjSMx forest units represented over half of the planned AHA (24%, 16%, and 14% respectively) during Term 1 of the FMP. The rationale for the focus on these forest units included:

[23] Areas of operations in the CP appropriately comprised 1/10th of the area of the projected operations the ten year FMP.

- requirements of the DCHS and efforts to plan operationally feasible blocks,
- the inability to access other forest units with the current road network,
- provision of operational flexibility for harvest operations.

A good balance of area in A to E blocks was achieved which under a scenario of full harvest utilization will balance the wood supply through time[24]. However, despite the fact that the planning of the DCHS was well done, we have concerns as to the probability of achieving the mosaic schedule and with the viability of portions of the KF for caribou habitat management. We remain concerned that, similar to our observation in the previous IFA, that in the absence of favourable market conditions for the harvest of both hardwoods and softwoods or in the absence of large stand-replacing natural disturbance event(s) that the caribou mosaic will not be achieved within the timeframe allotted. The Year 3 AR indicates that to maintain the caribou mosaic schedule, 38,024 ha (AE and A1 blocks) will need to be harvested by the end of 2016. The average area annually harvested over the first 4 years of this audit term was only 3,989 ha (~17% of the plan target). The feasibility of achieving a higher than the average annual harvest is hampered by the preponderance of lowland areas within unharvested blocks that require winter harvest (due to ground conditions) and the economic constraints imposed by haul distances for these blocks to the receiving processing facilities. The feasibility of harvest operations is further complicated by a shortage of harvest contractors willing/able to operate on the Forest. The inability to achieve planned harvest levels and other harvest related objectives (i.e. clearcut block aggregate area) is significant as there is a potential for lost economic opportunities should uncut stands experience volume declines and a lost management opportunity to control stand composition for future caribou habitat through planned silviculture interventions. There is some optimism that the re-opening of a sawmill in Longlac will make harvests in the northern portion of the unit (north of the town of Nakina) more economic and facilitate the completion of A blocks in the mosaic.

Ontario's Woodland Caribou Conservation Plan (CCP) provided direction that caribou habitat management be implemented at the landscape level on the basis of "population ranges" and that habitat management be consistent with the "continuous population range". The expansion of the caribou continuous population range in the current FMP encompasses approximately 72 % of the KF[25]. We are concerned as to the practicality of the caribou conservation strategy in the area south of Highway 11 as this area has been heavily disturbed and fragmented by past forest management practices (e.g. roads, harvesting under the moose management direction etc.) and infrastructure development (i.e. pipeline and rail line development along the highway corridor). Caribou habitat creation will present formidable management and operational challenges requiring a significant period of time and the implementation of "*innovative*

[24] Forest management operations were scheduled to occur in a pattern that maintains a distribution of large, mature and old (60+years of age) patches of forest in a suitable habitat condition, interspersed with patches of young and immature forest patches. The desirable level and target are to maintain the percentage of habitat patches (60 years+) at or above 40% over time.

[25] The new zone extends south to the east/northeast of Longlac south of Highway 11 along the Highway 11 corridor.

forest management"[26] to clean up existing forest fragmentation and recreate the natural landscape pattern.

The habitat requirements for other Species at Risk (SAR) and featured wildlife species were appropriately considered in the planning process. Habitat descriptions, the application of guidelines and operational prescriptions were provided in the text and supplementary documentation.

The wood supply analysis and calculation of harvest area was determined with the Sustainable Forest Management Model (SFMM) in accordance with the requirements of the FMPM. The model is the approved standard used to estimate the Available Harvest Area (AHA), execute tests of sustainability and determine the range of variation of forest composition and structure. Harvest deferrals associated with the DCHS and marten cores negatively influenced wood supply and resulted in variable levels of habitat for preferred wildlife species. The planned harvest focused primarily on the SPF species group which was to comprise approximately 80% of the planned volume harvested. Poplar species comprised approximately 16% of the planned volume while BW and OCon forest units accounted for 2% of the planned harvest volume. Yield curves were adjusted in the development of the 2011 FMP to reflect actual yields being realized in harvest operations (e.g. PjPur volumes were lowered) and operability ages were adjusted downwards for some forest units to facilitate the completion and/or clean-up of mosaic A blocks by 2016.

Hardwood utilization issues stemming from the lack of markets for hardwood species were addressed with an FMP strategy which provided options for the harvest of stands on the basis of percent hardwood composition reported in the forest inventory. High Hardwood Composition (HHC)[27] stands were to be cut under one of three harvest options; Normal Harvest, Two-Pass Harvest or Harvest Avoidance. We concluded that the strategy was appropriate and pragmatic given the uncertainty of markets for hardwoods.

The preferred Silvicultural Treatment Packages (STPs) in the Silvicultural ground rules (SGRs) served as the preliminary prescriptions for harvest, renewal and tending operations. The only exception to the SGRs was the use of full tree logging on Ecosite 12 where soil depth is less than 20 centimeters (cm) (Section 4.6). Our field assessments confirmed that Silvicultural Ground Rules[28] (SGRs), Silvicultural Treatment Packages[29] (STPs) and Forest Operations Prescriptions (FOPs) were appropriate for the forest cover types and site conditions found on the KF.

[26] 2011 FMP.
[27] Total hardwood composition is greater than or equal to 30%.
[28] Silvicultural Ground Rules specify the silvicultural systems and types of harvest, renewal and tending treatments that are available to manage forest cover and the type of forest that is expected to develop over time.
[29] A Silvicultural Treatment Package is the path of silvicultural treatments from the current forest condition to the future forest condition. STPs include the silvicultural system, harvest and logging method(s), renewal treatments, tending treatments and regeneration standards.

Forest access planning met all FMPM requirements. The AWSs reflected FMP requirements and all access roads were constructed in accordance with the relevant forest management guidelines.

The social and economic description in the 2011 FMP was thorough. Other resource use activities were described and appropriately considered in the forest management planning process. We note and support the effort of the planning team to augment information gaps in Ministry of Tourism data bases and the Statistics Canada 2006 Census with the collection of additional information, the attention given to the interpretation of those data in the local context, and the assessment of economic value to local communities.

Based on our review of the FMP, tourism related files, as well as our interviews with MNRF staff and tourism operators we conclude that all requirements for the protection of resource based tourism values, from initial consultations through to the protection of values by use of AOCs were achieved.

4.4. Plan Assessment and Implementation

The application of appropriate and effective silviculture is crucial for the development of landscape level habitat conditions supportive of woodland caribou. The long-term strategic direction of the silviculture program is to conduct harvest, renewal and tending to ensure that there is no net loss of conifer dominated forest, to maintain or enhance the conifer component within mixedwood forest types and to reduce the occurrence of hardwood dominated/mixedwood stands.

Business uncertainty associated with the current licence arrangement negatively affected the capacity of eFRL to effectively manage the Forest. The short term of the licence made it challenging for Nedaak to secure contractor services at competitive rates and influenced management decisions with respect to the hiring and training of staff. The lack of a long-term licence arrangement also contributed to uncertainty amongst the OFRLs with respect to the stability of the wood supply and operational concerns related to long term access planning and construction. We note that an MNRF review/analysis of the current licence arrangement is to be completed prior to the expiry of the licence in March 2016. A discussion of the silvicultural program is provided in the sections below.

<u>Harvest</u>

Harvest levels were lower than planned due to weak forest products markets (particularly for hardwoods) which resulted in the closure and restructuring of the Terrace Bay Pulp Inc. pulp mill under Companies' Creditors Arrangement Act (CCAA) protection in 2009. This closure shutdown the mill and woodland operations between February 2009 and October 2010. The restart of operations in 2010 was followed by another mill shutdown in December 2011 which lead to the 2012 sale of the mill to AV Terrace Bay Ltd. and a resumption of harvest operations in October 2012. The 2013-14 AR period was the first full year of harvest operations on the KF since 2010.

During the audit term, full tree or cut-to-length harvesting was conducted using conventional harvest methods or Careful Logging around Advance Growth (CLAAG) (in lowland areas) under the clear cut silviculture system. Harvest operations were conducted by Columbia Forest Products Inc., AMIK Logging, Smoke Signals, Giizhagaakwe Development Corporation (GDC) and AVTB.

Table 3 presents the actual harvest area by forest unit for the first four years of the audit term. Overall 21.5% of the available AHA was harvested.

TABLE 3. ACTUAL VS. PLANNED HARVEST AREA BY FOREST UNIT (2010-2014)

Forest Unit	Year 2010/11 Ha	Year 2011/12 Ha	Year 2012/13 Ha	Year 2013/14 Ha	Total 4 years Actual	Total Planned 4 years	Actual Vs Planned %
Bf Dom	0.80	0	0	0	0.80	322	0%
BwPur	17.80	2.00	0	5.60	25.40	527.5	4.8%
ConMx	127.60	674.05	683.60	539.30	2,024.55	11,315.4	17.8%
HwMx	120.50	246.00	211.10	232.2	809.80	6,036.7	13.4%
OCon	4.70	6.14	0.20	52.00	63.04	466.1	13.5%
PjSMx	378.20	758.80	541.30	900.80	2,579.10	7,050.0	36.5%
PjPur	294.70	452.40	191.00	951.50	1,889.60	3,294.4	57.3%
PoPur	155.60	236.80	51.10	165.00	608.50	6,758.4	9%
SLow1	213.60	130.90	363.80	481.70	1,190.00	10,373.0	11.5%
SLow3	232.00	88.90	163.60	462.00	946.50	11,424.3	8.3%
SpPur	942.60	1,028.30	2,068.80	1,726.3	5,766.00	16,588.2	34.8%
Unknown			42.0	13.1	55.10	0	%
Total	**2,488.10**	**3,624.29**	**4,316.5**	**5,529.50**	**15,957.39**	**74,156.0**	**21.5%**

Harvest operations focused principally on marketable conifer dominated forest units. The lack of markets has resulted in the inability to achieve FMP targets and has a negative implication for the achievement of the DCHS. A related concern is that wood volume is being "stranded" when operators are unable or unwilling to harvest their allocations.

During FMP planning an effort was made to achieve a balance in upland and lowland harvest areas between Terms 1 and 2[30] since only 4-5 months of the year are available for lowland harvest operations. In the FMP approximately 54% of the Term 1 allocation was to be comprised of the PjPur (24%), CoMx (16%) and PjSMx (14%) forest units. To date, operations have focused on marketable conifer forest units (PjPur) mainly within DCHS A or Clean-up blocks.

The harvest emphasis on upland sites (PjPur forest units) resulted in a winter wood /summer wood harvest area imbalance and planning and operational issues (i.e. balancing of access costs).[31] Our analysis indicated that approximately 40% of the upland areas allocated for Terms 1 and 2 were harvested during the first four years of

[30] The 10 year AHA was divided into 2 five year terms.
[31] The harvest of SLow1 and SLow3 sites is described as "only incidental" in the Trends Analysis Report.

operations. These sites are typically more accessible any time of the year and are generally more productive. Current market conditions and the harvest focus on upland sites makes it difficult to balance the harvest area by forest unit[32] and seasonal harvest allocations under the DCHS[33]. A recommendation is not provided as the DCHS will be refined in the implementation of Phase II operations and/or the next FMP. The forest manager is well aware of the implications of the current forest unit harvest area imbalance and its implications for future harvest schedules and caribou management planning. With respect to the completion of Caribou mosaic AE and AI Blocks the 2013 AR states "*this may not be feasible due to the high amount of low ground within these areas compounded by shorter winter periods that have been experienced, the lack of operators and the economic factor due to the haul distance to the mill in Terrace Bay.*"

Other challenges associated with the delivery of the harvest operations are attributed to the short term duration of the licence arrangement. Uncertainties associated with wood supply tenure and uncertainty as to whether or not allocations would be cut made roads planning and construction difficult. Reduced levels of funding available for access road construction and maintenance due to historic underachievement of the planned harvest also negatively affected the delivery of the harvest program.

Salvage harvests to recover merchantable volumes from a windthrow event were completed on 66 ha. FMPM requirements for salvage harvesting were met.

Based on data in the ARs, harvesting achieved 36.9% of the forecast volume target (Table 4).

[32] Higher than planned average yields per hectare were realized during the audit term 139 m^3/ha vs 101 m^3/ha) due to the emphasis the harvest in upland areas which are typically more productive than lowland sites.

[33] The mosaic dictates the amount of area and locations where harvesting can occur for a particular period of time.

TABLE 4. ACTUAL VS. PLANNED VOLUME UTILIZATION (000M^3) 2010-2013

Species	Year 2010/11 Ha	Year 2011/12 Ha	Year 2012/13 Ha	Year 2013/14 Ha	Total 4 years Actual	Total Planned 4 years	Actual Vs Planned %
Bf	16,563	11,719	5,628	5,738	39,648	51,278	77.4%
Ce	164	91	39	88	382	22,064	1.7%
La	64	3,698	15,936	27,244	46,942	248,569	18.9%
Pj	95,917	67,052	83,389	88,456	334,814	735,330	45.5%
Sp	429,311	299.661	450,177	486,587	1,665,736	3,814,170	43.6%
Total Conifer	**542,019**	**382,221**	**555,109**	**608,113**	**2,087,462**	**4,871,411**	**42.9%**
Po	504	769	5,563	8,662	15,498	1,056,374	1.5%
Bw	726	1,363	550	498	3,137	94,127	3.3%
Hardwood Total	**1,230**	**2,132**	**6,113**	**9,160**	**18,635**	**1,150,501**	**1.6%**
Biofuel	**43,994**	**10,660**	**28,641**	**35,867**	**119,162**	**No volume planned**	**%**

All inspected cutovers were approved for operations in the AWSs. Harvest prescriptions were implemented in accordance with the SGRs, and individual forest operations prescriptions were prepared and appropriately implemented for each harvest block. AOC prescriptions for harvest operations were appropriately implemented and effectively protected/maintained identified values. There was little evidence of site damage, but we did encounter some instances where merchantable wood had been left in the bush (Section 4.9).

Area of Concern Management

AOC prescriptions were appropriate for the protection and/or maintenance of the identified values. AOC prescriptions were implemented in accordance with the FMPs and the AWSs. Our review of FOIP records confirmed this finding, as there were relatively few compliance issues related to AOCs over the audit term.

Renewal, Tending and Protection

Renewal

Table 5 presents the planned vs. actual area treated by silvicultural activity over the audit term. The chronic inability to achieve planned harvest levels resulted in underachievement of all planned silviculture targets.

TABLE 5. AREA (HA) OF PLANNED VS. ACTUAL SILVICULTURE TREATMENTS 2010-2015.

Treatments	Year 2010/11 Ha	Year 2011/12 Ha	Year 2012/13 Ha	Year 2013/14 Ha	Natural Dist. Ha	Total 4 years Actual Ha	Total Planned 4 years Ha	Planned Vs Actual %
Renewal								
Natural	2,257.2	405	0	504.4	58	3,224.6	12,434	25.9%
Artificial								
Tree Plant	1,787.3	1,058	1,197	1,709	127	5,878.3	25,014	23.5%
Seeding					15			
Total Renewal	**4,044.5**	**1,463.0**	**1,197**	**2,213.4**	**200**	**9,117.9**	**38,302.0**	**23.8%**
SIP								
Mechanical	0	1,043.4	1,245.9	3,442.7	141	5,873.0	26,481	22.1%
Chemical	0	0	0	196		196		
SIP Total	**0**	**1,043.4**	**1,245.9**	**3,638.7**	**141**	**6,069**	**26,481**	**22.9%**
Tending								
Manual Cleaning	0	0	0	0		0	0	0
Manual Thinning	0	0	0	0			48	0%
Chemical	1,523	0	3,181.5	2,391.2	717	7,812.7	23,209	33.6%
Tending Total	**1,523**	**0**	**3,181.5**	**2,391.2**	**717**	**7,812.7**	**23,257**	**33.5%**

Source: Annual Reports

FMP targets for renewal were not achieved (23.8% of planned) due to the low level of harvest. The area renewed has not kept pace with the area harvested with only 57% of the area harvested treated for renewal. While this circumstance reflects to a large degree, regional economic circumstances over the past two management terms (which included mill closures and curtailments, forest management staff layoffs, a labour dispute (Neenah Paper Company of Canada) and the surrender of the SFL) we provide a recommendation to address this concern (Recommendation # 4, Appendix 1).

Artificial renewal treatments achieved 23% of the FMP target and were applied more frequently than natural renewal treatments as a result of the focus of harvesting on marketable conifer-dominated stands. In order to benefit caribou, planting was done at higher densities. With the exception of areas regenerated with current crop nursery stock (269 ha) artificial renewal treatments were effective in achieving desired stocking levels of conifer regeneration. Our field investigations indicated that plantings of current crop nursery stock[34] exhibited high levels of seedling mortality. Seedling sensitivity to weather conditions or handling may have contributed to the high mortality rate observed. Normal plantation survival assessment work will identify areas that require infill planting, so a recommendation to address this audit observation is not provided.

[34] Current crop (summer plant) seeds are sown early in the year and are available for late spring or summer planting. Seedlings are lifted, packaged and shipped directly to the field for planting.

Seeding was utilized as a renewal strategy on 15 ha of natural disturbance.

The area treated by natural renewal is significantly below the FMP forecast target (3,224 ha actual vs 12,434 planned)[35] reflecting the low level of harvest and the focus of harvest operations on upland sites which are typically renewed by artificial treatments. The inspected areas of natural regeneration were well-stocked to the target species (e.g. lowland spruce, poplar).

Site Preparation (SIP)

FMP targets for mechanical site preparation were not achieved (23% of planned) due the low level of harvest. Our field observations found that mechanical SIP treatments were effective in exposing mineral soil and had created sufficient plantable areas within the treated blocks. There was no evidence of site damage associated with SIP operations.

Chemical site preparation treatments were applied on 196 ha. Treatments were typically applied on older competitive sites where vegetation control treatments had not been implemented or where SIP treatments had been ineffective. Our field assessments indicated that the chemical site preparation treatments were effective.

Tending

Tending operations achieved 34% of the FMP forecast target. The reduction in the area treated reflects the lower than planned area harvested and logistical issues associated with securing contractors and weather conditions. However, the underachievement of tending targets was also attributed in part to concerns expressed by First Nations and the public with respect to the use of herbicides. Due to these concerns some areas proposed for treatment were reduced or the planned treatment was cancelled outright[36]. Areas dropped from the annual spray program are scheduled to be re-assessed in 2016. This assessment will determine if the requirement to avoid the areas to accommodate other uses still exists and assess the requirement for a chemical tending treatment.

The Nedaak forest manager addressed social concerns related to the use of herbicides by adopting an adaptive management strategy which reduced the concentration of active ingredient (a.i.) utilized in spray treatments. Lowering the concentration of the active ingredient reduces the efficacy of the treatment resulting in less mortality to competing vegetation. Areas treated with lower concentrations of active ingredient are visually "*greener*" than areas sprayed with higher concentrations due to reduced mortality of competing vegetation. We note that the increased presence of hardwoods and other vegetation on these sites may augment vertical cover and/or feeding browse for wildlife. Our site inspections confirmed the variable effectiveness of the herbicide treatment.

[35] 4 years of reporting

[36] Nedaak conducted information sessions with First Nation communities on its proposed tending program and delayed/cancelled treatments in areas identified where community members picked blueberries.

Further investigation will be required to establish whether desired crop tree densities have been adversely affected and whether or not the SGR was achieved (particularly in reference to the higher planting densities implemented). Herbicides are highly effective but contentious vegetation management tool. In our opinion, the accommodation of public concerns with respect to the use of herbicides was appropriate and consistent with the adoption of a balanced approach to forest management (where public/stakeholder concerns/issues are accommodated to the extent possible). However, we note that species composition shifts from pure conifer to a more mixed wood condition are occurring within some conifer dominated forest units. These shifts underscore the requirement for the delivery of effective and timely tending treatments to ensure desired future forest conditions are achieved. Given the LTMD priority to create/maintain habitat conditions suitable for woodland caribou and the inherent productivity of upland sites on the KF, the efficacy of the strategy and its broad application across the KF requires assessment (Recommendation # 5, Appendix 1).

No pre-commercial tending operations occurred. With the majority of the forested area now within a caribou mosaic there is no benefit for operations which reduce rotation ages or increase the component of sawlog-size material within stands.

Slash Management

A slash/debris management program was implemented during the latter years of the audit term to address an economy of scale (adequate amount of slash accumulation) in the delivery of the program given the low level of harvest. Debris and slash were either aligned perpendicular to forest access roads or the debris were utilized as hog fuel. In the absence of burning or biofuel production, the smaller debris piles associated with rowing often decompose more rapidly than the “traditional” beehive piles. Our field inspections indicated that the slash management program was effective in reducing the loss of productive land to logging debris.

We do have a concern with respect to the management of slash associated with the merchandizing of poplar veneer at landings[37] as we were informed of difficulties in tracking the locations where these operations were occurring (Recommendation # 6, Appendix 1). During our site inspections we encountered sites where poplar had not been hauled (due to a lack of markets) or had been processed for veneer without follow-up slash management treatments. Nedaak maintains a database (spreadsheet) which was designed to assist in the tracking and delivery of the slash management program so the issues associated with veneer merchandizing may underscore a requirement for better communications between Nedaak staff and the OFRLs.

Protection

The FMP did not identify any areas for insect pest management.

[37] Some poplar veneer harvesting leaves the unmerchantable sections of the tree within the harvest block.

Access

As a result of the economic downturn FMP road construction forecasts were not achieved. The roads maintenance program was also affected by the low level of harvesting. Given this circumstances and the high number of access roads on the KF, roads could not be maintained to previous historic standards.

Water crossings observed during the field audit were generally well constructed. Our review of FOIP records confirms that there were occasional issues with respect to water crossing installation and maintenance. We also inspected a number of Forest Aggregate Pits for compliance with operational standards. No significant issues were identified. Our review of FOIP records confirmed this finding.

An MNRF sponsored province-wide independent engineer structural review determined that Rock Support Inc. (RSI) Portable Bridges did not meet the Canadian Highway Bridge Design Code (CHDBC) and the MNRF Crown Land Bridge Management Guideline (CLBMG)[38]. These guidelines require the bridges to meet certain design and construction standards. Five bridges were identified on the KF. The bridge owners (OFRL) were required to immediately post load restrictions and either remove the RSI bridge and replace it with a pre-authorized superstructure or permanently close the crossing. Other crossings proposing RSI structures were not permitted unless the reduced load capacity was compatible with the intended use. We were informed that there were not sufficient portable bridges available to meet the anticipated provincial demand. Issues related to the removal and replacement of the bridges and the assignment of costs will need to be resolved since there are implications for the implementation of the DCHS and scheduled forest management activities (e.g. hauling of cut wood, SIP, renewal etc.). We do not provide a recommendation as the issue was identified outside of our audit scope (July 24, 2015) and discussions between parties to resolve the identified issue(s) are ongoing.

We inspected activities invoiced under the "*Forest Roads Construction and Maintenance Agreement*" and did not identify any non-compliances associated with the delivery of the program.

Renewal Support

Renewal support activities included cone collection and tree improvement/maintenance activities at a white spruce orchard. The renewal support activities were sufficient to meet projected renewal program requirements.

4.5. System Support

As discussed in Section 4.1., Nedaak's management structure consists of a Board of Directors with seasonal support staff hired from local FNs. Technical and professional

[38] The review focused on the load carrying capacity of the bridges to meet CHBDC (CAN/CSA-S6-06) and comply to the MNRF CLBMG (2008). A letter dated July 24, 2015 notified all MNRF District Managers and SFL General Managers of the investigation and findings of the review.

forest management services are provided by an external consulting firm. The Nedaak Chief Forester is a contracted consultant with a long history on the Forest and competency and professionalism are not at issue. However, other seasonal staff we encountered, while adequately carrying out assigned tasks, often lacked an understanding of fundamental forest management principles and the long-term direction of the corporation. While this staff displayed competency in "*how to carry out tasks*", the long-term viability of the Company will be enhanced as staff acquire the context of "*why they are being done*". We understand there is still uncertainty around the future eFRL format and tenure, and the Company is still developing some of its operational polices (e.g. staff training, a formal Environmental Management System, etc.). Some training is occurring (e.g. two staff members are attending training for certification as FOIP inspectors) and there was evidence that staff are being exposed to the full suite of operational training (e.g. safety) and specific forestry explanations are conducted as part of operations (e.g. tree planting instruction and rationale). The relatively short term of the eFRL and uncertainty as to its renewal status in March, 2016 explains Nedaak's reliance on seasonal and contract staff. Nevertheless, those staff are contributing to the management of the public's Forest and our view is that the Nedaak should develop training opportunities to enhance staff knowledge and technical capacity. (Recommendation # 7, Appendix 1).

Document and Record Quality Control

MNRF documents and records are maintained at the Geraldton Area Office and/or the Nipigon District Office. Nedaak silviculture and planning documents are warehoused in its office in Longlac. Other administrative and human resource records were housed at the office of its consultant in Thunder Bay. We concluded that both organizations had appropriate and effective record keeping and quality control systems.

4.6. Monitoring

eFRL and District Compliance Planning and Monitoring

The 2011 FMP indicated that the MNRF Nipigon District annually develops a District Compliance Plan. This is an amalgamated District wide plan based on the three (3) Area Team's individual Compliance Targets. The Geraldton Area Office adopted a risk-based approach to compliance, which included the verification of non-compliance reports, a focus on past issues and the development of targets for inspections and assignment of responsibilities to MNRF staff. Specific compliance direction for the KF was contained in the minutes of Compliance meetings. Our sample of minutes revealed that the Geraldton Office had assigned targets associated with each AWS (e.g. 10% of the AWS harvest, 5% of planted blocks identified in the AWS, etc.). The targets were comparable to those described in the District Compliance Plan.

Licencees completed/adopted compliance plans as required by the guidelines and the plans met content and format requirements.

The AR's contained the summary of inspections by Nedaak and the MNRF along with detailed information for all identified non-compliances. There were approximately 247 compliance inspections with 8 not-in-compliance resulting in an in-compliance rate of approximately 97%. The transfer of management responsibilities made it difficult to determine the proportion of inspections conducted by the MNRF and forest industry but the AR's suggest an approximate 50-50 split. The not-in-compliance inspections did not suggest any specific trends that would pose a threat to forest sustainability.

Our sample of FOIP reports indicated that there were a number of reports that required follow-up and closure and that MNRF had assigned inspection targets to its compliance staff to close the reports. A number of reports submitted by AVTB also required resolution and closure. Disagreement with respect to the management obligations and responsibilities of Nedaak as the eFRL holder was evident in the delivery of the compliance program (Section 4.1 and 4.5). The MNRF maintained that Nedaak has the responsibility to deal with outstanding AVTB compliance reporting issues. Nedaak staff maintained that since AVTB submitted inspection reports directly to MNRF that the responsibility rested with MNRF. It is common for designated OFRLs to submit reports directly to the MNRF. However, that situation does not absolve the SFL holder, or in this case the eFRL holder, from monitoring, supervising and taking corrective action with respect to the OFRL as required. We note that Section 17.1 of the eFRL states; The Company "…*perform the functions and obligations identified as being the responsibility of a Sustainable Forest Licence …shall perform those functions and obligations in accordance with the Forest Compliance Manual."*

In our field sampling we also encountered a poorly installed replacement culvert and several instances where merchantable wood had been piled but not hauled. Nedaak had not initiated remedial actions, as staff maintained that Nedaak was only responsible for remedying compliance issues associated with the delivery of the silviculture program and that remedial actions for non-compliance in harvest operations rested with the MNRF.

We observed a number of field discussions and disagreement between Nedaak and MNRF staff with respect to where the compliance responsibility resided (Recommendation # 8, Appendix 1).

The planned number of annual compliance inspections is based on a number of factors including: the level of forest management activity, an assessment of compliance risk based on historic performance of operators, and the resolution of past compliance concerns etc. We are concerned that our field sample found several instances of non-compliance that compliance inspectors had not detected.

Our review indicated that MNRF/Nedaak did not meet FMP and associated AWS compliance targets. Adherence to those targets would have increased compliance activities and undoubtedly (based on our limited field observations) increased the number of incidences requiring investigation. Our assessment is that adherence to those targets would have provided the appropriate level of inspections.

We provide a recommendation that both organizations adhere to planned compliance targets (Recommendation # 9, Appendix 1).

The wood we observed left in the bush was no longer merchantable, and there was no evidence of ongoing wasteful practices so we do not provide a recommendation. Rather, our assessment is that the issue was related to the lack of adherence to the established compliance targets (additional inspections) and the disagreement between Nedaak and MNRF with respect to the range of Nedaak's compliance responsibilities. (Recommendations 8 and 9, Appendix 1).

Monitoring of Silvicultural Activities

Due to the late transfer of management responsibilities to the eFRL some monitoring activities (i.e. natural regeneration assessment) were delayed. Activities completed included FTG surveys, plantation survival assessments, and site competition assessments. A backlog of silvicultural obligations exist which will need to be addressed by the either the Crown or the new management entity pending the outcome of the licence review and negotiations (Recommendation # 4, Appendix 1).

Free to Grow Survey

As a general principle, it is desirable to annually assess (for FTG conditions) an area equivalent to one year's harvest. Free to grow surveys were conducted jointly by Nedaak, the MNRF and an independent contractor using both ground and aerial survey methods. During the audit term, Free-to-Grow (FTG) surveys were conducted on approximately 30,725 ha. Ninety-two percent the area surveyed was declared successfully regenerated. Areas not meeting the FTG standards, typically did not meet the minimum crop tree height requirement. The previous IFA recommendation to address the backlog in area requiring FTG (37,472 ha) has been effectively addressed.

Our visual assessments of areas declared FTG substantiated the reported stand descriptions and forest unit designations.

Silvicultural Effectiveness Monitoring

The effectiveness of forest operations prescriptions (FOP) in achieving the desired forest unit must be understood to facilitate reporting on forest sustainability and to provide reliable information for forest management planning (e.g. development of SGRs, SFMM inputs). Regeneration is considered a *"silviculture success*" (SS) when all the standards contained in the SGR applied to that stand have been met and the projected forest unit is achieved. A *"regeneration success*" (RS) occurs when the regeneration meets all the standards of an SGR but the stand has regenerated to a forest unit other than the projected unit.

The Nedaak Year 3 AR reports a silviculture success rate of 71.7%.[39] (Table 6)

[39] The table contains tabulation errors.

TABLE 6. EFRL SILVICULTURE AND REGENERATION SUCCESS BY FOREST UNIT.

Forest Unit	Total Area Assessed (Ha)	Area Regenerated to the Projected Forest Unit (Ha)	Area Regenerated to Another Forest Unit (Ha)	Area Not Successfully Regenerated (Ha)	% Silviculture Success
BwPur	402.8	136..0	236.4	30.4	33.8
CoMx	1,714.9	1,460.2	215.7	39.0	85.1
HwMx	1,949.0	1,865.5	70.2	13.3	95.7
OCon	9.7	9.7	0	0	100
PjPur	886.0	714.2	171.8	0	80.6
PoPur	2,322.8	1,724.6	586.6	11.6	74.2
PjSMx	385.2	178.6	73.3	133.3	46.4
SLow1	6,632.1	5,442.3	73.6	1,116.2	82.1
SLow3	828.4	812.3	0	16.1	94.7
SpPur	15,594.4	9,693.9	4,796.6	1,104.0	62.2
Total	**30,725.3**	**22,037.3**	**6,224.2**	**2,463.9**	**71.7**

Source: Table 4 2013-2014 Year Three Annual Report

MNRF implemented a Silvicultural Effectiveness Monitoring Program (SEM) during each year of the audit term, but not all Core Tasks were completed during each year due to budget, time and other work priority constraints. A recurring theme in the SEM reports, as reported in Table 7, was that results for regeneration and silviculture success reported by the forest industry and the MNRF were diametrically opposite. However, both organizations concur that a high level of overall renewal success had been achieved (93% vs. 92%).

TABLE 7. COMPARISON OF MNRF SEM PROGRAM AND FOREST INDUSTRY RESULTS – SILVICULTURE AND REGENERATION SUCCESS

MNRF SEM Result	2010 (Ha)	2011 (Ha)	2012 (Ha)	2013 (Ha)	MNRF Total Area Assessed	MNRF %	Industry %
Regeneration Success	366.5	372.6	146.1	624.3	1,509.5	79%	21%
Silviculture Success	0	72.1	36.1	173.3	281.5	15%	71%
Regeneration Failure	27	0	14	88.9	129.9	7%	8%
Total Area Assessed (Ha)	393.5	445.3	196.2	886.5	1,921.5		30,063
Overall Success						**93%**	**92%**

Source Table 18. Year Three Annual Report

The SEM reports attributed the differences in field results to a number of factors including;

- differences in survey methodologies,
- differences in FMP regeneration standards,
- the efficacy of chemical tending treatments (chemical treatments were often effective in reducing site competition but not in achieving a conversion to a pure conifer FU),
- the application of more than a single silviculture treatment within areas stratified for the SEM surveys,
- past differences in the definition of regeneration success (RS) and silviculture success (SS)[40] and,
- in some instances, the retrofitting of SGRs to reflect FTG survey results.

In the 2010 IFA, we reported similar data discrepancies and provided a recommendation to address the concern[41]. At that time, the variances in results were

[40] The significant difference between what the AR reports as SS and RS as compared to the MNR survey results is due to differing definitions. The AR defines SS as "successfully regenerated to an approved SGR" which contains SS and RS if the RS SGR did not fail (regenerated to another approved SGR).

[41] 2010 IFA Recommendation # 6: *District OMNR and the SFL Holder review FTG survey methodologies to address data discrepancies related to silvicultural success and stocking achievement*" and further that

attributed to differences in the survey methodologies (amongst the various forest management organizations) and data issues related to changes to forest unit descriptions over management terms, stand mapping and silvicultural coding.

The Action Plan prepared in response to our previous audit indicated that the FTG survey methodologies had been reviewed and updated and that "*if there are still notable discrepancies in the survey results the reasons for the differences will be investigated and adjustments made to the survey methodology to address the discrepancies*." The Action Plan Status Report (October 2014) indicates that "*no adjustments to the FMP FTG methodology have been made, due to a possibility that the discrepancies may be a product of the use of various "dep" codes in the forest inventory and that this issue needs to be ruled out as the source of the possible discrepancies prior to changing methodologies*".

We are concerned by the apparent lack of management priority assigned to address and resolve the longstanding issue of the variability in the silvicultural effectiveness data, particularly in the context of the management focus to create/maintain habitat conditions suitable for woodland caribou (Recommendation # 10, Appendix 1). We are also concerned that MNRF SEM sampling for Core Task 1 and Core Task 2[42] were not completed on an annual basis[43]. Not implementing these procedures seems incongruous given the wide variation in the reported results and the LTMD priority (Recommendation # 11, Appendix 1).

Exceptions Monitoring

Exceptions monitoring is carried out to determine the effectiveness of prescriptions included in forest management plans that are "*not recommended*" in the MNRF forest management guides. The only exception identified in the FMP is for full tree logging on shallow soils on Ecosite (ES) 12 where soil depth (mineral and surface organic) is less than 20 centimeters. Over the audit term, logging operations occurred on 123 ha classified as shallow soil. FMP directions with respect to shallow site operations were met as the number of skid trails within the cuts was minimized and operations were scheduled when the soil was frozen. We note that 24 post-harvest permanent growth plots were established by Kimberly-Clark to monitor the impacts of logging on shallow ecosites. These plots are re-measured on a five-year schedule by the Centre for Northern Forest Ecosystem Research (CNFER).

"*Corporate OMNR should require that District OMNR SEM results be incorporated into the Annual Report process and used to validate the analysis of silvicultural and renewal success conducted by the SFL holder*."

[42] Core Task 1: Conduct formal field survey on a minimum of ten percent (10%) of the area recently declared free-to-grow (FTG). Core Task 2: Conduct formal field survey on a minimum of five percent (5%) of area declared FTG (five years previously) and assessed (by MNRF or a licence) using a plot-based (field) survey.

[43] Core Task 1 was not undertaken in 2014. Core Task 2 was not undertaken in 2013 and 2014.

Forest Renewal Trust Specified Procedures Report

We surveyed an additional 10% of the area invoiced in the "*Forest Renewal Trust Specified Procedures Report* (SPR). While we can confirm that work was completed we were unable to "*verify activities reported and mapped with actual conditions in the field*" as the *SPR* was not received by the Corporate MNRF in sufficient time to be available for our field audit. Corporate MNRF has taken measures to address delays in SPR reporting by starting the SPR audit process (e.g. collecting background materials, conducting start-up meetings with forest managers etc.) earlier (3 months) than has been done in the past so a recommendation is not provided.[44]

Access Monitoring

The 2010 IFA provided a recommendation that a formal roads monitoring/tracking program be implemented. The FMP strategy required active access roads to be monitored annually. Roads in areas without active operations were to be monitored at least once during a three-year period. Due to a lack of forest management activities, limited staff capacity and cost, the strategy was difficult to implement and monitoring activities were mostly limited to areas of active operations. Comments or concerns on road conditions reported by the public were actively addressed. Priority emphasis was placed on environmental and safety concerns and appropriate actions were implemented. We do not provide a recommendation as monitoring is being implemented to the extent possible.

Annual Reports

Annual Reports (ARs) were available for each year in the audit scope with the exception of the 2014-2015 AR, which is not required until November 15, 2015. FMPM reporting schedules were adhered to (i.e. November 15th of the AR year). The reports met the format and content requirements of the 2009 FMPM, but we did note tabulation errors in some AR tables (e.g. Table 4 – 2013-2014 AR).

We are also concerned by the discrepancy in the harvest depletion area information compiled in the lands below regeneration standards statistic (FMP-1) between the Trends Analysis Report and inventory records of the forest manager (Section 3.2., Recommendation # 12, Appendix 1).

4.7. Achievement of Management Objectives and Sustainability

As required by IFAPP a Trends Analysis Report was prepared by the eFRL holder in support of the audit. The following trends were identified by the Report Author:

- Changes in forest structure and composition were recorded in the new FRI, including a significant reduction in the area of the BfDom forest unit.
- The chronic inability to achieve planned harvest levels has resulted in underachievement of planned silviculture targets.

[44] Personal correspondence.

- Conifer utilization has been significantly higher than hardwood utilization.
- The level of achievement of many of the objectives related to forest diversity could not be fully assessed.

The Report Author concluded that while some FMP objectives were not achieved at desired indicator levels progress is being made and the implementation of planned operations have provided for the sustainability of the Forest. The Author also indicated that improvements in the local forest economy will assist in the future achievement of desired indicator levels.

In this report we identify a number of concerns that if not resolved, have significant implications on the future sustainability of the KF. These include:

- The inability to achieve planned harvest levels over several management periods particularly in the context of the achievement of the desired future forest condition and the management of habitat for caribou.
- Uncertainty of silviculture and regeneration success due to continued discrepancies between MNRF and forest industry assessment results.
- The current imbalance between the area harvested and the area renewed.
- The efficacy of reduced levels of active ingredient in the herbicide tending program.

Despite these concerns we concluded that forest sustainability is not at immediate risk. This conclusion is premised on the following audit findings:

- Forest management is planned and implemented in accordance with the Crown Forest Sustainability Act (CFSA) and FMP targets are consistent with the achievement of plan objectives and forest sustainability.
- Most of the FMP objectives and indicators have been met or are being met with the exception of those linked to the achievement of harvest forecasts
- An overall in-compliance rate of 97% was achieved for forest operations during the audit term. We did not observe any instances of environmental damage associated with forestry operations.
- An effective debris management program was implemented to minimize the loss of productive forest area.
- AOC prescriptions were appropriately implemented to protect/maintain identified values.

- Non-timber uses were appropriately considered in the strategic and operational planning processes.

- Silvicultural Ground Rules (SGRs), Silvicultural Treatment Packages (STPs) and Forest Operations Prescriptions (FOPs) were appropriate for the forest cover types and site conditions.

- In general, an effective silviculture program was delivered. Ninety-two percent the area surveyed was declared successfully regenerated.

- Although the area renewed has not kept pace with the area harvested this circumstance reflects to a large degree, regional economic circumstances over the past two management terms which included mill closures and curtailments, forest management staff layoffs, a labour dispute and the surrender of the SFL. Work is on-going to address the imbalance.

- Recent improvements in the local forest economy should assist in the future achievement of harvest related FMP objectives and targets including caribou mosaic harvest schedules and silviculture.

4.8. Contractual Obligations

Appendix 3 presents our findings with respect to the contractual obligations of the eFRL holder and the management responsibilities and obligations of the MNRF. Nedaak was substantially in compliance with the terms and conditions of its eFRL. During our field investigations we encountered instances where FOIP inspectors had failed to discover and report piles of wood left in the bush (Recommendation # 9, Appendix 1).

In terms of MNRF management responsibilities and obligations, we found that there are arrears in OFRL payments of Crown dues, and payments to the Forestry Futures Trust and Forest Renewal Trust. MNRF is aware of the situation and is working towards payments of the outstanding amounts.

The IFAPP requires auditors to assess the effectiveness of the actions developed to address the recommendations of the previous IFA. The 2010 IFA Action Plan was late as a result of the bankruptcy and transfer of management responsibilities back to the Crown. A recommendation is provided (Recommendation # 13, Appendix 1).

A road's monitoring strategy (Recommendation # 5 in the previous audit) was incorporated in the FMP and AWSs but the strategy has proven difficult to implement and maintain due to the lack of forest management activities, limited staff capacity and costs. Monitoring activities during the audit term were largely limited to areas of active operations. We concluded that a further recommendation is not required.

In Section 4.6, we report that significant discrepancies continue to persist in the silviculture and regeneration success results reported by industry and the MNRF (Recommendation # 6 in the previous audit). While the data indicate that the Forest is

being successfully renewed, we remain concerned with the degree of the variability in the data between the forest managers and a recommendation is provided (Recommendation # 10, Appendix 1).

In the 2010 IFA, we were very concerned with the substantial inventory of unutilized timber that had been left in the bush (~246,000 m^3) and outstanding arrears to the Forest Futures Trust, Crown Dues and Forest Renewal Trust (Recommendations #s 9, 10, and 11). Systems were implemented to prevent incidences of unutilized or non-marketed harvested wood and to track and monitor volumes in the MNRF billing system. Approximately 30,000 m^3 of poplar had deteriorated to a condition that it was unusable and approximately 15,000 m^3 of conifer was utilized at the AVTB mill. On this audit we did encounter a few instances of unutilized wood; however, our assessment was that the issue was related to the requirement for additional compliance inspections as well as the disagreement between Nedaak and MNRF with respect to the range of Nedaak's compliance responsibilities. We address those issues in Recommendations 8 and 9. We did not find evidence that there was any trend or systemic issue of wasteful practices.

MNRF initiated a process to implement the repayment of outstanding Crown Charges (Forest Renewal Trust, Forestry Futures Trust charges and stumpage) and a significant lump sum payment was received. Repayments were discontinued when the companies involved entered bankruptcy, receivership and Companies' Creditors Arrangement Act (CCAA) protection.

4.9. Conclusions and Licence Extension Recommendation

The late delivery and issues with the quality of data with the FRI, the incorporation of new landscape guidelines and the CCP, and issues associated with the economic downturn in the forestry sector all resulted in planning and operational challenges during the audit term.

The KF is within the area of continuous and discontinuous distribution of woodland caribou habitat and as such, caribou habitat management is the overriding consideration affecting forest management planning and operations on the unit. While we concluded that the 2011 FMP Planning Team designed the DCHS in accordance with the provincial policy direction we are concerned that in the absence of favourable market conditions for the harvest of both hardwoods and softwoods (or in the absence of large stand-replacing natural disturbance event(s)) that the caribou mosaic will not be achieved within the timeframe allotted. We are also concerned as to the applicability of the caribou conservation strategy on portions of the Forest that have been heavily disturbed and fragmented by past forest management practices or infrastructure development (south of Highway 11). Forest cover types in these areas also frequently trend towards hardwood-dominated stands. Caribou habitat creation will, in this area, present formidable management and operational challenges requiring a significant period of time and the implementation of "*innovative forest management*" to clean up existing forest fragmentation and recreate the natural landscape pattern.

Licencing and tenure issues also affected the delivery of the forest management program. The transfer of management responsibilities to the eFRL has been challenging and the "*learning curve*" for the new management entity has been steep and tested by the difficult regional economic environment for the forest sector. Several significant issues associated with the licence duration and arrangement affected the cost effectiveness and efficiency of the delivery of the forest management program and there are legitimate concerns related to the stability of the wood flow to the Terrace Bay mill, Lecours Lumber and Columbia Forest Products.

MNRF has a legislated responsibility to ensure the orderly management of the Forest and protection of the public interest in the management of the provinces natural resources. An MNRF review/analysis of current licence arrangement is to be completed prior to the expiry of the licence in March 2016. We do not provide a recommendation with respect to the extension of the eFRL as the KF is currently a Crown management unit.

Despite the management challenges imposed by the CCP and the emergence of issues with respect to the implementation of the licence arrangement we concluded that on balance that forest sustainability as assessed by the IFAPP was not at risk (Section 4.7).

The audit team concludes that management of the Kenogami Forest was generally in compliance with the legislation, regulations and policies that were in effect during the term covered by the audit and the MNRF met its legal obligations. Forest sustainability is being achieved, as assessed through the Independent Forest Audit Process and Protocol.

Appendix 1

Recommendations

Independent Forest Audit – Record of Finding

Recommendation # 1

PRINCIPLE 3: FOREST MANAGEMENT PLANNING

Criterion: 3.1.2 Phase I planned operations and production activities.

Procedure(s): 1**.** Assess the effectiveness of the plan author, planning team, chair and advisors through:

- assessing whether issues that may affect the schedule for Phase I planned operations were appropriately addressed

Background Information and Summary of Evidence:

The Project Plan for the Phase I Kenogami FMP identifies the Roles and Responsibilities of the Steering Committee as**:**

This Steering Committee will be in place for the duration of plan preparation and will:

1. *provide common objectives to the Planning Team;*
2. *provide guidance and direction on unresolved planning team issues to ensure closure is achieved and that once decisions are made, they are not revisited without due cause;*
3. *ensure appropriate financial and human resources are provided to ensure timely and professional plan production;*
4. *monitor the production of the plan to ensure milestones are being met and the plan will be ready for approval on time.*
5. *select a project manager from OMNR staff, company staff or a mutually agreed upon third party;*
6. *Steering Committee members will receive planning team minutes and agendas and if required.*

A Steering Committee comprised of the MNRF Regional FMP Specialist, the BFPL Chief Forester and the MNR Area Supervisor was in place during Phase I planning. The Steering Committee did not formally meet during the 2008-2012 planning processes and there were no minutes of any formal or informal discussions they may have had.

The 2008 -2012 FMP planning period for the production of a new Phase I FMP included:

- The curtailment of the original 2010 FMP production schedule and the need to produce a 2010 Contingency Plan
- The need for a 2011 Contingency Plan
- The re-scheduling of the 2010 FMP to a 2011 FMP
- The late production of the 2011 FMP (April 2012)
- The late approval of the 2012-2013 AWS (July 8 2013)

The principal reasons for this protracted and inefficient process were delays in the production of the FRI and issues with the digital FRI uncovered during the review of the inventory data. Other contributing factors were:

- incorporating new direction associated with landscape guidelines and species at risk protection (specifically caribou);
- revisions to the planning inventory and long-term strategic modeling;
- other implications associated with the forest industry economic downturn (e.g. changes in staffing); and
- changes in the responsibilities of forest managers

Discussion:

Our assessment is that assisting in dealing with the factors contributing to this protracted and inefficient planning process (late and inadequate FRI, difficulties related to policy implementation, changes to the planning team membership, and changes to forest management responsibilities) fell within the purview of the Steering Committee. To our knowledge, the Steering Committee did not formally meet during the 2008-2012 Planning process and there were no minutes of any formal or informal discussions they may have had.

It is understood that, due to the organizational positions held by members of the Steering Committee, informal discussions must have taken place between its members and members of the planning team. However, the strategic nature of the issues facing the Planning Team (e.g. inadequate FRI, incorporation of new direction associated with landscape guidelines and species at risk protection (specifically caribou)) could not be expected to be resolved at the Planning Team level. Steering Committee members, and especially the MNRF Regional FMP Specialist, were most capable of addressing these issues in their respective organizations.

Conclusion:

The Steering Committee did not adequately meet its responsibilities to:

- Provide guidance and direction on unresolved planning team issues to ensure closure is achieved and that once decisions are made, they are not revisited without due cause;

- Ensure appropriate financial and human resources are provided to ensure timely and professional plan production;

- Monitor the production of the plan to ensure milestones are being met and the plan will be ready for approval on time.

Recommendation # 1:

The MNRF Region must ensure that the FMP Steering Committee meets its obligations and responsibilities to provide guidance and direction to the FMP Planning Team to ensure that the FMP is produced and approved on time.

Independent Forest Audit – Record of Finding

Recommendation # 2

Principle: 3. Forest Management Planning

Criterion: 3.3.2. Forest Resource Inventory

Procedures: 1. Assess whether the FRI has been updated, reviewed and approved to accurately describe the current forest cover that will be used in the development of the FMP.

Background Information and Summary of Evidence

A one-year Contingency Plan (CP) was required to facilitate forest operations between April 1, 2010 and March 31, 2011 due to a delay in the production and review of a new digital FRI which left insufficient time to prepare the FMP. The shortened timeframe for data checks to verify the accuracy of the FRI data has also resulted in on-going management and operational issues related to a significant number of inaccuracies in stand ages and forest unit descriptions. The late delivery of the FMP also contributed to the need for the 2011 CP, and the late approval of the 2011 FMP and the 2012-2013 AWS (July 8 2013).

The 2010 Contingency plan proposal stated that the rationale for the request was:

"This Contingency Plan is required due to a delay in preparation of the Kenogami Forest 2010-2020 Forest Management Plan (FMP). The delay in preparation is a direct result of:

"A delay in the planning inventory collection, submission, review and approval due to delay in production and review of a new digital FRI for the Forest, which will leave insufficient time to prepare a quality FMP by April 1, 2011 (delay in the delivery of the FRI will not allow production of an April 1, 2010 FMP)"

The 2011 Contingency plan proposal stated that the rationale for the request was:

"*Due to the lateness in the delivery of a new Forest Resource Inventory in 2008, the preparation of a new Forest Management Plan (FMP) was delayed. As such, a one-year 2010-2011 Contingency Plan (CP) (currently in effect) was prepared and approved to ensure forest operations continued. However, additional delay in the preparation of the new 2011-2021 FMP has occurred due to a number of factors including:*

• *incorporating new direction associated with landscape guidelines and species at risk protection (specifically caribou);*

• *revisions to the planning inventory and long-term strategic modeling; and*

• *other implications associated with the forest industry economic downturn (e.g. changes in staffing)*."

The Forest Information Manual requires that inventory information be available to the licencee no later than nine months prior to the invitation to participate (FMPM Part A, Section 3.3.3) and provides the licencee with a three-month window after receiving the planning inventory to check the information for completeness.

Conclusion:

The timely delivery of FRI products is out of synchrony with the forest management planning cycle. This circumstance is not unique to the Kenogami Forest. Data quality issues compounded by a shortened time frame for verification of the inventory information have led to on-going planning and operational challenges. Up-to-date and accurate forest inventory information is critical for reliable inputs and informed decision-making in the forest management planning process.

Recommendation # 2:

The MNRF Natural Resource Information Section (Forest Resources Inventory Unit) must meet planned timelines for the delivery of the Forest Resource Inventory and ensure the quality of the inventory products.

Independent Forest Audit – Record of Finding

Recommendation # 3

Principle: 3. Forest Management Planning

Criterion: 3.13 FMP or Contingency Plan Amendments and AWS Revisions

3.14.2 AWS revision

Procedure(s):

- Review the FMP or contingency plan amendment to assess whether adequate documentation existed for all amendments consistent with the applicable FMPM
- Review the changes during AWS implementation and determine whether a revision was processed as required of the applicable FMPM

Background Information and Summary of Evidence:

Our review of amendments and revisions to the 2010 and 2011 Contingency Plans and the 2011 FMP and Annual Work Schedules found that they were appropriate, with adequate documentation including those involving changes to values. Turn-around time between submission and approval was generally good, however at times the turn-around time was longer than what should be expected (two months or more).

Examples include:

Amendment /Revision	Topic	Request Date	Approval (Signature Page) Date
Revision. 2011-07	Retreatment Plant of area below standards	Mar. 25 2011	Jun. 24 2011
Amendment 2013-13	New AOC	Jun. 06 2013	Aug. 22 2013
Revision. 2013-06		Aug. 19 2013	Nov. 5 2013
Revision. 2013-12	Addition of a water crossing	Aug. 22 2013	Nov. 4 2013
Amendment. 2014 25	Bring an old 2011-12 bridging harvest block into the 2014-15 AWS	Aug. 20 2014	Nov. 3 2014

Discussion:

While turn-around time between submission and approval of AWS revisions and FMP amendments was generally good, at times the turn-around time was longer than what should be expected (two months or more). Efficient approval of FMP amendments and Annual Work Schedule revisions requires timely submission of high quality request material and timely review of requests.

Recommendation # 3:

Nedaak must improve the quality of its AWS revisions and FMP amendment requests and the MNRF District must adhere to FMPM/FIM schedules for the approval of amendments and revisions.

Independent Forest Audit – Record of Finding Recommendations # 4
Principle: 4: Plan Assessment and Implementation **Criterion:** 4.4. Renewal **Procedure(s):** 4.5.1. Review and assess in the field the implementation of approved renewal operations.
Background Information and Summary of Evidence: FMP targets for renewal were not achieved (23.8% of planned) due to the low level of harvest. The area renewed has not kept pace with the area harvested with only 57% of the area harvested treated for renewal.
Conclusion: The shortfall between the area harvested and renewed is largely a consequence of the regional economic circumstances over the past two management terms (which included mill closures and curtailments, forest management staff layoffs, a labour dispute (Neenah Paper Company of Canada) and the surrender of the SFL). Artificial renewal treatments were applied more frequently than natural renewal treatments as a result of the focus of harvesting on marketable conifer-dominated stands. Never-the-less a significant gap between the area harvested and the area treated for renewal exists and must be addressed if the desired future forest condition and FMP objectives related to forest cover and caribou habitat are to be achieved.
Recommendation # 4: Nedaak must augment its forest renewal program to reduce the gap between the area harvested and the area renewed.

Independent Forest Audit – Record of Finding

Recommendations # 5

Principle: 4: Plan Assessment and Implementation

Criterion: 4.5 Tending and Protection

Procedure(s):

4.5.1. Review and assess in the field the implementation of approved tending and protection operations and determine if actual operations were appropriate for actual site conditions encountered.

Background Information and Summary of Evidence:

Vegetative competition poses a significant challenge for the establishment and growth of conifers.

FMP tending forecasts were underachieved during the audit term reflecting the lower than planned area harvested, logistical issues associated with securing contractors, and weather conditions. Additionally, concerns expressed by First Nations and the public with respect to the use of herbicides resulted in area reductions and/or the cancellation of planned treatments.

To address social concerns related to the use of herbicides Nedaak reduced the concentration of active ingredient (a.i.) utilized in spray treatments. Lowering the concentration (of the active ingredient) reduces the efficacy of the treatment resulting in less mortality to competing vegetation. Areas treated are appear visually "*greener*" than areas sprayed with higher concentrations of active ingredient and the reduced levels of hardwood mortality.

Silviculture monitoring indicates that species shifts from pure conifer to more mixed wood conditions are occurring within some of the conifer dominated forest units. This emerging trend underscores the requirements for effective and timely tending treatments to ensure desired future forest conditions are achieved.

Conclusion:

Herbicides are highly effective but also a contentious vegetation management tool. In our opinion, the accommodation of public concerns with respect to the use of herbicides was appropriate and consistent with the adoption of a balanced approach to forest management (where public/stakeholder concerns/issues are accommodated to the extent possible).

However, given the LTMD priority to create/maintain habitat conditions suitable for woodland caribou and the inherent productivity of upland sites on the KF, the efficacy of the strategy needs to be evaluated to determine 1) the effectiveness of reduced levels of a.i. in suppressing competing vegetation and preventing/minimizing the establishment of

undesirable species (over the short to mid-term) 2) cost-effectiveness 3) achievement of FMP desired future forest condition.
Recommendation # 5: Nedaak must assess the efficacy of the reducing the active ingredient (a.i) in herbicide tending program to determine 1) the effectiveness of reduced levels of a.i. in suppressing competing vegetation and preventing/minimizing the establishment of undesirable species 2) cost-effectiveness and 3) its implications on the achievement of FMP desired future forest condition.

Independent Forest Audit – Record of Finding Recommendations # 6
Principle: 4: Plan Assessment and Implementation **Criterion:** 4.4. Renewal **Procedure(s):** 4.4. … assess the effectiveness of operations to reduce the areas of slash piles and chipping debris and treatments to regenerate these areas.
Background Information and Summary of Evidence: In general, an effective slash management program was implemented during the audit term. However, we did encounter sites where poplar veneer had been merchandized and the slash had been left untreated. Nedaak maintains a database (spreadsheet) which was designed to track the delivery of the slash management program.
Conclusion: The merchandizing of poplar in second pass operations and/or the poplar veneer at landings following normal operations has created difficulties in tracking harvest activities and the management of poplar slash. Issues associated with veneer merchandizing may underscore a requirement for better communications between Nedaak staff and the OFRLs.
Recommendation # 6: Nedaak must effectively track OFRL operations merchandizing poplar veneer and ensure that slash from the operations is appropriately managed.

Independent Forest Audit – Record of Finding

Recommendations # 7

Principle: 5 System Support

Criterion: 5.1 Human Resources

Procedure(s):

- Awareness, education and training programs are necessary to ensure current general knowledge as well as knowledge specific to an individual's responsibilities in the sustainable forest management (SFM) system. There must be programs that ensure current knowledge of regulations and legal responsibilities.

- SFM policies, objectives, and plans, including an understanding of how an individual's activities influence successful implementation of the SFM system.

Background Information and Summary of Evidence:

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

The Nedaak forester has a long history on the Forest and that individual's competency and professionalism are not at issue. However, seasonal staff we encountered, while adequately carrying out assigned tasks, often lacked an understanding of fundamental forest management principles and the long-term direction of the corporation. While staff were enthusiastic, and clearly willing to learn, competency in "*how to carry out tasks*" lacked the context of "*why they are being done*" and the contribution to the long term sustainability of the Forest. Because of uncertainty around the eFRL renewal form and tenure Nedaak has relied heavily on seasonal and contract staff to carry out its licence obligations.

Discussion:

The relatively short term of the eFRL and lingering uncertainty about its renewal status in March, 2016 made it understandably difficult for Nedaak to commit to hiring full time staff and make significant investments in staff training. Seasonal staff play a role in delivering Nedaak's responsibilities on the Forest. Our observations were that those staff were well versed in the "how to" of completing their assigned tasks, but were less aware as to "why" they were being delivered, or the impact on forest sustainability.

It can be argued that seasonal staff only need to be able to perform a task, with no requirement for them to understand why they are doing it. In this case, we disagree for the following reasons;

- Seasonal staff play a role in the delivery of the forest management program.
- There is a long-term intent to both attract and employ Aboriginal people in Nedaak operations.
- GANRAC members are looking for assurances that those managing the forest (regardless of tenure) are fully competent.
- Wood products from the Kenogami Forest and its sustainable management are critical to the local and regional economy.

These reasons suggest to the auditors that Nedaak should be using every opportunity to enhance staff understanding of forest management as well as their technical competency. If seasonal/contract staff are a significant component of the company's operation then, regardless of their tenure, they need to be knowledgeable about fundamental forest management principles.

We note that Nedaak had sent staff for compliance training and was utilizing every opportunity for "*on the ground*" training (e.g. tree plant, accompanying the auditors, etc.). Our intent is to provide support to the work that Nedaak has already initiated. There is no intent to suggest summer staff require advanced forest management training. However, our intent is that Nedaak should devote a portion of its training dollars and time in providing selective, and basic background on "why" certain activities are being carried out, and the impact on forest sustainability. For example, an introduction to SAR legislation, species that might be encountered on the Forest, FMP direction and how the company implements its responsibilities.

Recommendation # 7:

Nedaak must enhance its training of seasonal staff to include broader contextual information on FMP requirements and their implementation rationale.

Independent Forest Audit – Record of Finding

Recommendations # 8

Principle: 6 Monitoring

Criterion: 6.1. SFL/Compliance Planning and Monitoring

Procedure(s):

1. The actual level of the implemented overall monitoring program is appropriate and effective.

Background Information and Summary of Evidence:

We sampled 30 randomly selected FOIP reports and found that 23% of the reports (7) were long-standing and required follow-up and closure. These included MNRF and AVTB FOIP reports.

The MNRF acknowledged that a backlog existed and indicated that a recently hired compliance inspector had responsibility to address the outstanding reports.

Nedaak FOIPs were up to date: however, a number of AVTB reports had not been closed or were late. Nedaak and MNRF staff disagreed on whose responsibility it was to ensure that the OFRL's compliance obligations were met.

Discussion:

The eFRL requires Nedaak to monitor the compliance program implemented by the OFRL to ensure adhesion to the FMP. We note that Section 17.1 of the eFRL states; The Company "…*perform the functions and obligations identified as being the responsibility of a Sustainable Forest Licence …shall perform those functions and obligations in accordance with the Forest Compliance Manual."*

Recommendation # 8:

The MNRF District must ensure that outstanding MNRF FOIP inspections are closed and Nedaak must monitor the compliance program implemented by the OFRLs to ensure that all obligations and responsibilities for compliance monitoring and reporting are met.

Independent Forest Audit – Record of Finding

Recommendation # 9

Principle: 3. Forest Management Planning

Criterion: 3. 5.11. FMP Monitoring Programs

Procedure(s):

- Assess whether the monitoring programs to be implemented, including forecast level of assessment, are sufficient to assess the compliance program effectiveness on the management unit.

Background Information and Summary of Evidence:

Our review of FOIP inspections indicated there were approximately 247 inspections with 8 not-in-compliances, resulting in an in-compliance rate of approximately 97 %. However, during our field sampling we encountered instances of unreported/unknown compliance infractions (e.g. harvested wood left unhauled, culvert replacement). We also determined that planned FMP and associated AWS compliance targets were not met.

Discussion:

The number of compliance inspections undertaken on a management unit reflects a number of factors including: the level of forest management activity, an assessment of compliance risk based on historic performance of operators, and the resolution of past compliance concerns. Those factors are the building blocks of the compliance program developed in the FMP, in specific compliance plans and implemented through the AWS. While the in-compliance rate achieved on the KF was excellent, we are concerned that our field sample found previously undetected instances of non-compliance (e.g. piles of merchantable wood not hauled). We also determined that planned annual compliance activities were not fully implemented during the audit term. This fact begs the question that if additional activities had been carried out would additional non-compliances have been detected? We note that both the MNRF and Nedaak recognized the need to increase their field activities and both organizations were increasing their numbers of trained compliance staff.

Our assessment is that while the planned compliance program was appropriate, it needed to be fully implemented in the field.

Recommendation # 9:

The MNRF District and Nedaak must adhere to compliance direction and targets described in the FMP, approved compliance plans and the AWS.

Independent Forest Audit – Record of Finding

Recommendations # 10 & 11

Principle: 6 Monitoring

Criterion: 6.3 Silviculture Standards Program

Procedure(s):

2 Assess overall effectiveness of treatments.

Background Information and Summary of Evidence:

The effectiveness of forest operations prescriptions in achieving the desired forest unit must be understood to facilitate reporting on forest sustainability and to provide reliable information for forest management planning (e.g. development of SGRs, SFMM inputs). Regeneration is considered a *"silviculture success*" (SS) when all the standards contained in the SGR applied to that stand have been met and the projected forest unit is achieved. A *"regeneration success*" (RS) occurs when the regeneration meets all the standards of an SGR but the stand has regenerated to a forest unit other than the projected unit.

We identify a number of concerns with respect to silvicultural effectiveness monitoring. Our previous audit identified a concern with the respect to the variability in results reported between the then SFL holder and the MNRF. We required that a review be undertaken of the FTG survey methodologies adopted by the MNRF and forest industry to address data discrepancies related to silviculture success and stocking achievement.

The Action Plan prepared in response to our previous audit indicated that the FTG survey methodologies had been reviewed and updated and that "*if there are still notable discrepancies in the survey results the reasons for the differences will be investigated and adjustments made to the survey methodology to address the discrepancies*." The Action Plan Status Report (October 2014) indicates that "*no adjustments to the FMP FTG methodology have been made, due to a possibility that the discrepancies may be a product of the use of various "dep" codes in the forest inventory and that this issue needs to be ruled out as the source of the possible discrepancies prior to changing methodologies*".

The Year Three Annual Report indicates that significant variability in findings persists.

MNRF SEM Result	2010 (Ha)	2011 (Ha)	2012 (Ha)	2013 (Ha)	MNRF Total Area Assessed	MNRF %	Industry %
Regeneration Success	366.5	372.6	146.1	624.3	1,509.5	79%	21%
Silviculture Success	0	72.1	36.1	173.3	281.5	15%	71%
Regeneration Failure	27	0	14	88.9	129.9	7%	8%
Total Area Assessed (Ha)	393.5	445.3	196.2	886.5	1,921.5		30,063
Overall Success						93%	92%

Source Table 18. Year Three Annual Report

Given the reported discrepancies and the FMP LTMD priority, we are concerned that the MNRF SEM program did not complete Core Task 1 and Core Task 2 sampling on an annual basis (Core Task 1 was not undertaken in 2014 and Core Task 2 was not completed in 2013 and 2014). These tasks are the primary survey assessments conducted by MNRF to sample and verify industry reported statistics on regeneration and silviculture success.

Conclusion:

We were concerned by the apparent lack of management priority assigned to address and resolve the longstanding issue of the variability of the silvicultural effectiveness data, particularly in the context of the management focus to create/maintain habitat conditions suitable for woodland caribou.

We question the decision by the MNRF District to not complete Core Task 1 and Core Task 2 SEM monitoring functions annually given FMP LTMD and the fact that these tasks represent the primary survey assessments conducted by MNRF to sample and verify industry reported statistics on regeneration and silviculture success.

Recommendation # 10:

MNRF District and Nedaak staff must investigate the reasons for the differences in FTG survey results and adjust their FTG survey methodologies to address the discrepancies in the results reported for silviculture and regeneration success.

Recommendation # 11:

The MNRF District should place a priority emphasis on the completion of Core Task 1 and Core Task 2 SEM monitoring functions until there is less discrepancy between industry and MNRF statistics for regeneration and silviculture success.

Independent Forest Audit – Record of Finding

Recommendation # 12

Principle: 7 Achievement of Management Objectives and Forest Sustainability

Criterion: 7.1 Year Ten Annual Report/Trends Analysis Report

Procedure(s): Analysis of forest disturbances
Determine whether information in the tables matches the source documents

Background Information and Summary of Evidence:

FMP-2 in the 2011 Phase I FMP reports that approximately, 14% of the productive forest area is classified as "*below regeneration standards*" (206,744 ha). Our interviews with forest management staff indicated that approximately 63,000 ha of this area was comprised of land that was declared FTG, but not included in the inventory and approximately 17,000 ha was awaiting free-to-grow survey Approximately 31,000 ha were natural depletions.

There is a discrepancy of approximately 14,000 ha between the harvest areas reported in the Trends Analysis Report and the depletion records maintained by the forest manager.

Conclusion:

It is possible that the information gap is the consequence of the management of the forest inventory information by several entities and/or the incomplete transfer of records following the bankruptcy of the SFL holder and the surrender of the licence to the Crown. Never-the-less the FRI data and management reports (i.e. Trends Analysis Report, Annual Reports) need to be updated/corrected to show the correct area of harvest depletion.

Recommendation # 12:

The MNRF District Office and Nedaak must reconcile area reported as lands below regeneration standards in the forest inventory and make the appropriate corrections to tables in the ARs, FMP and Trends Analysis Report. Forest management surveys and/or assessments within this area should be completed as necessary, and if required, silviculture treatments implemented to ensure that renewal standards are achieved.

Independent Forest Audit – Record of Finding

Recommendation # 13

Principle: 8. Contractual obligations

Criterion: 8.1.9 Audit Action plan and Status Report

Procedure(s): An action plan responding to audit recommendations … is to be completed within 2 months of receiving the final audit report.

Background Information and Summary of Evidence:

A draft action plan responding to the recommendations in the 2010 IFA had been prepared by MNR and the SFL's service provider but it was not finalized prior to the return of the SFL to the Crown.

The draft action plan was subsequently revised and finalized to reflect MNR as the forest manager. The 2010 Independent Forest Audit Report was received in February, 2011. The required Action Plan was due in April, 2011 but was submitted approximately 16 months late. It was approved in October, 2012. The Action Plan Status Report was completed on time (October 2014).

The IFAPP requires that all audit recommendations be acted upon and that the action(s) implemented be documented in the Action Plan Status Report. We concluded that while many of the recommendations were appropriately addressed (or work was on-going) there were a number of recommendations that had not been adequately addressed.

Conclusion:

Adherence to the IFAPP due date for the submission of the Action Plan is a licence condition. This condition was not met.

We concluded that the following 2010 IFA recommendations had not been adequately addressed:

Recommendation # 6. In section 4.6 we report that significant discrepancies continue to persist in the silviculture and regeneration success results reported by industry and the MNRF.

Recommendation # 12. The Action Plan was not submitted in accordance with the due date required by the IFAPP.

Recommendation # 13:

The MNRF District Manager must ensure that the IFA Action Plan is submitted in accordance with the due date established in the Independent Forest Audit Process and Protocol (IFAPP) and that all Action Plan items are addressed within an appropriate period of time.

Independent Forest Audit – Record of Finding Best Management Practice # 1
Principle: 2 Public Consultation and Aboriginal Involvement **Criterion:** 2.1.2. LCC Purpose and Activities **Procedure(s):** Effectiveness of LCC involvement related to … public consultation process.
Background Information and Summary of Evidence: The GANRAC has a very sophisticated website (GANRAC.com) that is significantly better than any public communication efforts we have encountered in previous IFA's. The website contains detailed information on Committee members, minutes of meetings, FMP updates, AWS links, ongoing projects, current natural resources issues, etc. It is user friendly, current and regularly updated. It provides an excellent forum for citizen information as well as Nedaak and MNRF communications.
Best Management Practice # 1: The GANRAC website is a sophisticated and effective public communications outreach tool.

Appendix 2

Achievement of Management Objectives

ACHIEVEMENT OF MANAGEMENT OBJECTIVES

2008 FMP OBJECTIVES	ASSESSMENT OF OBJECTIVE ACHIEVEMENT MET, BEING MET, NOT MET PARTIALLY MET UNCERTAIN	AUDITOR COMMENTS
A) FOREST DIVERSITY Note: Forest Diversity Structure and Composition objectives (Objectives 1, 2 and 3), as created and tested in the production of the 2011 FMP are, by their design, long term. For most of the objectives inadequate time has elapsed since approval of the FMP for the effects of limited natural disturbance and limited harvesting to have a measurable impact on forest diversity structure and composition. Nevertheless, we review and make some additional comment (below) for these objectives. In the case where inadequate time has elapsed to assess the achievement of an FMP objective and in the absence of other relevant information, we have assigned it a status of "BEING MET", based on testing of the objective during 2011 FMP preparation.		
Objective 1: **To provide forest diversity in a manner that emulates a natural landscape pattern and frequency distribution.** Indicator 1.1: Percent frequency distribution of forest disturbances by size class.	**BEING MET**	Modelling in the 2011 FMP predicted positive movement in frequency distribution in 5 of 7 disturbance size classes projected to occur with harvest over the next 10 years. The

		lower than expected harvest levels due to mill closures, along with a lower than normal amount of natural disturbances has potential to delay achievements of the target
Indicator 1.2: Percentage of online caribou habitat in the continuous population range.	**PARTIALLY MET**	The desirable level and target to maintain the percentage of online caribou habitat in the continuous population range at or above 40%, over the long-term, is on track in the current plan. The current low harvest levels will, if continued, negatively affect the development of habitat for caribou.
Indicator 1.3: Percentage of suitable marten habitat arranged in core areas.	**BEING MET**	FMP planning predicted that the marten guideline direction of 10-20% of the capable forest in suitable condition and arranged in core areas would be met. The density of suitable marten habitat arranged in deferred cores outside of the caribou mosaic is projected to increase from 47% to 60% over the next 20 years and then to 69% over 60 years.
Objective 2: **To provide for a forest structure, composition and abundance that is representative of the forest condition under a natural disturbance regime and similar to the historic, natural forest condition.**		

Indicator 2.1: Area of Young Crown productive forest by forest unit.	**BEING MET**	Overall, 2011 FMP desirable levels and targets for non-spatial forest composition and age structure were projected to be achieved. Only two of 36 long-term desirable levels and five of 36 short-term targets were projected to not be achieved. According to the 2013 AR, the SpPur forest unit is a concern. Results from FTG surveys are showing successful conifer regeneration and this will be monitored to determine if there are trends developing and will be reported in the Year 7 annual Report. In the 2011 FMP the desirable area of spruce lowland forest units was projected to not be achieved, as a result of harvesting the available area within specific caribou mosaic blocks according to the schedule.
Indicator 2.2: Area of Mature Crown productive forest by forest unit.	**BEING MET**	The 2011 FMP indicated that overall, the desirable levels and targets for Mature Crown productive forest unit area are projected to be achieved. This target was projected to be evaluated in the Year 7 and 10 Annual reports.
Indicator 2.3: Area of Late (old) Crown productive forest by forest unit.	**BEING MET**	Overall, the 2011 FMP desirable levels and targets for Late (old) Crown productive forest units were projected to be achieved. The target will be evaluated further in the Year 7 and 10 Annual reports. Targets were projected to be achieved in the FMP and will be

		evaluated further in the Year 7 and 10 Annual reports.
Indicator 2.4: Total area of Crown productive forest by forest unit.	**BEING MET**	With few exceptions, the desirable levels & targets for total Crown productive forest unit area are projected to be achieved.
Indicator 2.5: Area of Crown productive forest by forest landscape class.	**NOT BEING MET**	The indicator "*Area of Crown productive forest by forest landscape class" was a difficult one to assess both in the FMP and in the Trends analysis*." The FMP discussion states that "*the intention to harvest the caribou mosaic areas while meeting goals for area by individual forest unit and maturity class, results in the achievement of the desired levels and targets for the forest classes being varied*." The FMP analysis further indicates that the pre-sapling and sapling forest area desirable level and targets are not projected to be achieved. It also notes that "*positive movement (decrease) in immature hardwood forest area is projected thus achieving the target for this forest class, however long-term achievement of the desirable level, to decrease to within the SRNV is not projected, nor was it projected to occur in the natural benchmark scenario*." We agree with this assessment. The evaluation of the area of Crown productive forest by forest landscape class and its relationship to Caribou habitat management objectives will need to be a continuous process.

Objective 3: **To provide forest diversity that meets the habitat needs for animal life and values dependent on Crown forest cover.**		
Indicator 3.1: Area and distribution of preferred habitat for forest-dependent provincially and locally featured species and species at risk. Desirable Level: To maintain across the entire forest, the preferred habitat area for forest-dependent, provincially and locally-featured species, and species at risk, within the Bounds of Natural Variation (BNV), over time.	**BEING MET**	We agree with the FMP and Trends analyses that overall, all desirable levels and targets for preferred wildlife habitat area are projected to be achieved. Pileated woodpecker preferred habitat area experiences the greatest reduction over the long term, mainly because of the intentional reduction of hardwood dominated and mixedwood forest units. However, this is consistent with the trend that was observed in the natural benchmark scenario. The lower overall harvest levels and the minimal harvest within the northern portion of the caribou mosaic A blocks will, if continued, negatively affect the development of habitat for caribou. This target was projected to be evaluated in the Year 7 and 10 Annual Reports.
Indicator 3.2: Area of refuge habitat for woodland caribou in the continuous population range.	**BEING MET**	The FMP analysis of the area of refuge habitat for woodland caribou in the continuous population range estimates that the desirable level for caribou refuge habitat area is projected to be achieved, except for two terms, when it drops below the desired SRNV range.
Desirable Level: To maintain caribou refuge habitat area in the continuous population range within the Simulated Range of	**BEING MET**	This strategy is consistent with the intention to maximize the harvest of the available area within the caribou mosaic in order to create large even-aged forest patches on the landscape. Caribou refuge habitat

Natural Variation (SRNV) (825,600 to 908,000 ha), over time.		area is projected to fall below the lower bound of the SRNV for a 20-year period. This drop in habitat area is consistent the trend observed in the natural benchmark scenario. The planning team decided that the relatively short term drop in refuge habitat area reflects a balanced approach to the overall achievement of FMP objectives in the long-term management strategy. This target was projected to be evaluated in the Year 7 and 10 Annual reports and as with the indicator of *"desirable levels and targets for preferred wildlife habitat area*" the lower overall harvest levels and the minimal harvest within the northern portion of the caribou mosaic A blocks will, if continued, negatively affect the development of habitat for caribou.
Indicator 3.3: Area of winter habitat for woodland caribou in the continuous population range.	**BEING MET**	We agree with the FMP analysis and rationale that overall, the desirable level for caribou winter habitat area is projected to be achieved, except for three terms, when it drops below the desired SRNV range.
Desirable Level: To maintain caribou winter habitat area in the continuous population zone within the Simulated Range of Natural Variation (SRNV) (638,100 to 790,400 ha), over time.	**BEING MET**	In the FMP, the short term target is projected to be achieved. It is the intention to maximize the harvest of the available area within the caribou mosaic in order to create large even-aged forest patches on the landscape, consistent with MNR direction to spatially create future caribou habitat and large, landscape-level disturbances. For this reason, winter habitat area is projected to fall

		below the lower bound of the SRNV for a 30-year period starting in 2031. As a result, the desirable level will not be achieved. The short term target is projected to be achieved, and over the remainder of the planning horizon, caribou winter habitat area was maintained within the desired range. The planning team decided that this projected decline in caribou winter habitat area below the desired minimum level reflects a balanced approach to the overall achievement of FMP objectives in the long-term management strategy. This target was projected to be evaluated in the Year 7 and 10 Annual reports
Indicator 3.4: Percentage of available Crown productive conifer-dominated forest unit area in the caribou continuous population range.	**BEING MET**	The desirable level and target are projected to be achieved and to be evaluated in the Year 7 and 10 Annual reports. This is a long range objective and at this time it is too early to reach any conclusions.
Indicator 3.5: Percent conifer composition of available Crown productive, conifer-dominated forest in the caribou continuous population range.	**BEING MET**	In the FMP analysis, the desired target "*To have no net decrease in weighted average percent conifer composition of available Crown productive, conifer- dominated forest units, individually and combined in the caribou continuous population range, over the short term (2021), resulting from post-harvest silviculture activities*." is projected to be achieved. This target is to be evaluated in the Year 7 and 10 Annual reports and at this time it is too early to reach any conclusions.

Indicator 3.6: Area and distribution of capable marten habitat in suitable condition across the entire Forest.	**BEING MET**	The desirable level and associated target of maintaining 10-20% of the capable marten habitat area in suitable condition arranged in cores/caribou mosaic blocks is projected to be achieved. This target is to be evaluated in the Year 7 and 10 Annual reports. Harvest operations have been concentrated within the area for marten habitat management and achievement of these targets is not seen as an issue. The 2013 Annual Report notes that harvest operations have concentrated within the area for marten habitat management and that marten targets will be met.
Indicator 3.7: Area and distribution of capable marten habitat in suitable condition south of the caribou mosaic.	**BEING MET**	The desirable level and associated target is projected to be achieved. A minimum of 10% of the capable marten habitat area in suitable condition has been arranged in cores south of the caribou mosaic and has been deferred from harvest. This level increases to 14% over the next 60 years. The 2013 Annual Report notes that harvest operations have concentrated within the area for marten habitat management and that marten targets will be met.
Indicator 3.8: Area and distribution of capable marten habitat in suitable condition in the caribou mosaic.	**BEING MET**	The desirable levels and targets for the area and distribution of capable marten habitat area in suitable condition in the caribou mosaic were projected to be achieved and progress will be evaluated in the Year 7 and 10 Annual Reports.

B) SOCIAL AND ECONOMIC ENVIRONMENT		
Objective 4: **To contribute to social and economic well-being by providing a sustained level of harvest.**		
Indicator 4.1: Long-term, projected available harvest area by forest unit.	**BEING MET**	Overall, the desirable level and targets are projected to be achieved. The future annual harvest area is maximized to address wood supply targets, although it does decline from Term 1 but it stabilizes and is generally sustained at an average of 10,600 ha per year thereafter.
Indicator 4.2: Long-term, projected available harvest volume by species group.	**BEING MET**	Overall, the desirable level and targets are projected to be achieved. The future annual harvest volume by species group is maximized. The annual volume for the SPF, PO species groups, the two largest, do decline from Term 1 for the next 60 years (to Term 6). This decline is attributed to the balancing of achievement of other objectives related to wildlife habitat, future forest condition, minimizing area and volume harvest reduction between 10-year terms; and the fact that the caribou mosaic directly influences the availability of area and volume that can be harvested.
Indicator 4.3: Available and forecast harvest area by forest unit.	**BEING MET**	With the selection of planned harvest area by forest unit, the desirable level and target has been achieved. The

		planned harvest is within 43 hectares of the total available harvest area. Targets for the long-term available harvest area by forest unit, available harvest volume by species group and available and forecast harvest area by forest unit were all met during development of the LTMD.
Indicator 4.4: Forecast and actual harvest area by forest unit.	**NOT BEING MET**	21.5% of the available AHA was harvested during the first four years of the audit term. The inability to achieve planned harvest levels and other harvest related objectives (i.e. clearcut block aggregate area) is significant as there is a potential for lost economic opportunities should uncut stands experience volume declines. There is also a lost management opportunity to control stand composition for future caribou habitat through planned silviculture interventions. There is some optimism that the re-opening of a sawmill in Longlac will make harvests in the northern portion of the unit (north of Nakina) more economic and facilitate the completion of A blocks in the mosaic.
Indicator 4.5: Percentage of lowland forest harvest operations.	**MET**	The target for percentage of lowland forest harvest operations is to maintain the annual percentage of lowland forest unit harvest to less than 40% of the annual harvest area. The 2011 FMP projects this target to be achieved. In 2013, the lowland forest units accounted for 18% of the total area harvested.

Indicator 4.6: Available and forecast harvest volume by species.	**BEING MET**	Overall, the desirable levels and targets for available and forecast volume by species has been achieved during Phase I planning.
Indicator 4.7: Forecast and actual harvest volume by species.	**NOT BEING MET**	The target has not been achieved at this point in the current term. Local mills have had unforeseen closures, which lowered harvest levels because of a lack of markets.
Indicator 4.8: Percent of forecast volume utilized by mill(s).	**NOT BEING MET**	The target of 90% of forecasted volume being utilized by mills/destinations over time and the short term is not being achieved in the current term. Local mills have had unforeseen closures creating a situation where this objective is unachievable.
Objective 5: To contribute to community well-being while providing forest cover for values dependent on forest cover.		
Indicator 5.1: Kilometres of SFL-responsible forest access roads per square kilometre of Crown Forest in the caribou continuous population range.	**BEING MET**	The target is being met. Due to a low amount of road construction during this current term, there has been a less than 10% increase in kilometres of drivable road in the caribou continuous range.

Indicator 5.2: Kilometres of SFL responsible forest access roads per square kilometre of Crown Forest outside the caribou continuous population range.	**BEING MET**	Due to a low amount of road construction during this current term, the target of less than 15% increase in kilometres of drivable road outside of the caribou continuous range is being met.
Indicator 5.3: Area of managed Crown forest available for timber production.	**NOT BEING MET**	The target is to have no more than a 1% reduction in forest area available for timber production during the 2011-2021 FMP. Strategically, the desirable level and target are projected to not be achieved until 2111.
Objective 6: To contribute to community socio-economic well-being.		
Indicator 6.1: Opportunity for Aboriginal involvement in the development of the FMP and for customized community consultation.	**MET**	Each of the Aboriginal communities with an interest in the KF were contacted with respect to their participation in the planning process and provided opportunities for a customized consultation were made available.
Indicator 6.2: Opportunity for Aboriginal involvement in the development of the FMP through representation on the planning team.	**MET**	All First Nation communities were kept informed of the planning team decisions by receiving minutes and offers to attend meetings. Two of six First Nation communities participated the development of the FMP.

Indicator 6.3: Opportunity for Aboriginal involvement in the development of the FMP through the provision of background information and protecting identified values.	**MET**	The planning team incorporated the updated Aboriginal Background Information Reports and identified Aboriginal Values.
Indicator 6.4: Opportunity for Local Citizens committee (LCC) involvement in FMP development.	**MET**	The LCC had representation on the planning team.
Indicator 6.5: Local Citizens Committee's (LCC) self-evaluation of its effectiveness in FMP development.	**MET**	The target was for 60% of LCC members to participate in the FMP development. This target was met with 83% of respondents indicating that they effectively participated.
C) FOREST HEALTH AND ECOLOGICAL INTEGRITY		
Objective 7: To contribute to a healthy forest ecosystem by minimizing the potential for adverse effects of forest management practices on values dependent on forest cover.		
Indicator 7.1: Percentage of forest operation compliance inspection reports indicating compliance with	**MET**	An in- compliance rate of 97% was achieved. No site damage associated with forest operations was observed during the audit. No trends related to compliance infractions

prescriptions for the protection of water quality, fish habitat, natural resource features, land uses or values dependent on forest cover; and for the prevention, minimization or mitigation of site damage.		were identified. We do recommend that both Nedaak and the MNRF adhere to compliance plans and targets that would result in additional inspections.
Indicator 7.2: Percentage of forest operation compliance inspection reports indicating compliance with prescriptions developed for the protection of resource-based tourism values.	**MET**	No non-compliances were associated with the protection of tourism values.
Indicator 7.3: Percentage of forest operation compliance inspection reports indicating non-compliance.	**PARTIALLY MET**	In 2013/14 there was a 6% rate of non-compliance, which is trending towards the 5% indicator target. We are concerned that our field audit found several instances of unreported compliance infractions. Our sample of 30 FOIP reports found that 23% of the reports were longstanding and required follow-up and closure. These included MNRF and AVTB reports.

D) SILVICULTURE		
Objective 8: To maintain and enhance forest ecosystem condition and productivity through silvicultural practices.		
Indicator 8.1: Percentage of harvested forest area assessed as regeneration success.	**UNCERTAIN**	Free to Grow surveys on approximately 30,725 ha were conducted during the audit term. Ninety-two percent the area surveyed was declared successfully regenerated. There is variability in the reported results for regeneration success reported by the MNRF and forest industry. We provide a recommendation to address this concern (Recommendation # 10) and require the MNRF to place a higher priority on Core Tasks 1 & 2 in its SEM program (Recommendation # 11).
Indicator 8.2: Percentage of harvested forest area assessed as silvicultural success.	**UNCERTAIN**	There is considerable variation in the reported achievement of silviculture success between the MNRF and forest industry. We provide a recommendation (Recommendation # 10). and require the MNRF to place a higher priority on Core Tasks 1 & 2 in its SEM program (Recommendation # 11).

Appendix 3

Compliance with Contractual Obligations

The information in the table below is based on the totality of information gathered during the audit (documents, interviews and fields inspections). More explanation and details is provided in the text of the report.

PRINCIPLE 8 CONTRACTUAL OBLIGATIONS IFAPP number	**Auditor Assessment**
8.1.1 Payment of Forestry Futures and Ontario Crown charges	As of March 31st, 2015 the Crown dues were in arrears ($688.28). MNRF is aware of the outstanding balances and is taking measures to collect the amounts in arrears.
8.1.2 Wood supply commitments, MOAs, sharing arrangements, special conditions	Wood supply commitments were met in the planning process.
8.1.3 Preparation of FMP, AWS and reports; abiding by the FMP, and all other requirements of the FMPM and CFSA	Reports were prepared but there were delays in the FMP production and consultation schedules. All other FMPM and CFSA requirements were met.
8.1.4 Conduct inventories, surveys, tests and studies; provision and collection of information in accordance with FIM	Inventories and surveys were completed as required. We are concerned with the variability in reported data on silviculture and regeneration success between forest industry and the MNRF (Recommendation # 11).
8.1.5 Wasteful practices not to be committed	During the field audit we encountered instances were merchantable wood had been left in the bush. The wood had deteriorated to the point that it was not merchantable. We concluded that the underlying issue was related to disagreements between the MNRF and Nedaak over harvest compliance monitoring responsibilities and a need for more inspections (Recommendations 8 and 9). There was no evidence of systemic wasteful practices.
8.1.6 Natural disturbance and salvage SFL conditions must be followed	There were 66.1 hectares of salvage harvested during the 2013-14 AR reporting period. All conditions for salvage harvest were met.

8.1.7 Protection of the licence area from pest damage, participation in pest control programs	No pest control measures were required during the audit term.
8.1.8 Withdrawals from licence area	There were no withdrawals from the licence area during the audit term.
8.1.9 Audit action plan and status report	The Action Plan was submitted late and some recommendations from the 2010 IFA were not adequately addressed. We provide a recommendation (Recommendation # 13).
8.1.10 Payment of forest renewal charges to Forest Renewal Trust (FRT)	As of March 31st, 2015 there is an outstanding balance of $ 21,907.22. MNRF is aware of the outstanding balance and is taking measures to collect the outstanding amount.
8.1.11 Forest Renewal Trust Eligible Silviculture Work (EWS)	Forest Trust ESW was completed and was generally effective in achieving silviculture program objectives. We were not able to verify activities reported and mapped with actual conditions in the field as the "Forest Renewal Trust Specified Procedures Report" was not available for the field audit due to its late receipt by Corporate MNRF.
8.1.12 Forest Renewal Trust forest renewal charge analysis	Renewal charge analysis work was completed on an annual basis. Considerable work on the analysis was required due to the chronic uncertainty as to whether or not harvest operations would occur (particularly after the TBPI bankruptcy). The analysis was also complicated by uncertainty as to what volume (and species mix) would be harvested given the prevailing economic circumstances in the Region (i.e. mill closures, bankruptcies and the sale of the TB mill). These circumstances resulted in changes to renewal charges in four of the five years of the audit term as new operational/harvesting proposals were put forth. We note that the minimum balance was maintained for 4 of the 5 years of the audit term. Silvicultural obligations exist which will need to be addressed by the either the Crown or a new management entity pending the outcome of the licence review (Recommendation # 4, Appendix 1).
8.1.13 Forest Renewal Trust account minimum balance	The minimum balance of $4,630,900 was met in 4 of the 5 years of the audit term. During 2010 -11, with the bankruptcy of TBPI the balance was not met ($3,715,211). The amount due (March 31, 2015) was $ 21,907.22.

8.1.14 Silviculture standards and assessment program	Silvicultural assessments were completed. We are concerned with data discrepancies between the MNRF and forest industry with respect to silviculture and regeneration success. We provide a recommendation (Recommendation # 11).
8.1.15 Aboriginal opportunities	Nedaak is an Aboriginal-owned company that provides employment opportunities for local First Nation community members in forest inventory, silviculture assessments and forest management operations.
8.1.16 Preparation of compliance plan	All required plans were completed. Format and content of the plans met all FMPM requirements.
8.1.17 Internal compliance prevention/education program	Due to the short duration of the eFRL term and uncertainty about licence renewal Nedaak had not initiated a large-scale compliance/education program. Two Nedaak employees were undergoing training to become certified forest operations compliance inspectors at the time of the field audit.
8.1.18 Compliance inspections and reporting; compliance with compliance plan	There were 247 FOIP inspections during the audit period with 8 inspections not-in-compliance (97% in compliance rate). Directions in the compliance plan were generally followed. We concluded that more compliance monitoring was required by both the MNRF and Nedaak (Recommendation # 9).
8.1.19 Forestry operations on mining claims	There were none during the audit period.

Appendix 4

Audit Process

This IFA consisted of the following elements:

Audit Plan: An audit plan describing the schedule of audit activities, audit team members, audit participants and the auditing methods was prepared and submitted to the Nedaak, MNRF Geraldton Area Office, Nipigon District Office, Regional MNRF, Forestry Futures Trust Committee and the LCC Chair in March 2015.

Public Notices: Public participation in the audit was solicited through the placement of a public notice in the *Greenstone Times Star* (September, 2015) and a random mailing to 100 individuals/organizations listed in the 2011 FMP mailing list. All FNs communities with an identified interest in the Forest were contacted by mail to participate and/or express their views.

All LCC members received letters and follow-up telephone calls with an invitation to participate in the audit process. Two GANRAC members participated in the field audit and six members were interviewed.

Individual interviews (face-to-face or telephone) were held with tourism operators and interested stakeholder groups and/or individuals with specific interests on the KF. Contact with stakeholder groups was initiated by the auditor, and/or occurred in response to public outreach initiatives during the audit (i.e. newspaper notices).

Field Site Selection: Field sample sites were selected randomly by the Lead Auditor in June 2015. Sites were selected in accordance to the guidance provided in the IFAPP (e.g. operating year, contractor, geography, forest management activity, species treated or renewed, and access) using GIS shapefiles provided by the Nedaak. The sample site selections were finalized with Nedaak and MNRF Geraldton Staff at the Pre-Audit Meeting (July 15, 2015).

Site Audit: Four members of the audit team spent 5 days conducting the field audit, document and record reviews and interviews (September 2015). The field audit was designed to sample a minimum 10% of the forest management activities (including road construction and maintenance) that occurred during the audit term (see the IFA Field Sampling Intensity on the KF below). The 10% sample was exceeded as multiple forest management activities frequently occur on an individual site (e.g. site preparation, planting, tending) and all activities are assessed at the individual site. Although we inspected a 25% sample of eligible silviculture work that was reported in the *Forest Renewal Trust Specified Procedures Report* (SPA) we could not verify "*activities reported and mapped with actual conditions in the field*" as the report was not received by Corporate MNRF in time to be available for our field audit.

The audit team also inspected the application of Areas of Concern prescriptions, aggregate pit management and rehabilitation and water crossing installations. Areas listed in the "*Road Construction and Maintenance Agreement*" were visited to ensure conformity between invoiced and actual activities.

The field inspection included site-specific (intensive) and landscape-scale (extensive helicopter) examinations.

Report: This report provides a description of the audit process and a discussion of audit findings and conclusions. Recommendations are directed at deficiencies in forest management and associate processes that require a corrective action.

Procedures Audited by Risk Category

Principle	Low Risk			Medium Risk			High Risk	Comments
	Applicable (#)	Selected (#)	% Audited	Applicable (#)	Selected (#)	% Audited	Audited (#) (100% Audited)	
1. Commitment	0	0	0	2	2	100	0	All procedures were audited.
2. Public Consultation and Aboriginal Involvement	0	0	0	6	6	100	2	All procedures were audited.
3. Forest Management Planning	7	5	71	12	11	92	41	The following procedures were not audited; 3.2.1., 3.2.2. and 3.6.2.
4. Plan Assessment and Implementation	1	1	100	1	1	100	10	All procedures were audited.
5. System Support	0	0	0	1	1	100	1	All procedures were audited.
6. Monitoring	0	0	0	7	7	100	11	All procedures were audited.
7. Achievement of Management Objectives and Forest Sustainability	0	0	0	2	2	100	15	All procedures were audited.
8. Contractual Obligations	0	0	0	2	2	100	5	All procedures were audited.
Totals	8	6	75	33	32	97	85	

IFA Field Sampling Intensity on the Kenogami Forest[45]

Activity	Total Area (Ha) / Number	Planned Sample Area (Ha)	Actual Area (Ha) Sampled[46]	Number of Sites Visited	Percent Sampled
Harvest	15,957	1,596	3,480	19	22
Renewal (Planting)	5,878	587	3,737	29	64
Renewal (Natural)	3,225	322	397	7	12
Site Preparation (Mechanical)	5,873	587	1,247	12	21
Site Preparation (Chemical)	196	20	89	3	45
Aerial Tending	7,812	781	2,150	18	27
FTG	30,752	3,075	3,114	14	10
SPA	27,192	2,719	6,885	24	25
Water Crossings (# of Crossings)	45	4	6	6	13
Forest Resource Aggregate Pits (# of Pits)	45	5	5	5	11
Slash Management				10	

[45] During the field audit we observed numerous areas where AOCs had been implemented in either linear buffer strips or in association with an identified value. We cannot provide an accurate estimate of the sample intensity given the linear nature of many of the buffers. All AOCs associated with sample sites were observed. These included riparian reserves and nest buffers.

[46]Not every hectare of the area sampled is surveyed, as this is not feasible. Although individual sites are initially selected to represent a primary activity (e.g. harvesting, site preparation); all associated activities that occurred on the site area assessed and reported in the sample table.

Summary of Consultation and Input to the Audit

Public Stakeholders

A public notice stating the purpose of the IFA and soliciting public input in the audit was placed in the Times Star in September 2015. The notice invited interested individuals to contact the audit firm with comments or complete a survey questionnaire on forest management during the audit term on the Arbex website. A random sample of 100 individuals and/or organizations on the 2011 FMP mailing list were sent a letter and the survey questionnaire in August. An additional sample of stakeholders was contacted directly by telephone. Individuals interviewed included tourism operators, baitfish providers and Bear Management Area operators.

One survey response was received and 3 stakeholder interviews were conducted. The respondents indicated that they had been made aware of the FMP planning process and had been provided with an opportunity. Some specific comments included:

- Excessive harvesting in bear bait areas was affecting hunting.
- Dissatisfaction with the management priority on caribou rather than moose.
- Requirement for more one-on-one consultation during forest management planning.

eFRL

Nedaak staff participated directly in the field site investigations and were interviewed during the course of the audit. Issues and concerns expressed by the eFRL holder related primarily to:

- Concern as to the uncertainty of the status of the eFRL.
- Concerns with the quality of the FRI.
- Concerns with MNRF delays in the processing of work approvals and permits.
- Concern that some forest management records had yet to be transferred from the MNRF to the eFRL holder.
- The lack of harvest has negatively impacted the amount of roads program funding available for future operations.
- Satisfaction with the level and effectiveness of communications with GANRAC.
- Disagreement with the MNRF interpretation of the extent of the role of the eFRL vis-à-vis the role of the OFRL.

MNRF

District and Regional staff participated in all portions of the field audit. All staff were interviewed during the course of the audit. General comments expressed by staff to the auditors were:

- Implementation issues associated with the MNRF transformation process had created confusion with respect to the division of responsibilities for some activities.
- Satisfaction with the ongoing and effective communications between MNRF and the GANRAC.
- Concerns about the timeliness of FRI information relative to the planning process.
- A concern that the implementation of the caribou mosaic would be challenging.

Local Citizens Committee (GANRAC)

Individual members of GANRAC received a letter inviting their participation in the audit. A total of 6 LCC members were interviewed and 2 members participated in the field inspections. The GANRAC respondents expressed:

- Satisfaction with the relationship between the GANRAC, Nedaak and the MNRF. The relationship was characterized as respectful and productive.
- A concern that the eFRL threatened the future supply of wood to the AV Mill.
- A concern that the Nedaak Board did not share their concerns about ensuring a predicable wood supply to receiving mills and continuing employment in the forest industry.

First Nations

All First Nations communities with an interest in the Forest were contacted by mail, telephone and/or email and asked to express their views on forest management during the audit term. Three First Nations responded that the Nedaak Board of Directors would provide input and response to the audit on their behalf. There was no response to our offer to meet with the Board. The Nedaak Chief Forester ensured that a number of aboriginal employees (7) participated in portions of the field audit. Those employees

were interviewed during the course of the field audit. There were some general comments with respect to;

- The protection of endangered species during harvesting operations.
- The renewal of the Forest following harvesting.
- A desire to enhance their knowledge of forest management.
- Disagreement with caribou plan objectives and the concern that areas of the Forest would not support caribou**.**

OFRL Representatives

Staff from Columbia Forest Products and AVTB attended the field audit and were interviewed by the audit team. Concerns and issues raised by AVTB staff included:

- A concern that the implementation of the existing wood supply agreement was not functioning efficiently leading to uncertainty with respect to the stability of the wood supply, access and silviculture costs.
- A concern that the allocation and licensing model is not conducive to effective long term operational planning.
- A concern that the harvest allocation process is “stranding” volumes when operators are unable or unwilling to harvest their allocations.
- Concern over a lack of discussion with respect to the setting of management fees and the lack of input with respect to silviculture costs (i.e. renewal rates).

Appendix 5

List of Acronyms Used

AHA	Available Harvest Area
a.i.	Active ingredient
AOC	Area of Concern
AR	Annual Report
AVTB	Aditya Birla Terrace Bay
AWS	Annual Work Schedule
B.Sc.F.	Bachelor of Science in Forestry
CHDBC	Canadian Highway Bridge Design Code
CLAAG	Careful Logging Around Advance Growth
CNFER	Centre for Northern Forest Ecosystem Research
CCAA	Companies' Creditors Arrangement Act
CFSA	Crown Forest Sustainability Act
CLBMG	Crown Land Bridge Management Guideline
DCHS	Dynamic Caribou Habitat Schedule
ES	Ecosite
ESW	Eligible Silviculture Work
eFRL	Enhanced Forest Resource Licence
FMP	Forest Management Plan
FMPM	Forest Management Planning Manual
FN	First Nation
FOIP	Forest Operation Inspection Program
FOP	Forest Operations Prescription
FRI	Forest Resource Inventory
FRT	Forest Renewal Trust
FTG	Free-to-Grow
GANRAC	Geraldton Area Natural Resource Advisory Committee
GDC	Giizhagaakwe Development Corporation

Ha	Hectares
IEA	Individual Environmental Assessment
IFA	Independent Forest Audit
IFAPP	Independent Forest Audit Process and Protocol
KF	Kenogami Forest
KMS	Kilometers
LCC	Local Citizens Committee
LTMD	Long Term Management Direction
m^3	Cubic Metres
MNRF	Ministry of Natural Resources and Forestry
NDPEG	Natural Disturbance Pattern Emulation Guideline
NRS	Not Satisfactorily Regenerated
PT	Planning Team
RD	Regional Director
R.P.F.	Registered Professional Forester
RSI	Rock Support Inc.
SAR	Species at Risk
SEM	Silvicultural Effectiveness Monitoring
SFL	Sustainable Forest Licence
SFMM	Strategic Forest Management Model
SGR	Silvicultural Ground Rule
SRNV	Simulated Range of Natural Variation
SIP	Site Preparation
SPR	Specified Procedures Report
SRNV	Simulated Range of Natural Variation
STP	Silvicultural Treatment Package
TBPI	Terrace Bay Pulp Inc.

VS	Versus

Appendix 6

Audit Team Members and Qualifications

Name	Role	Responsibilities	Credentials
Mr. Bruce Byford R.P.F. Arbex Forest Resource Consultants Ltd.	Lead Auditor Forest Management and Silviculture Auditor	Audit Management and coordination Liaison with MNRF Review documentation related to forest management planning and review and inspect silviculture practices Determination of the sustainability component.	B.Sc.F. ISO 14001 Lead Auditor Training. FSC Assessor Training. 35 years of consulting experience in Ontario in forest management planning, operations and resource inventory. Previous work on 30 IFA audits with lead auditor responsibility on all IFAs. 27 FSC certification assessments with lead audit responsibilities on 7.
Mr. Al Stewart Arbex Senior Associate	First Nations and LCC Participation in Forest Management Process Auditor Forest Compliance	Review and inspect AOC documentation and practices. Review of operational compliance. First Nations consultation.	B.Sc. (Agr) ISO 14001 Lead Auditor Training. FSC assessor training. 44 years of experience in natural resource management planning, field operations, policy development, auditing and working with First Nation communities. Previous work experience on 30 IFA audits.
Mr. David Watton Arbex Senior Associate	Forest Management Planning and Public Participation Auditor	Review documentation and practices related to forest management planning and public participation. Determination of the sustainability component.	B.Sc., M.Sc. (Zoology) ISO 14001 Lead Auditor Training. 44 years of experience in natural resource management planning, land use planning, field operations, and policy development.

			Previous work experience on 29 IFA audits.
Mr. Trevor Isherwood R.P.F. Arbex Senior Associate	Silvicultural, Forest Management and Contractual Compliance Auditor	Review and inspect silvicultural practices and related documentation. Review and inspect documents related to contractual compliance.	B.Sc.F. Former General Manager of an SFL. 44 years of experience in forest management and operations. Previous work experience on 26 IFA audits.
Mr. Mark Fleming R.P.F. Associate Consultant	Technical Advisor - SFMM	Analysis of SFMM model outputs and decision criteria.	B.Sc.F. Previous work on IFA and FSC audits. Experience as an MNR Planning Forester and Unit Forester.