



BANCROFT-MINDEN FOREST INDEPENDENT FOREST AUDIT 2011 – 2017

February 21, 2018

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1 EXECUTIVE SUMMARY

This report summarizes the results of the Independent Forest Audit (IFA) of the Bancroft-Minden Forest (BMF) conducted by KBM Resources Group (KBM) following regulation 160/04 of the Crown Forest Sustainability Act (S.O. 1994, c. 25). The procedures used during this audit were in accordance with the Independent Forest Audit Process and Protocol (IFAPP 2017). The audit included opportunities for stakeholder input and a review of all documentation and records associated with management of the BMF during the audit term. The audit team also selected a stratified random sample of sites representative of all activities conducted on BMF during the audit period for a site inspection.

The audit covers forest management planning and implementation activities carried out during the six-year period April 1, 2011 through March 31, 2017. One forest management plan, in two phases, is included in the scope of this audit: the 2011-2016 Phase I Forest Management Plan (implementation) and the 2016-2021 Phase II Forest Management Plan (planning and implementation).

The BMF is located within the Bancroft administrative district of the Ministry of Natural Resources and Forestry's (MNRF) Southern Region. The Forest is currently licenced to Bancroft Minden Forest Company Inc. (BMFC) that is a cooperative of 26 shareholders that include forest products producers and harvesting enterprises. BMFC provides forest management services on the forest to its shareholders and public stakeholders.

The audit team found that the forest management planning, reporting and operations were professionally completed by BMFC and MNRF staff. Despite challenging stand and site conditions, natural resources values are being protected and forest regeneration is keeping pace with harvest levels.

The observations made by the audit team are in agreement with those reported in the Trends Analysis Report i.e., with few exceptions, all of the FMP objectives are being achieved in the implementation of Phase II of the FMP. Exceptions were limited to socio-economic benefit objectives that were not entirely under the SFL manager's control related to lower than planned harvest levels.

BFMC has met its contractual obligations under SFL no. 542585. Overall, the management of the forest by BMFC and MNRF was done in a manner consistent with the principles of sustainable forest management.

There are several areas worthy of improvement and eight findings are listed in the table below (detailed in Appendix 1). These deficiencies do not detract from the work of the dedicated professionals at both agencies in meeting the overarching goals of sustainable forest management. Hence, the concluding recommendation is made to the Minister to extend the term of Sustainable Forest Licence #542585 for a further five-year term



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February 21, 2018



2 TABLE OF FINDINGS AND BEST PRACTICES

CONCLUDING STATEMENT ON LICENCE EXTENSION
<p>The audit team concludes that management of the Bancroft-Minden Forest was generally in compliance with the legislation, regulations and policies that were in effect during the term covered by the audit, and the Forest was managed in compliance with the terms and conditions of the Sustainable Forest Licence held by Bancroft Minden Forest Company Inc. The forest is being managed consistently with the principles of sustainable forest management, as assessed through the Independent Forest Audit Process and Protocol. The audit team recommends the Minister extend the term of Sustainable Forest Licence #542585 for a further five years.</p>
FINDINGS
<p>Finding #1: District Condition 34/56 reports and surveys are lacking in detailed information that would support a conclusive assessment of efforts to identify and provide opportunities to Indigenous communities over the audit term.</p>
<p>Finding #2: A Report on the Protection of Identified Aboriginal Values for Curve Lake First Nation is outstanding.</p>
<p>Finding #3: There is a need for MNRF to hasten its review of its forest genetics conservation and seed handling programs and communicate a new strategy to SFL holders.</p>
<p>Finding #4: Better communication between MNRF and BFMC would allow for more efficient use of MNRFs limited resources, and provide the MNRF with the opportunity to focus values collection efforts where they are most essential.</p>
<p>Finding #5: Evidence of poor operating practices was found on 4 of the 22 blocks sampled.</p>
<p>Finding #6: The number of MNRF compliance inspections fell below planned levels on a consistent basis throughout the term of the audit.</p>
<p>Finding #7: There is inconsistent silvicultural effectiveness monitoring (SEM) data collection, compilation, analysis and reporting procedures between the SFL and MNRF.</p>
<p>Finding #8: Actions taken by MNRF in response to three of the previous IFA recommendations related to the FRI, SAR and license extension have been ineffective at solving associated problems identified in the preceding audit report.</p>

3 INTRODUCTION

3.1 AUDIT PROCESS

Independent Forest Audits (IFAs) are a requirement of the Crown Forest Sustainability Act (S.O. 1994, c. 25) (CFSA). Every publicly-owned BMF in Ontario must be audited by an independent audit team at least once every five to seven years. The auditees for this IFA are the Sustainable Licence (SFL) holder Bancroft Minden Forest Company Inc. (BMFC; SFL no. 542585). The Ministry of Natural Resources and Forestry (MNRF) are also auditees at the Bancroft District, the Southern Region and Corporate levels of eth organization.

KBM Resources Group (KBM) conducted an IFA on the Bancroft-Minden Forest for the six-year term from April 1, 2011 to March 31, 2017. One forest management plan, executed in two phases, was included in the scope of this audit: the 2011-2016 Phase I Forest Management Plan (FMP) (implementation) and the 2016-2021 Phase II FMP (planning and implementation). The on-site portion of the audit took place November 26 to December 1, 2017; with document examination and interviews taking place prior to, during, and after the on-site period.

As described in the 2017 Independent Forest Audit Process and Protocol (IFAPP), IFAs are governed by eight guiding principles:

1. Commitment;
2. Public consultation and aboriginal involvement;
3. Forest management planning;
4. Plan assessment and implementation;
5. System support;
6. Monitoring;
7. Achievement of management objectives and forest sustainability; and,
8. Contractual obligations.

Findings arise from audit team observations of material non-conformances and the identification of situations in which there is a significant lack of effectiveness in forest management activities. Conversely, the audit team may highlight best practices in cases where auditees' actions go above and beyond legal requirements and result in positive outcomes for forest and communities. In the case of non-conformance(s), the IFA findings will be analysed by the auditees to identify remedial action(s) and mitigation measures; and to identify the parties responsible for addressing non-conformance(s). Non-conformances to be addressed by the SFL holder and MNRF Districts will be described and addressed in an IFA Action Plan, the results of which will be later reported in an IFA Status Report. Non-conformances attributable to the MNRF Region and Corporate MNRF will be addressed in a Regional action plan that summarizes audit findings from across the Region.

This report describes the audit team’s findings in relation to the eight IFA principles listed above. The *Table of Findings and Best Practices* in Section 2 summarizes findings and best practices; additional detail can be found in Appendix 1. Reviews of the achievement of objectives and contractual obligations, respectively, are summarized in Appendices 2 and 3. Detailed information on the audit process, including the sampling design and intensity, is provided in the Appendix 4. A glossary of acronyms is found in Appendix 5. Lastly, audit team members and their qualifications are presented in Appendix 6.

3.2 MANAGEMENT UNIT DESCRIPTION

The Bancroft-Minden Forest (BMF) is located within the Bancroft administrative district of the Ministry of Natural Resources and Forestry’s (MNRF) Southern Region. The BMF is currently licenced to Bancroft Minden Forest Company Inc. (BMFC; SFL no. 542585). BMFC is a cooperative of 26 shareholders and includes logging operators, forest product producers, and harvesting enterprises. BMFC, through its agents and representatives, provides forest management services. The Bancroft-Minden Forest has been FSC certified since 2012.

The BMF encompasses 444,090 ha of Crown Land, of which 364,000 ha is considered productive. Currently, 251,700 ha of this productive forest area is eligible for forest management. A defining feature of the BMF is the extent to which the forest is fragmented by private (patent) land. Private land (547,762 ha) accounts for approximately 56% of the area within the BMF boundaries.

The BMF is located within the Great Lakes-St. Lawrence Ecozone. Managed forested land consists of ten forest types; Hardwood Selection, Intolerant hardwood, Mixed hardwood, White Pine, Hardwood Shelterwood, and Oak shelterwood.



Figure 1. Location of the Bancroft-Minden Forest

The municipalities of the District of Muskoka and the District of Nipissing as well as portions of the County of Haliburton, City of Kawartha Lakes, County of Peterborough and County of Hastings all lay within the boundaries of the BMF. The communities of Bancroft, Haliburton and Minden are the larger towns, with many smaller communities scattered throughout the forest. Twelve Aboriginal communities have interests related to the BMF. Two of these communities are located within the management unit. All twelve were invited to participate in the development of the 2011-2021 FMP. The Forest has a single Local Citizens Committees (LCC): The Bancroft-Minden Local Citizens Committee.

The previous IFA was conducted in 2011 and resulted in ten recommendations and the identification of one best practice. It recommended that the SFL be extended for a 5-year term.

4 AUDIT FINDINGS

4.1 COMMITMENT

The BMF is certified under the Forest Stewardship Council (FSC) certification standard, hence the commitment principle is deemed to be met according to the IFAPP.

4.2 PUBLIC CONSULTATION AND ABORIGINAL INVOLVEMENT

The Bancroft District Local Citizens Committee (LCC in this report) routinely makes recommendations on activities on the BMF. It is a long-standing and active committee.

LCC membership, however, represents a narrow range of interests and does not include some recreational users or cottagers. This has been an ongoing issue for the LCC. When vacancies arise, the MNRF and LCC have made attempts to fill them with appropriate stakeholders.

Unfortunately, there has been little success with respect to these initiatives. This is less of a concern between planning cycles, but will need to be addressed prior to initiating the planning process for the next FMP. Aboriginal stakeholders are currently represented by one member.

Interviews with the MNRF District Manager and four LCC members, the audit team determined that the LCC met its purpose during the audit term; albeit with some difficulties. The difficulties in meeting the LCC terms of reference were directly related to the lack of member/stakeholder diversity. Nevertheless, the audit team wishes to acknowledge the meaningful participation of the LCC throughout the audit. It is an example of an LCC that, despite its small membership and often divergent viewpoints, fulfills its mandate.

There are five Algonquin and seven Williams Treaties communities with interests on the BMF as follows;

Williams Treaties Communities

1. Alderville First Nation
2. Beausoleil First Nation
3. Chippewas of Georgina Island
4. Chippewas of Rama First Nation (Mnjikaning First Nation)
5. Curve Lake First Nation
6. Hiawatha First Nation
7. Mississaugas of Scugog Island First Nation

Algonquin Communities

1. Whitney Algonquins
2. Algonquin Nation Kijicho-Manito
3. Algonquins of Great Golden Lake
4. Bonnechere Algonquin
5. Shabot Obaadjiwan

Two of the Algonquin communities are located within the management unit. All twelve communities were invited to participate in the IFA process, using the contact information provided by the Peterborough and Pembroke District Resource Liaison Specialists (RLS).

The auditor delivered a presentation to Algonquin community leaders in September of 2017 (organized by the Algonquins of Ontario Consultation Office). At this time, participants indicated that there was a low level of interest in participating in the IFA process. They noted that past experience had shown it to have limited value. Of the seven Williams Treaties First Nations, Curve Lake responded to the invitation to participate in the IFA and provided input.

It is difficult to assess achievement of forest management planning and other regulatory requirements without Indigenous community participation in the IFA. The following observations are based on a review of documents and interviews with MNRF and SFL staff, as well as an interview with Lands and Resources representatives from Curve Lake First Nation.

In general, engagement is higher with the Algonquin communities due to a longer history of involvement in forestry in the region. The Algonquins of Ontario (AOO) Consultation Office in Pembroke is adjacent to the MNRF Pembroke District office, which also helps facilitate regular communications on forestry and other issues. Efforts to ensure protection of Algonquin values are ongoing, through Conditions on Regular Operations (CROs) and discussions between the licence holder and the AOO. Some Algonquin businesses and individuals are or have been active on the management unit in the past. However, little information is available to quantify this participation in terms of contract value or through other measures.

The interests of Williams Treaties (WT) communities in forest management are more recent and evolving, as these communities increase their capacity and understanding of the forest sector and management processes. None of the seven communities are located on the management unit, and have historically not been involved in forestry activities on the Bancroft-Minden Forest. Evidence of efforts to meet with WT communities over the audit term was provided by the SFL.

One of the audit criteria (2.5.2) includes procedures to review whether Aboriginal peoples *“were provided with and whether they availed themselves, of opportunities to achieve more equal participation in the benefits provided through forest management planning”* and an assessment of the results. The efforts of the District (and indirectly the SFL holder) are documented in what are known as District Term and Condition 56 surveys (formerly T&C 77 and 34 reports). These should document what specific efforts were made by the District to provide opportunities to those communities located on a management unit. In this case, it is difficult to assess efforts over the audit term as the reports were general in nature, and the former District Manager had retired (see **Finding #1**, Appendix 1).

All twelve communities were invited to participate on the forest management planning team for Phase II planning. Several were represented, some participating more actively than others.

Curve Lake submitted an Aboriginal Background Information Report (ABIR) on November 8, 2016. A letter dated March 21, 2017, from the District Manager was sent to the WT First Nation Process Coordinator (the primary contact throughout consultation) where the Curve Lake ABIR was mentioned and an offer was extended to meet with Curve Lake FN to discuss the ABIR. The report was not available to the audit team for review. To date, a meeting has not occurred, and a Report on the Protection of Identified Aboriginal Values is still outstanding (see **Finding #2**, Appendix 1).

4.3 FOREST MANAGEMENT PLANNING

This audit examined the planning associated with the 2016-2021 Phase II Forest Management Plan (planning and implementation). The Phase II plan was developed according to the Forest Management Planning Manual (FMPM) requirements. There were no significant changes between Phase I and Phase II in terms of forest access, harvest and renewal strategies.

The source of direction for most ecological Area of Concern (AOC) prescription in this forest management plan was the Forest Management Guide for the Conservation of Biodiversity and the Stand and Site Scales (also referred to as the Stand and Site Guide) which came into effect in March 2010. The Conditions on Regular Operations described in the plan were also based on the Stand and Site Guide. This guide incorporates direction from a number of past forest management guides, along with the best available science of the day. Early in the planning process, a joint task team was formed between Bancroft Minden Forest, Ottawa Valley Forest and Mazinaw-Lanark Forest planning team members to compile consistent AOC prescriptions for all three plans. With the exception of the lake and river AOCs, all values covered by the Stand and Site Guide were deemed to be consistent with the guide. The AOCs for lakes and rivers were more conservative than the provincial direction, a change that resulted from public input from the forests' Local Citizen's Committees.

The Bancroft-Minden Forest FMP recognizes twenty-eight species determined to be at risk by COSSARO: two lichens, two plants, one invertebrate, ten reptiles, and thirteen birds. Twenty-four of the twenty-eight species have confirmed occurrences in the BMF. There are no reported occurrences of the four-remaining species in the Bancroft-Minden Forest (ie. West Virginia White Butterfly, Kirtland's Warbler, Yellow Rail and Spotted Turtle); however, potential habitat exists within the BMF as it lies within these listed species' geographical range. Where species at risk are known or thought to occur, harvesting is restricted or modified to conserve specific habitats and mitigate species displacement and/or loss. The modifications vary by species and frequently include timing restrictions, which, most often, limit harvesting operations to winter months. The concentration of species at risk and the related application of seasonal harvesting limitations are greatest in the southern portion of the forest. Thus, planning for year-round operations in more southern areas is seriously impeded.

Annual Work Schedules (AWS) were prepared in a manner consistent with FMPM requirements. As part of the AWS process, Forest Operations Prescriptions (FOPs) are made and certified by a forester (R.P.F.) for each stand scheduled for harvest. The last complete cycle of the BMF Forest Resources Inventory (FRI) was in 1987 and its discrepancies with actual field conditions pose several challenges (see Finding #8).

The heterogeneous nature of most FRI stands, combined with outdated inventory, means that FOPs require frequent revisions. These records are maintained by the SFL and made available to MNRF on request. One MNRF representative expressed concern that the MNRF should be notified of each FOP revision to better serve the public. However, the audit team concluded that the SFL system of recording FOPs and making them available as requested appears to be sufficient. The current approach is also consistent with the 2017 Forest Information Manual and the IFAPP direction.

4.4 PLAN ASSESSMENT AND IMPLEMENTATION

Access to the BMF is provided by provincial highways, municipal roads, and a network of public and private forest access roads. Less than a kilometre of primary road and 5.6 km of branch roads were constructed during the term of the audit. Forest access roads used to access audit sites were well maintained.

Roads and landings within harvest blocks had limited site disturbance. Considerable care was taken to protect small streams as evidenced by appropriate decommissioning practices and erosion control measures. For instance, in one block, cedar trees had been planted for both erosion control and aesthetic purposes. The sole exception was one site where a number of poor road building practices were noted. The need for improved operator training was identified as a finding (see Section 4.5).

Within-block roads were often located on existing road beds from prior harvest and other land use activities. In several instances these roads also served recreational purposes. Forest managers indicated that they work closely with other users to find acceptable terms for shared use.

Harvest and renewal activities are closely linked in this forest since the dominant cover types favour natural regeneration under either shelterwood or selection silvicultural systems. However, forest managers acknowledged that stand and site conditions were frequently encountered that made the implementation of selection silviculture to maintain uneven-aged tolerant hardwood and mixedwood conditions quite challenging. In such cases tree markers were given the latitude to change the prescription to a uniform shelterwood system. Although described as a uniform shelterwood system, many of the stands appear to be irregular

shelterwoods¹. It appeared that many stands lent themselves to such modified FOPs. As such, they may be worthy of greater consideration in the next plan.

Experienced tree markers and operators ensures that the prescriptions were properly implemented on all sites sampled during the audit. Some stand improvement, tending and thinning work was also sampled. These projects were also properly executed and appeared to be effective.

In the northern portions of the forest, where intolerant hardwood stands (e.g. aspen) are found, the clear-cut system is used. The prescriptions were consistent with the most up to date FOP and tree marking guidelines.

The clear majority of sites sampled showed evidence of a high level of operator skill in protecting the site, residual trees and advanced regeneration from damage during harvesting operations. Utilization (of harvested trees) was generally quite good. Exceptions were limited to a small group of sites, suggesting a need still exists to improve operator training (see Section 4.5).

At 45% of the planned harvest area, the area bypassed due to terrain and other operational constraints was high. Not surprisingly, the harvest level during the term of the audit was well below planned levels (52%). This situation can be a symptom of “area high grading” whereby harvest areas are bypassed in favour of more productive and/or economical viable harvest sites. This practice could leave future generations with less than satisfactory options. However, the bypassed areas observed in the field and the operating areas relative to the forest conditions in general did not show evidence of such area high grading. It may be that reliance on an outdated inventory during the planning cycle contributed to the relatively high amounts of bypass observed in the field. The audit team also recognizes that bypassed areas are carefully tracked by the forest manager in ways that will better inform the next forest management planning exercise.

Conifer trees planted in white pine shelterwoods and in wind storm salvage areas were properly tended and appeared to be healthy and growing well. Although seed supplies were found to be adequate to support renewal activities, forest managers expressed concerns over the longer-term forest genetics management strategy; especially given the closure of the MNRF seed plant in Angus, Ontario. New challenges posed by climate change, beech bark disease and emerald ash borer have implications for forest genetic resource management (FGRM). The current strategy document, the Tree Improvement Master Plan, dates back to 1987. Although MNRF is in the process of updating the provincial FGRM strategy, the forest manager is

¹ Raymond, P., Bédard, S., Roy, V., Larouche, C., and Tremblay, S. 2009. The irregular shelterwood system: review, classification, and potential application to forests affected by partial disturbances. *Journal of Forestry* 107: 405–413.

See also <https://youtu.be/DBOyrDIRwPw>

concerned that FGRM direction may still be lacking as they prepare for the next plan (see **Finding #3** Appendix 1).

A sub-sample of areas of concern (AOCs) was also inspected during the field audit, including AOCs for Blanding's turtle/wood turtle habitat, American ginseng, stick nests, and high and low potential streams. All prescriptions were appropriately marked and implemented, and, with the exception of one site which had an American ginseng AOC applied after harvesting had begun, the audit team found no evidence of damaging values within AOCs.

The previous IFA (Recommendation #3), directed MNRF to implement a "surge" in species at risk (SAR) inventories in order to get ahead of the current planning and operations schedule. Although this surge occurred, it appears that SAR inventories are once again occurring just prior to, and in some cases after, tree marking is being completed in the field. In some instances, SAR inventories did not get completed at all (see **Finding #4**, Appendix 1).

The MNRF is not currently providing SAR AOCs in a timely manner, which would allow for AOCs to be properly identified prior to harvest. This is a result of limited resources within the MNRF, combined with the fact that BMFC does not notify the MNRF of which blocks are about to be marked so that these could become priorities for the field inventories.

Better communication between MNRF and BFMC would allow the MNRF an opportunity to focus values collection efforts where they are most essential. In addition, each AWS allocates up to three times the area actually harvested to provide operational flexibility at the expense of confounding allocation priorities.

The southern region has developed a Strategy for Values Collection, outlining the goals and procedures for values collection in the BMF. Bancroft District management biologist are making a strong effort to provide SAR AOCs ahead of tree marking; however, they are responsible for two additional forests as well as the BMF. Staff are struggling to keep up with the workload. These observations further underscore the need for better communication between MNRF and BFMC (see **Finding #4**, Appendix 1).

4.5 SYSTEM SUPPORT

BMFC ensures that its staff participates in training that is relevant to their roles in the company including compliance, tree marking and forest management planning. MNRF staff also engage in training to support their roles in forest management oversight.

However, as a cooperative SFL company with forest operations performed by shareholder licencees or contractors on behalf of licencees, attention needs to be directed to ensuring that operators are kept current with the wide range of perpetually changing constraints and conditions associated with conducting forest operations on a variety of sites and site conditions in the BMF. Discussions with BFMC staff showed that efforts are made to ensure that operators understand the prescriptions and constraints for their blocks. Operators are given written guidelines and maps.

The forest is also FSC certified which necessitates high levels of operator training and awareness. However, 4 of the 22 sample sites had operational issues (e.g. high stumps, lodged trees, poor utilization) that suggested a need exists for additional operator training (see **Finding #5**, Appendix 1).

Both the MNRF and BMFC have adequate information management systems and controls in place to ensure compliance. However, the MNRF is facing challenges in maintaining adequate staffing levels to implement its compliance plans (below) and SAR AOC prescription requirements (above).

4.6 MONITORING

4.6.1 Compliance

Annual Compliance Operating Plans (ACOPs) were prepared by the MNRF District compliance team for each year during the term of the audit in accordance with FMPM and FIM direction. The District ACOPs used a risk-based approach to assess proposed operations and rank them according to the level of risk each might pose during operations. The assessment of risk was completed by a knowledgeable MNRF compliance team member using a number of factors including compliance history of the operator, AOCs in the harvest block, etc. Operating blocks that were determined to present a higher risk were prioritized for compliance inspections. However, despite a well-designed risk assessment system to focus resources on problem areas, the number of high risk operating areas that have not been inspected by MNRF compliance inspectors is increasing over time.

Numerous challenges faced District compliance staff during the period of the audit including MNRF transformation, staff transfers, and downsizing. The number of compliance inspections performed by MNRF on the BMF during the audit term has fallen from a high of 23 in 2011-2012 to a low of 4 in 2016-2017 (source: AR-6 and MNRF/SFL for 2016-2017). The actual number of compliance inspections each year fell well short of planned inspections by 50% or more except for 2011-2012.

This downward trend in MNRF compliance inspections is not unique to the MNRF Bancroft District office. Shortfalls in compliance inspections have been observed for several other forests audited by this team over the last four years across the province (see **Finding #6**, Appendix 1).

BFMC has certified compliance inspectors. BFMC was able to meet its compliance plan requirements. The BFMC compliance program is effective with the exceptions noted above (see **Finding #5**, Appendix 1).

4.6.2 Silviculture

A Silvicultural Effectiveness Monitoring (SEM) program is in place to ensure the FOPs are implemented properly and that these prescriptions are effective in meeting stated objectives. The SFL and MNRF run parallel SEM programs.

MNRF samples areas declared Free to Grow (FTG) by the SFL to validate that these stands meet the criteria specified in the silvicultural ground rules (SGRs). Once declared FTG, no further treatments are required as the stand develops to maturity.

The 2016 MNRF SEM report noted variances between MNRF FTG descriptions and those provided by the SFL holder. Part of these variances can be explained by the fact that the SFL and the MNRF use different data collection methods. For instance, the 2016 SEM report states:

“A recommendation of this report is to discuss the before-mentioned discrepancies with the SFL, and ensure SFL and MNRF assessment methodologies and reporting methods are better matched. Until this discussion occurs comparing results is futile.”

In addition, MNRF selected two benchmark selection harvest stands for detailed pre-harvest and post-harvest measurements. The post-harvest results suggested that the harvest failed to retain sufficient basal area (BA) across all size classes to meet the prescribed residual levels and that large tree size classes might have been overharvested. However, the report author noted that the sample size was very small.

The gap between MNRF methods of SEM and SFLs is a common issue across Ontario. MNRF senior management is looking at standardizing the approach through its Silvicultural Initiative (SI) program.

The SFL is looking at cost-effective ways of applying more quantitatively rigorous methods as one element of its SEM program including using a relatively new software platform (i.e., SO-iSTARS). Ideally, MNRF and the SFL will find a suitable, locally applicable means of aligning the SFL holder’s SEM program and MNRF SEM verification measures and describe the resulting approach within the monitoring section of the next FMP. Such collaboration on SEM would be a hedge against the deployment of a centrally developed model that may not meet local needs.

The FTG descriptions provided by the SFL agreed with observations made by the audit team. The entire cycle of FOPs to SEM and FRI updates was deemed to be functioning in a manner that meets contractual obligations and the regulated manual requirements. Nonetheless, there remains room for improvement in developing a more consistent method with some objective and repeatable measurements (see **Finding # 7**, Appendix 1).

The benchmark pre-and post-harvest assessment of the two hardwood selection stands merits further attention in MNRF’s SEM program. Periodic measurement of additional benchmark stands on five-year intervals post-harvest would help the overall assessment of the selection silviculture system’s effectiveness in the BMF. Under the current system, verification of effectiveness occurs thirty to forty years into the future when the stand is scheduled for re-treatment.

Theoretically, the 10-year Forest Resources Inventory (FRI) cycle would reinforce the observations made from SEM programs with additional measures of silvicultural effectiveness. However, current delays in the FRI program suggest additional measures are needed in the interim (see also **Finding #8**, Appendix 1).

4.6.3 Annual Reporting

The SFL holder met or exceeded its annual reporting requirements. The trends analysis prepared for this audit was particularly well written and insightful. This quality work greatly facilitated the audit process.

4.7 ACHIEVEMENT OF MANAGEMENT OBJECTIVES AND SUSTAINABILITY

Forest sustainability in Ontario is measured by criteria and indicators (C&I) developed by the Canadian Council of Forest Ministers and adapted for the Ontario context. These C&I are used in Ontario's forest management planning process and are the basis for many objectives detailed in the approved forest management plan. The observations made by the audit team are in agreement with those reported in the Trends Analysis Report i.e., with few exceptions, all of the FMP objectives are being achieved in the implementation of Phase II of the FMP.

Exceptions were limited to socio-economic benefit objectives that were not entirely under the SFL manager's control. For instance, three socio-economic objectives related to achieving 85% of planned harvest levels, but in practice operations fell short with actual harvest levels of 52%. As previously noted, harvest bypass for legitimate reasons encountered during planned operations contributed to this outcome. Furthermore, the underachievement of harvests levels is common across Ontario due to market drivers often beyond the control of forest managers. From a sustainability perspective, in the absence of harvesting, tolerant hardwood stands that characterize much of the BMF are self-sustaining through gap dynamics as individual and groups of trees senesce and die and are replaced from below. These processes occur with or without the planned harvest levels being achieved, meaning that landscape level biodiversity targets should not be compromised by lower than planned harvest rates.

SAR AOCs were also a contributing factor to the underachievement of planned harvest levels. One FMP objective was to have full AOC prescription compliance for SAR. The audit team feels this target was at least achieved in part since the two instances of non-compliance with SAR AOCs were for AOCs that were determined only after operations had begun. The outdated FRI exacerbates the problem of synchronizing operational planning and SAR AOC prescription setting.

Despite such variances, most of the FMP objectives are being or are likely to be met in a manner consistent with the goals of sustainable forest management. Appendix 2 provides a detailed assessment of each objective and related levels of achievement during the audit term.

4.8 CONTRACTUAL OBLIGATIONS

BFMC has met its contractual obligations under SFL no. 542585 by implementing a solid forest management program. Areas that could be improved upon were primarily related to:

- compliance and wasteful practices (Finding #6, Appendix 1)
- silviculture assessment (Finding #7, Appendix 1)
- written records of meetings with First Nations communities (Finding #8, Appendix 1).
- BFMC also relies upon MNRF services to meet its obligations. MNRF service areas that could be improved upon are:
 - The protection of the licence area from pest damage. Participation in pest control programs carries implications for Ontario's forest Genetics Resources Management program that is currently under review for a much-needed update (Finding # 4, Appendix 1).
 - The implementation of previous audit action plans related to improving FRI and SAR data (Finding #8, Appendix 1). In addition, the SFL has yet to be renewed.

4.9 CONCLUSIONS AND FINAL RECOMMENDATION

Overall, the management of the forest by BMFC and MNRF was done in a manner consistent with the eight guiding principles of the IFAPP. However, there are several areas worthy of improvement, as further detailed in Appendix 1. These deficiencies do not detract from the work of the dedicated professionals at both agencies in meeting the overarching goals of sustainable forest management.

The audit team concludes that management of the Bancroft-Minden Forest was generally in compliance with the legislation, regulations and policies that were in effect during the term covered by the audit, and the Forest was managed in compliance with the terms and conditions of the Sustainable Forest Licence held by Bancroft Minden Forest Company Inc. The forest is being managed consistently with the principles of sustainable forest management, as assessed through the Independent Forest Audit Process and Protocol. The audit team recommends the Minister extend the term of Sustainable Forest Licence #542585 for a further five years.

APPENDIX 1 – FINDINGS/BEST PRACTICES

Independent Forest Audit – Record of Finding

Finding #1

PRINCIPLE 2 – Public consultation and Aboriginal involvement

Criterion 2.5.2: Participation of Aboriginal peoples in the benefits provided through forest management planning.

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

- interviews with MNRF District Manager, First Nations or Métis community leaders
- whether there were any negotiations with First Nations or Métis communities at the district level relevant to the applicable EA condition and whether the management unit was involved
- assess the results of negotiations including opportunities offered and opportunities that were implemented
- examine whether the actual results have been appropriately reflected in the annual district condition 56 (formerly T & C 77 or condition 34) reports

Background Information and Summary of Evidence:

Evidence includes: Interviews with SFL holder and OMNRF RLS, District Manager, Resource Management Supervisor, requests for information from OMNRF Region, interviews with Curve Lake Lands and Resources staff, District Condition 56/34 reports for 2011-12, 2012-13, 2013-14, 2014-15 (missing was 2015-2016 report), Planning Team minutes, Algonquin Aboriginal Background Information Report and Report on the Protection of Identified Aboriginal Values.

Discussion: There are five Algonquin and seven Williams Treaties communities with identified interests on the Forest. All of these communities were invited to participate in Phase 2 forest management planning. Only two Algonquin communities are actually located within the management unit. All twelve communities were invited to participate in the IFA process, through the contact information provided by the Peterborough and Pembroke District RLS. The auditor delivered a presentation to the Algonquin community Chiefs in September of 2017 (organized by the Algonquins of Ontario Consultation Office). At this time, the Chiefs indicated that there was a low level of interest in participating in the IFA process. They noted that past experience has shown it to have limited value for their communities. Of the Williams Treaties First Nations, Curve Lake responded to the invitation to participate in the IFA and provided input.

It is difficult to assess achievement of objectives without Indigenous community participation in the IFA. However, a review of documents, interviews with MNRF and SFL staff, revealed that engagement is higher with the Algonquin communities due to a longer history of involvement and a deeper understanding of forestry opportunities and process. The Algonquins of Ontario (AOO) Consultation Office is adjacent to the MNRF Pembroke District office, which also helps facilitate regular communications on forestry and other matters.

The following initiatives (as outlined in Chapter 7: Forestry of the Agreement in Principle between Algonquins/Ontario/Canada) are described in District Condition 56 reports as one of the means to increase benefits from forest management planning to Indigenous communities located on the management unit:

- Notifications to the AOO of government contracts and job opportunities related to forestry in Algonquin Park;
- Encouraging potential Algonquin employment;
- Training and contract opportunities with Sustainable Forest Licence (SFL) holders;
- The consideration of the potential for Algonquin benefits as a relevant factor when Ontario is evaluating tender bids or other government contracting procedures;
- The provision of training opportunities by Ontario and the Algonquin Forestry Authority for the AOO in the forestry industry in Algonquin Park, including silviculture.

The Agreement in Principle (AIP) would normally be considered out of scope of the IFA. However, it is included here because the above terms of the AIP are provided in District reports as evidence of efforts by the District to fulfil the obligations outlined under Term and Condition 56 (Declaration Order MNR-75: Environmental Assessment Requirements for Forest Management on Crown Lands in Ontario) and associated reporting. According to interviews with Bancroft District staff, it has not yet been determined how these opportunities would be implemented at the District level. Negotiations are ongoing.

Some harvesting is currently and has in past been undertaken by Algonquin contractors on the Forest. According to the SFL holder, no requests for additional harvesting contracts or wood allocations have been forthcoming over the audit term though opportunities may be available where specific interests are identified. In 2013, the SFL Board approved a formal offer of a seat on the Board of Directors, and a Common Share in the company, with full voting rights, to the Algonquins of Ontario. Though not accepted, the offer stands. The SFL holder observed that it is difficult to quantify actual Aboriginal participation in the local forest economy since it depends on voluntary self-identification.

District reports were not included in the background information provided to the audit team as required on award. These were requested by the auditor and provided while on site and following the audit week. The reports are general in nature, and in some cases, survey questions had no responses. Reporting quantitatively on a community-by-community level for each of those located on the management unit would facilitate meaningful reporting for the MOECC, Indigenous communities and the public as well as providing the information required as part of the IFA process.

Statements such as *“MNRF has traditionally sought to achieve Condition 56 obligations with creative, non-traditional opportunities that are responsive to the interests, desires and capacities of Aboriginal communities across the landscape”* do not assist in a conclusive assessment of what specific efforts were made to engage with Indigenous communities on sharing in the benefits provided through forest management planning.

Some of the statements in the District reports suggest that improved communication between MNRF and the SFL holder could help quantify Indigenous participation in the forest economy (e.g.,

“attempts to secure the actual numbers of jobs involved have not resulted in any information” or “SFLs are the ones who manage the opportunities with operations. They should be asked to answer this survey on behalf of Crown”). However, both OMNFR and the SFL noted that it is challenging to assess participation of Indigenous peoples in the local forest economy since self-identification is voluntary.

Finding #1: District Condition 34/56 reports and surveys are lacking in detailed information that would support a conclusive assessment of efforts to identify and provide opportunities to Indigenous communities over the audit term.

Independent Forest Audit – Record of Finding

Finding #2

PRINCIPLE 2 – Public consultation and Aboriginal involvement

Criterion 2.5.1: First Nations or Métis community consultation and involvement in FMPs, amendments, contingency plans.

Procedure(s): Review and assess whether reasonable efforts were made to engage each First Nations or Métis community in or adjacent to the management unit in forest management planning as provided by the applicable FMPM and assess the resulting involvement and consideration in the plan or amendment.

Background Information and Summary of Evidence:

Evidence includes: Interviews with SFL holder and OMNRF RLS, District Manager, Resource Management Supervisor, requests for information from OMNRF Region, interviews with Curve Lake Lands and Resources reps, Phase 2 Planning Team minutes, Algonquin ABIR and Report on Protection of Identified Aboriginal Values.

Discussion: Regarding participation in forest management planning and the development of background information reports, there was evidence provided that both Algonquin and Williams Treaties communities were invited to and participated in forest management planning, with varying levels of attendance. A member of the Algonquins of Ontario was also a member of the planning team Steering Committee. No Métis interests have been identified on the Forest.

Letters sent by MNRF outlined the opportunity to:

- Develop an approach to consultation that will be effective for the community,
- Have a community representative sit as part of the planning team,
- Participate in the development of the Aboriginal Background Information Report and the identification of Aboriginal values.

Planning team minutes indicate some discussion and response to concerns raised by Indigenous communities, though in some cases these were broader Treaty issues that could not be resolved in the context of a forest management planning process. In the case of Algonquin communities, these are being addressed through an ongoing land claim negotiation.

Curve Lake submitted an Aboriginal Background Information Report on November 8, 2016. A letter dated March 21, 2017, from (then) District Manager was sent to the WTFN Process Coordinator (the primary contact throughout consultation) where the Curve Lake ABIR was mentioned and an offer was extended to meet with Curve Lake FN to discuss the ABIR. The report was not available to the audit team for review. To date, a meeting has not occurred and a Report on the Protection of Identified Aboriginal Values is still pending.

Finding #2: A Report on the Protection of Identified Aboriginal Values for Curve Lake is outstanding.

Independent Forest Audit – Record of Finding

Finding #3

PRINCIPLE 4: Plan Assessment and Implementation

Criteria 4 To review and assess through field examination whether information used in preparation of the FMP was appropriate and assess the implementation of the management strategy.

Procedure(s):

4.6 Renewal Support Direction: Renewal support activities (tree seed collection, nursery stock production, tree improvement activities) must be conducted in compliance with all laws and regulations including the CFSA, approved activities of the FMP including SGRs (if applicable), AWS and FOPs (if applicable).

Background Information and Summary of Evidence:

The vast majority of sites rely upon natural regeneration. The seed collection and inventory levels are adequate to meet conifer restocking requirements. Some work has been done in the local seed orchard to ensure production of future seed supplies.

Two concerns were noted during the conduct of the audit. The seed handling plant in Angus, Ontario run by MNRF may be closed without plans for alternative seed processing being disclosed. There are no known plans for genetic conservation nor breeding for beech bark disease (BBD) resistance.

BBD poses a real threat to achieving forest sustainability goals across southern Ontario. Invasive species such as Emerald Ash Borer are another threat that may be addressed through genetic conservation or breeding strategies. The current tree improvement strategy is thirty years old and under review by MNRF.

Finding #3: There is a need for MNRF to hasten its review of its forest genetics conservation and seed handling programs and communicate a new strategy to SFL holders.

Independent Forest Audit – Record of Finding

Finding #4

PRINCIPLE 3 Forest Management Planning

Criterion 3.9: To review and assess operational prescriptions for the Phase II planned operations.3.5.2 Operational prescriptions for areas of concern (AOC)3.8.1 Phase II planned operations consideration of MNRFs SEV under the Environmental Bill of Rights (EBR)

Procedure(s)

1. Review whether any AOC prescriptions were added, modified, or deleted for the second five-year term and assess whether

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

Background Information and Summary of Evidence:

Adequate information is not always available for AOC planning, particularly in relation to Blanding’s/Wood turtle, American Ginseng, and recreational values. MNRF has Strategy for Values Collection document outlining the process and ranking the needs of values collection in the southern region.

BMFC does not always provide the MNRF with a list of priority blocks requiring values identification.

Blanding’s Turtle/Wood Turtle and American Ginseng:

As per direction provided in the previous IFA (Recommendation #3), the MNRF was required to implement a “surge” in SAR inventories in order to get ahead of the current planning and operations schedule. Although this surge occurred, it appears that SAR inventories are once again occurring just prior to, and after tree marking is being completed in the field. And in some instances, it does not get completed at all.

The MNRF is not currently providing SAR AOCs in a timely manner, which would allow for AOCs to be

properly identified prior to harvest. This is a result of limited resources within the MNRF, combined with the fact that BMFC does not notify the MNRF of which blocks are about to be marked so that these could become priorities for the field inventories. In addition, each AWS allocates up to three times the area actually harvested to provide operational flexibility at the expense of confounding allocation priorities.

Recreational Values:

Harvesting incursions near recreational values including ski trails, hiking trails, and campsites have occurred throughout the planning period, despite the fact that AOC prescriptions exist for these values. It appears that these incursions are associated with values that are not mapped within the MNRF values database and hence the AOC is not mapped. Therefore, AOC prescriptions are not applied during marking operations.

There appears to be a need to strengthen communication between MNRF and BMFC so that the MNRF can apply their limited resources more effectively, and properly identify SAR AOCs prior to the onset of tree marking. Also, the MNRF needs to ensure that their recreational values are up to date and are provided to BMFC prior to tree marking so that AOCs prescriptions can be properly applied within the blocks.

This deficiency in identifying values in a timely manner was raised as a concern by the public to the audit team. The SFL also cited several examples of operations that had to be halted and moved at considerable cost to the operator. See also finding #8, Principle 8.

Finding #4: Better communication between MNRF and BFMC would allow for more efficient use of MNRFs limited resources, and provide the MNRF with the opportunity to focus values collection efforts where they are most essential.

Independent Forest Audit – Record of Finding

Finding #5

PRINCIPLE 5 – SYSTEM SUPPORT

Criteria 5

To determine whether appropriate awareness, education, and training programs, as well as document and record quality control procedures, are in place and operational.

5.1 Human Resources

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.

Procedure(s):

1. Review and assess, including through interviews, the organization’s commitment to awareness, education and training programs and whether individuals involved in the SFM system are current with legislation, industry, and government regulatory requirements and standards, and the organization’s policies and objectives specific to their responsibilities.

Background information and summary of evidence:

During the field audit it was evident that most operators are aware of specific conditions that required attention during forest operations on the blocks. For most of the sites examined during the field portion of the audit, operator awareness was clearly apparent. In fact, protection of residual trees, site productivity, stream quality and adherence to AOC prescriptions was exceptionally good.

There were operational issues identified on 4 of the 22 sample blocks where it was felt that additional operator training/oversight would have avoided the following issues:

- Block 1057 & 1606 – high stumps;
- Block 1023 – utilization of merchantable fallen wood; and,
- Block 1720 – lack of cross drainages in roads leading to ponding, evidence of skidder crossing a defined stream channel and road right-of-way exceeding 15m.

MNRF compliance inspections identified similar issues on Block 1023 and 1720; the others were not included as part of MNRF inspections. See finding #6 with reference to MNRF compliance plan implementation issues.

Finding #5: Evidence of poor operating practices was found on 4 of the 22 blocks sampled.

Independent Forest Audit – Record of Finding

Finding #6

PRINCIPLE 6 – MONITORING

Criteria 6

To determine whether the monitoring program developed for the management unit, as well as associated reporting obligations met the requirements of manuals, policies, procedures and the SFL/Algonquin Park Forestry Agreement (APFA). To determine whether these monitoring and reporting programs, as implemented, were sufficient to monitor and report on the effectiveness of forest operations in meeting FMP objectives.

6.1 District Compliance Planning and Associated Monitoring

To review and assess whether an MNRF compliance program has been developed and implemented to effectively monitor program compliance in accordance with MNRF manuals, policies and procedures.

Procedure(s):

1. Review the MNRF District Compliance Plans in place during the term of the audit (consider FMP - criteria 3.5.11 and 3.9.9 as well) to determine how forest management activities were to be monitored for compliance by MNRF and assess whether the actual level of the overall monitoring program was in accordance with the FMP/plans and whether it was appropriate based on evidence gathered through analysis of related criteria, including field audits. Consider Principle 4 which includes an examination of MNRFs compliance information system.

Background information and summary of evidence:

Annual Compliance Operating Plans (ACOPs) were prepared by the MNRF District compliance team for each year during the term of the audit in accordance with FMPM and FIM direction. The District ACOPs used a risk-based approach to assess proposed operations and rank them according to the level of risk each might pose during operations. The assessment of risk is completed by a knowledgeable MNRF compliance team member using a number of factors including compliance history of the operator, AOCs in the harvest block, etc. Operating blocks that are determined to present a higher risk are prioritized for compliance inspections. Despite a well-designed risk assessment system to focus resources on problem areas, an increasing number of high risk operating areas have not been inspected by MNRF compliance inspectors.

Numerous challenges faced District compliance staff during the period of the audit including MNRF transformation, staff transfers, and downsizing. The number of compliance inspection performed by MNRF on the BMF during the term has fallen from a high of 23 in 2011-2012 to a low of 4 in 2016-2017 (source AR-6 and MNRF/SFL for 2016-2017). In each year the actual compliance inspections fell well short of planned inspections by 50% or more except for 2011-2012.

The above trends are not unique to the MNRF Bancroft District office. Shortfalls in compliance inspections have been found on other forests audited by this team over the last four years across the province.

Finding #6: The number of MNRF compliance inspections fell below planned levels on a consistent

basis throughout the term of the audit.

Independent Forest Audit – Record of Finding

Finding #7

PRINCIPLE 6 – MONITORING

Criterion 6.3: To determine whether the monitoring program developed for the management unit, as well as associated reporting obligations met the requirements of manuals, policies, procedures and the SFL/APFA.

Direction: The entire cycle from SGRs, FOPs, field operations, regeneration assessment surveys to FRI update must be assessed.

Procedure(s):

1. Assess whether the management unit assessment program (SFL and District) is sufficient and is being used to provide the required silviculture effectiveness monitoring information

Background Information and Summary of Evidence:

The MNRF 2016 Silvicultural Effectiveness Monitoring SEM report noted variances between MNRF FTG descriptions (using SO-iSTARS) and those provided by the SFL. The SEM report states; “A recommendation of this report is to discuss the before-mentioned discrepancies with the SFL, and ensure SFL and MNRF assessment methodologies and reporting methods are better matched. Until this discussion occurs comparing results is futile”.

According to SFL representatives, they have not received the MNRF SEM reports. The gap between MNRF methods of SEM data collection and SFL methods for data collection is a common issue across Ontario. MNRF senior management is looking at standardizing the approach through its Silviculture Initiative (SI) program and the release of the 2017 Forest Operations and Silviculture Manual.

Meanwhile, the SFL forest manager is looking at improving its Free to Grow (FTG) data collection methods as the foundation to its SEM activities for inclusion in the next FMP. Ideally a cost-effective system can be developed using methods that will provide consistent results between MNRF and SFL managers.

Finding #7: There is inconsistent silvicultural effectiveness monitoring (SEM) data collection, compilation, analysis and reporting procedures between the SFL and MNRF.

Independent Forest Audit – Record of Finding

Finding #8

PRINCIPLE 8 Contractual Obligations

Criteria 8.1.9 Audit action plan and status report

Procedure 8.1.9.2 Review the audit action plan status report and assess whether actions were effective in addressing the audit recommendations

Background Information and Summary of Evidence:

The audit action plan was completed within the required time frames and met all IFAPP requirements. Most of the actions were effective with following two exceptions. Quotes from the status report are italicized.

Recommendation #2:

The Bancroft-Minden Forest Company Inc., with the assistance of the Ontario Ministry of Natural Resources and Forestry, shall develop a transition strategy for implementing the forthcoming forest resource inventory, considering the implications on operations, planning and administration of the sustainable forest licence.

Progress to date:

1. *The new inventory has not been delivered as of this date. Work on this recommendation has not begun. Action is not complete, further tracking is required.*

This lack of action may cause a need for a contingency plan. Since the remote sensing data was acquired in 2007 and field work commenced shortly after, a ten-year delay in completing the forest inventory sets a new low standard of service.

Recommendation #3:

Ontario Ministry of Natural Resources and Forestry Bancroft District must implement a surge in species at risk inventory focused on getting ahead of active operations to provide forestry operations enough time to effectively plan their operations.

Action(s) required:

1. *Work with the SFL to prioritize blocks for species at risk assessment based on probability for the species to occur, and timing of planned harvest.*
2. *Create a work plan to guide assessment activity.*
3. *Secure sufficient resources to implement the work plan.*

Progress to date:

Completed. Significant effort was spent in the fall of 2013 and in 2014 to address this need. All high and medium priority harvest blocks were surveyed in spring and summer of 2014. Current work is focusing on harvest priorities for 2015. Spring surveys in 2015 targeted Blanding’s turtle in high and

medium priority harvest blocks.

Future tracking requirements:

None. However, SAR assessment work for future forestry operations areas should continue.

The audit team was informed by the SFL that the surge helped but dissipated and SAR based AOCS are not far enough ahead of operational planning thus causing additional costs and delays/uncertainties for operators.

Recommendation on Licence Extension:

The audit team concludes that management of the Bancroft-Minden Forest was generally in compliance with the legislation, regulations, and policies that were in effect during the term covered by the audit, and the Forest was managed in compliance with the terms and conditions of the Sustainable Forest License held by Bancroft-Minden Forest Company Inc. Forest sustainability is being achieved, as assessed through the Independent Forest Audit Process and Protocol (OMNR 2011). The audit team recommends the Minister extend the term of Sustainable Forest License #542585 for a further five years.

The recommendation on licence extension has not been addressed. The SFL has not been renewed and will soon be expired.

Finding #8: Actions taken by MNRF in response to three of the previous IFA recommendations related to the FRI , SAR and license extension have been ineffective at solving associated problems identified in the preceding audit report.

APPENDIX 2 – MANAGEMENT OBJECTIVES TABLE

Summary of the status of the 2011-2021 FMP Objectives

Objective	Auditor Assessment (achieved, partially achieved, not achieved)	Auditor Comments
3.5.1 - Conserving biological diversity in Ontario's Forests		
3.5.1.1 - To move towards a more natural landscape pattern and distribution.	Achieved	Harvest level less than planned but the forest is moving toward target from natural process and harvest patterns that emulate natural process (e.g. selection cutting and gap dynamics).
3.5.1.2 - To move towards a more natural forest landscape structure, composition and abundance.	Achieved	Harvest level less than planned but the forest is moving toward target from natural process and harvest patterns that emulate natural process (e.g. selection cutting and gap dynamics).
3.5.1.3 - Contribute to the maintenance of red and white pine, including old growth stands, while permitting a sustainable harvest of red and white pine now and in the future.	Achieved	The white and red pine renewal practices sampled by the audit team are effective and the scale is consistent with planned levels. Conservation measures of old growth forests are in place.
3.5.1.4 - To move towards a more natural forest landscape condition that provides for non-spatial wildlife habitat for species dependent on late development stage forest conditions.	Achieved	Non-spatial modelling for habitat of Black-backed woodpecker, Canadian Lynx and Ruby Crowned Kinglet habitat was completed. These species were measured as an indicator "To achieve and maintain a natural level of wildlife habitat area across the forest landscape." This indicator falls under objective 3.5.1.4. Currently, the habitat for these species is far below the Simulated Range of Natural Variation (SRNV); however, projections show the targets moving toward SRNV, and meeting targets by 2121.

<p>3.5.1.5 - To move towards a more natural forest landscape condition that provides for forest-dependent provincially and locally featured species.</p>	<p>Achieved</p>	<p>Moose foraging habitat, late winter moose habitat, and pileated woodpecker habitat are the indicators for this objective. Moose foraging and pileated woodpecker habitat currently meet (and continue to meet) SRNV targets, and moose late winter habitat moving towards SRNV in the long-term (2121).</p>
<p>3.5.1.6 - To move towards a more natural forest landscape condition that provides for spatial wildlife habitat for species dependent on overmature forest conditions and forest-dependent provincially and locally featured species.</p>	<p>Achieved</p>	<p>Black bear fall foraging, deer carrying capacity, moose carrying capacity and pileated woodpecker are all spatial indicators associated with this objective. The measurable targets have been met, and deer browse is moving towards targets.</p>
<p>3.5.1.7 - Within the Moose Emphasis Areas identified in the plan as management zones, maintain or create cover, where possible, according to provincial direction.</p>	<p>Partially Achieved</p>	<p>The spatial indicators used for this objective are the Percent of MEA in browse-producing habitat, in mature conifer-dominated forest, and in hardwood-dominated or mixedwood forest. Percent MEA in browse-producing habitats was met for all three MEAs. Percent MEA in mature conifer-dominated forest was met for two of the MEAs, and approaching the target for the third. Percent MEA in hardwood-dominated forest was vastly exceeded for all three MEAs.</p>
<p>3.5.1.8 - To manage forests and conduct operations to promote the protection of Species at Risk, and protection and enhancement of Species at Risk habitat.</p>	<p>Partially Achieved</p>	<p>There are two indicators for this objective: Area of habitat for forest dependent SAR, and Compliance with AOC prescriptions for the protection of SAR habitat. No means currently exist to model SAR habitat, making the first indicator difficult to measure and determine success. The target for the second indicator is to have no non-compliance incidents in SAR AOCs. For the most part, this was achieved, however, there were a few non-compliances – most of which were a</p>

		product of late AOC identification.
3.5.2 - Maintaining and enhancing Ontario's framework for sustainable forest management		
3.5.2.1 - Continually improve forest operation compliance within FMP operational direction.	Partially Achieved	"In compliance" reports have improved from 92% in 2011-201 to 98% in 2016-2017. However, the auditors noted 4 of 22 sampled operations were not in compliance (Finding #5, Appendix 1)
3.5.2.2 - To provide a forest access road system to support forest operations as set out in the FMP and implement planning and abandonment methods that protect water quality, fish and wildlife populations, aquatic habitat and public safety.	Achieved	Only 0.9 km of primary and 5.6km of branch roads constructed during audit term to meet operational needs since access on the unit already very well developed. Decommissioning was carried out on 18.5 km of branch road and 0.1 km of primary road.
3.5.3 - Maintaining and enhancing forest ecosystem condition and productivity		
3.5.3.1 - To ensure the successful renewal of harvested stands (naturally or artificially) to the most silviculturally appropriate species and tended until management standards or Free-to-grow is met, using the most appropriate and cost-effective methods.	Achieved	The forest renewal targets are being met although improvement in monitoring programs are required (Finding # 7, Appendix 1)
3.5.3.2 - Implement sustainable silvicultural practices in accordance with silvicultural ground rules.	Achieved	BMFC implements sustainable silvicultural practices. Irregular shelter wood systems are worth considering in the next FMP.
3.5.4 - Providing for a continuous and predictable flow of economic and social benefits from Ontario's forests		
3.5.4.1 - To protect natural resource features, land uses and values	Achieved	The indicator for this objective is <5% non-compliance for prescriptions.

dependent on forest cover.		Compliance for this objective was > 95%.
3.5.4.2 - To protect cultural heritage values and aboriginal values	Achieved.	The indicator for this objective is compliance with Area of Concern prescriptions for the protection of cultural heritage values and aboriginal values (<5% non-compliance). There were no instances of non-compliance.
3.5.4.3 - To maintain or improve quality resource based tourism opportunities by implementing forest operations in a manner that minimizes conflicts with non-timber resource users and protects nontimber values.	Achieved	The target is < 5% non-compliance associated with resource based tourism values protection. This target was achieved.
3.5.4.4 - Provide a sustainable, continuous and predictable wood supply from the forest that will meet the current recognized industrial demand of the forest.	Not achieved	Plan was to achieve >85% for three indicators related to actual harvest area; actual harvest volume and percent of forecast volume utilized. none were achieved (achievement was 50% not 85%). There are no findings related to this issue due to external causes in the marketplace.
3.5.5 - Protecting and Conserving Ontario's Forest Soil and Water Resources		
3.5.5.1 - To protect the productive capacity of the soil and water.	Achieved	The target is < 5% non-compliance with conditions on regular operations for site damage and rutting. There were only a few instances of non-compliance associated with this objective (one of which was discovered during the field audit). Compliance was still well over 95%.
3.5.5.2 - To conserve water quality and fish habitat.	Achieved	The target is < 5% non-compliance with AOC prescriptions for the protection of water quality and fish habitat. There were a few reports indicating non-compliance with water crossing installation or removal, still above 95% compliance.

3.5.6 - Accepting Social Responsibility for Sustainable Development		
3.5.6.1 - To minimize loss of Crown productive forest thereby maintaining harvest levels and related community well-being.	Achieved	Roads are often built on older road beds and use a right of way width of 15 m. Landings and road footprint was observed to be quite small. The next FMP could benefit by developing measurable indicators that could be tracked in the GIS
3.5.6.2 - Ensure that land-use direction as set out in the Crown Land Use Atlas is followed, including direction on Skyline Use Area, Enhanced Management Areas and park areas.	Achieved	The indicator for this objective is compliance with direction in the Crown Land Use Atlas for the protection of Skyline Use Areas, EMAs and parks. The target is less than 5% non-compliance with direction in the CLUA. Compliance was above 95% for this objective.
3.5.6.3 - To provide opportunities for Aboriginal involvement in forest management planning.	Achieved	Forestry occurs in a complex environment of ongoing land claim and legal negotiations with both Algonquin and Williams Treaties communities. However, all twelve communities with interests on the Forest were invited to and in some cases had representatives participating in forest management planning and on the Local Citizens Committee.
3.5.6.4 - Identify, protect and share information about values of interest with local First Nation communities.	Partially achieved	The Algonquins of Ontario submitted an Aboriginal Background Information Report and efforts to identify and protect values of interest on the Forest are ongoing. One report on the Protection of Identified Aboriginal Values for Curve Lake is still pending.
3.5.6.5 - Work cooperatively with all users of Crown land to facilitate multiple use of the forest.	Achieved	BMFC works with MNR and many stakeholders on the forest to facilitate use of Crown land. Examples include cooperative scheduling and creation of buffers for specific cottage lakes in the Forest, identifying recreational values and working with stakeholders in off-roading clubs on access considerations.

<p>3.5.6.6 -To encourage and support the participation of the Local Citizens Committee in the development of the Forest Management Plan.</p>	<p>Achieved</p>	<p>The BMLCC has been active in the development of the Phase I and Phase II 2011-2021 FMP on the forest. The LCC has also endorsed each Phase.</p> <p>LCC members are actively involved in monitoring and implementation discussions during meetings. Amendments to AWS are discussed with LCC prior to approval.</p>
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APPENDIX 3 – CONTRACTUAL OBLIGATIONS

The following table provides the contractual obligations of the Bancroft-Minden Forest. The list of obligations in the table below includes Criterion 8.1.1.1-8.1.21.2. Each condition is provided on a separate row with comments by the audit team to report on the degree of attainment of the condition.

OBLIGATION	MANAGER PERFORMANCE
Payment of Forestry Futures and Ontario Crown charges	Contractual obligation met by paying Crown dues.
Wood Supply Commitments, MOAs, sharing arrangements, special conditions	There are no special conditions or commitments with this SFL.
Preparation of FMP, AWS and reports; abiding by the FMP, and all other requirements of FMPPM and CFSA	Contractual obligation met by completed required plans and reports within specified timelines.
Conduct inventories, surveys, tests, and studies; provision and collection of information in accordance with FIM	Contractual obligations met with some need of improvement noted under Finding #7, Appendix 1.
Wasteful practices not to be committed	Contractual obligations met with exceptions noted under Finding #6, Appendix 1.
Natural disturbance and salvage SFL conditions need to be followed	There were no salvage operations during the audit period.
Protection of the licence area from pest damage, participation in pest control programs	Contractual obligation met with concerns noted over beech bark disease under Finding # 4, Appendix 1.
Withdrawals from licence area	There were no withdrawals.
Audit action plan and status report	Exceptions noted under Finding #8, Appendix 1.
Payment of forest renewal charges to Forest Renewal Trust (FRT)	Contractual obligation met by paying required charges to FRT
FRT eligible silviculture work	Contractual obligation met as determined by an audit of the account.
FRT forest renewal charge analysis	Contractual obligation met by completing required analyses.
FRT account minimum balance	Contractual obligation met by mainlining minimum balance.
Silviculture standards and assessment	Contractual obligations met with some need of improvement noted under Finding #7,

program	Appendix 1.
Aboriginal opportunities	Only one of twelve communities participated in the IFA, creating challenges for a balanced evaluation of Clause 20.1 of the SFL agreement. As per evidence provided by the SFL holder, this contractual obligation has been met.
Preparation of compliance plan	Contractual obligations met.
Internal compliance prevention/education program	Contractual obligations met with some need of improvement noted under Finding #6, Appendix 1.
Compliance inspections and reporting; compliance with compliance plan	Contractual obligations met.
SFL forestry operations on mining claims	Not sampled but noted identification of mining claims in AWS. MNDM is moving to replace claims systems of lines and posts with GPS data.

APPENDIX 4 – AUDIT PROCESS

The Independent Forest Audit Process and Protocol (IFAPP) was developed by MNRF to provide a comprehensive and consistent method of evaluating forest management activities on Crown land. The IFAPP is based on eight guiding principles and contains 63 procedures that are applicable to the Bancroft-Minden Forest. The audit procedure serves as a framework to provide a structured approach to evaluating whether forest management activities meet the requirements governing forestry practices on Crown land in Ontario.

RISK ASSESSMENT

The audit team conducted a risk analysis of the management unit that included the reviews of trends analysis and the district silvicultural effectiveness monitoring (SEM) data. These documents were combined with the previous IFA (and related Action Plan and Status Report), current forest certification status, and summary data from preliminary interviews with the auditees and key stakeholders to complete the risk assessment. The assessment followed IFAPP protocols that were considered as “optional” and ranked based on their potential impact on forest sustainability and likelihood of occurrence.

The Risk Assessment revealed following concerns:

- PRINCIPLE 2: Public Consultation
 - LCC has insufficient members
- PRINCIPLE 3: Forest Management Planning
 - High number of amendments requires review by audit team
 - AWS Revisions meet FIM specifications, but interviews have indicated that the public may be caught off guard by silvicultural changes
- PRINCIPLE 5: System Support
 - Lack of staffing resources at the MNRF District level
- PRINCIPLE 6: Monitoring
 - MNRF Follow-up on not-in-compliance reports, and submission timelines
- PRINCIPLE 8: Contractual Obligations
 - Interviews indicated compliance education should be assessed by the audit team

There were seven associated optional protocols that were identified posing sufficient risk to be included in the audit.

Table 1 summarizes the number of procedures selected by the audit team for audit based on the direction provided by the IFAPP.

Table 1. IFA Procedures audited, by risk category

Principle	Optional - Applicable (#)	Optional - Selected (#)	Optional ^a - % Audited	Mandatory ^b - Audited (#)	Comments Optional procedures audited
1. Commitment²	2	-	0%	-	-
2. Public Consultation and Aboriginal Involvement	5	1	20%	3	2.1.1
3. Forest Management Planning	19	2	11%	13	3.13.1 3.14.2
4. Plan Assessment & Implementation	2	-	0%	9	-
5. System Support	2	1	50%	-	5.1.1
6. Monitoring	12	2	17%	6	6.1.2 6.2.1.2
7. Achievement of Management Objectives and Forest Sustainability	-	-	-	7	-
8. Contractual Obligations	5	1	20%	18	8.1.17
Totals	47	7	15%	56	-

Notes on Table 1:

1. Audit Procedures:

a. *Optional* – only those optional procedures identified through management unit risk assessment or determined to be required through the audit process are audited; and

b. *Mandatory* – all mandatory procedures are to be audited.

2. *Applicable* procedures do not include those which are excluded because the forest is currently certified to CSA, FSC or SFI standards.

AUDIT PLAN

KBM prepared an audit plan that described the schedule of audit activities, audit team members and their qualifications, audit participants, and auditing methods. The audit plan was submitted to MNRF, BMFC, FFTC, and the chair of the BMLCC.

SUMMARY OF CONSULTATION AND INPUT TO AUDIT

Public Response

The invitation to fill in online survey and contact auditors for in-person or phone meeting was made through following platforms: Bancroft area newspapers (The Haliburton Highlander, The Bancroft Times, and The Minden Times), as well as a randomized 10% sample mailout from the FMP mailing list. The advertisement identified the purpose of the audit and invited the public to submit comments to KBM by using an online survey or by contacting KBM directly. The LCC was emailed with the request to distribute the survey and audit information in their communities.

There was little response from the mailout, however, one member of the public indicated that AOCs on recreational values needed more consideration.

Two surveys were received via Survey Monkey. One member of the public was concerned with a shooting range on Crown land; the other respondent did not complete the survey but indicated an interest in traditional plants on Crown land.

Local Citizens Committee

A letter was emailed to each of member the LCC to notify them of the audit and invite their input. Follow-up emails were sent approximately two weeks after the letters were sent. An attempt to schedule a WebEx presentation to the LCC to further clarify the IFA process was made with communications between the LCC, MNRF and the audit team. No meeting was held, but the IFA purpose and relevant materials were made available. The audit team also solicited input during risk assessment and audit and asked for advice for the communication channels for advertising. Two auditors attended an LCC meeting during the field audit on Monday, November 27, 2017 where they had the chance to speak with two members of the LCC during the meeting. Additionally, an in-person interview with an LCC member occurred during the field week. Attempts to meet with the remainder of the LCC were unsuccessful.

Aboriginal Communities

Following discussions with the MNRF District Resource Liaison Specialists (RLS) in Pembroke and Peterborough, KBM contacted five Algonquin and seven Williams Treaties communities several times by email and telephone, using contacts provided by the RLS for each District. Emails and messages encouraged input to the audit process by contacting KBM directly if they wished to participate in the audit. Information about the audit process was provided in email, as well as a link to an online survey and an offer to present more background information about the IFA process if requested.

KBM offered to arrange in-person meetings with each Aboriginal community and invited communities to participate in the field tour during the audit week. There were no responses that resulted in interviews with the Algonquin communities. In September 2017, a PowerPoint presentation was given via teleconference to Algonquin community leaders (arranged by the Algonquins of Ontario Consultation Office). At that time, the participants indicated that their previous experience showed little value resulting from participation in the IFAs. The Algonquins

are currently addressing many issues through a land claim negotiation. The auditor also provided a background presentation to Curve Lake First Nation Lands and Resources representatives, who expressed interest in an in-person meeting. This meeting took place during the audit week.

Overlapping Licences, Contractors and Commitment Holders

There was a mailout sent to a randomized 10% sample of the FMP mailing list for this audit. The newspaper advertisement, with a link to the online survey, provided the notice of audit for these groups as well.

Ministry of Natural Resources and Forestry

MNRF District staff participated in all aspects of the audit. Interviews were held with the District Manager, Area Supervisors, Management Forester, Biologist, Technicians and other support staff. The MNRF District personnel also accompanied the audit team in the field during all three truck days. A Regional MNRF representative also participated in the audit through delivery of needed documents, attendance of a portion of the field component of the audit and the main audit meetings. Several Regional MNRF staff accompanied the audit team on a field truck day. A MNRF Integration Branch representative also participated through telephone attendance of the opening and closing meetings.

Forestry Futures Trust Committee

Two members of the Forestry Futures Trust Committee participated in the pre-audit meeting; no members were able to attend the closing meeting. Three members participated in the truck field tour.

FIELD SITE SELECTION

The audit team conducted the preliminary site selection shortly after the pre-audit meeting. Annual Work Schedules and Annual Reports were used to ascertain the amount and type of forest operations carried out on the BMF during the audit period. A stratified random sample of sites was then selected to ensure that selected sites were representative of a cross section of all activities conducted on the BMF during the audit period. The auditees were informed of the site selections before the field audit. A plan for access was created in conjunction with the SFL.

Table 2. Sampling intensity for each forestry activity examined as part of the field site visits.

Treatment	Sample	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17*	Total
Plant	AR Total	111.0	13.1	8.2	104.4	114.9	21.1	372.7
Plant	Proposed Sample Size	11.1	1.3	0.8	10.4	11.5	2.1	37.3
Plant	Actual Sample Size	26.9	0.0	0.0	21.0	0.0	0.0	47.9
Plant	Actual Sample %/intensity	24.2%	0.0%	0.0%	20.1%	0.0%	0.0%	12.8%
Natural	AR Total	1,168.0	1,560.0	1,616.0	1,376.0	653.0	1,275.0	7,648.0
Natural	Proposed Sample Size	116.8	156.0	161.6	137.6	65.3	127.5	764.8
Natural	Actual Sample Size	106.8	197.9	136.7	102.9	221.4	0.0	765.7
Natural	Actual Sample %/intensity	9.1%	12.7%	8.5%	7.5%	33.9%	0.0%	10.0%
SIP	AR Total	29.0	201.0	123.0	80.0	25.0	4.9	462.9
SIP	Proposed Sample Size	2.9	20.1	12.3	8.0	2.5	0.5	46.3
SIP	Actual Sample Size	0.0	66.8	20.9	0.0	0.0	0.0	87.7
SIP	Actual Sample %/intensity	0.0%	33.2%	17.0%	0.0%	0.0%	0.0%	18.9%
Harvest	AR Total	2,338.0	3,285.0	2,028.0	2,187.0	1,501.0	2,268.0	13,607.0
Harvest	Proposed Sample Size	233.8	328.5	202.8	218.7	150.1	226.8	1,360.7
Harvest	Actual Sample Size	250.5	513.5	348.9	400.5	270.9	198.9	1,983.2
Harvest	Actual Sample %/intensity	10.7%	15.6%	17.2%	18.3%	18.0%	8.8%	14.6%
Tending	AR Total	986.0	1,340.0	873.0	1,113.0	739.0	441.7	5,492.7
Tending	Proposed Sample Size	98.6	134.0	87.3	111.3	73.9	44.2	549.3
Tending	Actual Sample Size	67.9	134.6	100.3	168.3	104.4	78.8	654.3
Tending	Actual Sample %/intensity	6.9%	10.0%	11.5%	15.1%	14.1%	17.8%	11.9%
FTG	AR Total	1,647.0	2,770.0	5,879.0	1,594.0	778.0	286.4	12,954.4
FTG	Proposed Sample Size	164.7	277.0	587.9	159.4	77.8	28.6	1,295.4
FTG	Actual Sample Size	128.1	271.6	505.8	161.6	38.7	203.7	1,309.5
FTG	Actual Sample %/intensity	7.8%	9.8%	8.6%	10.1%	5.0%	71.1%	10.1%

PRE-AUDIT DOCUMENT REVIEW

Prior to the five-day site visit, the audit team reviewed documents provided by the auditees, including the:

- a. 2011-2021 Phase I/II FMP for the BMF;
- b. Annual Work Schedules and Annual Reports associated with the above FMP for the audit term;
- c. The previous Independent Forest Audit Report for the management unit
- d. Bancroft-Minden Forest Independent Forest Audit Action Plans and the Action Plan Status Reports;
- e. Provincial Independent Forest Audit Action Plan and Provincial Independent Forest Audit Status Report; and
- f. The Trend Analysis Report.

ON-SITE AUDIT

The objectives of the field site visits were to confirm that activities were conducted according to the FMP, that they conformed to provincial laws, regulations, and guidelines, and that they were effective. The site visit began on November 26, 2017. Three days were spent in the field, with the remainder spent reviewing documents and conducting interviews. Every day of the field audit, the audit team provided auditees updates on the preliminary findings and areas where auditors will be concentrating for the next days. The closing meeting was held in via teleconference December 8, 2017. The meeting provided a forum for the audit team to present and discuss preliminary audit findings with the auditees. Appendix I with the preliminary findings was also provided to the auditees prior to the meeting.

AUDIT REPORT

The audit results are presented in this report, following a brief description of the audit process and the forest licence area under review. Within the report, the audit team has provided findings to address instances of a non-conformance to a law and/or policy, or an identified lack of effectiveness in forest management activities.

Findings from this audit must be addressed in an action plan developed by BMFC, MNRF Bancroft District, with input and review by MNRF Regional and Integration Branch representatives. MNRF Integration Branch will develop an action plan to address the recommendations applicable to Corporate MNRF.

Suggestions and recommendations are no longer highlighted in audit reports, nor do they need to be addressed in action plans. Any suggestions of the audit team have been incorporated within the regular text of this report.

APPENDIX 5 – LIST OF ACRONYMS

ABIR Aboriginal Background Information Report

BANCROFT-MINDEN FOREST IFA: 2011-2017

ACOP	Annual Compliance Operational Plan
AIP	Agreement in Principle
AOC	Area of Concern
AOO	Algonquins of Ontario
APFA	Algonquin Park Forestry Agreement
AR	Annual Report
AWS	Annual Work Schedule
BA	Basal Area
BMF	Bancroft-Minden Forest
BMFC	Bancroft Minden Forest Company Inc.
BMLCC	Bancroft-Minden Local Citizens Committee
C&I	Criteria and Indicators
CFSA	Crown Forest Sustainability Act
COSSARO	Committee on the Status of Species at Risk in Ontario
CRO	Conditions on Regular Operations
DM	District Manager
EBR	Environmental Bill of Rights
FGRM	Forest Genetic Resource Management
FFTC	Forestry Futures Trust Committee
FIM	Forest Information Manual
FMP	Forest Management Plan
FMPM	Forest Management Planning Manual
BMF	BMF
FOIP	Forest Operations Information Program
FOP	Forest Operations Prescription
FRI	Forest Resource Inventory
FRT	Forest Renewal Trust
FSC	Forest Stewardship Council
FTG	Free-To-Grow
IEA	Individual Environmental Assessment

BANCROFT-MINDEN FOREST IFA: 2011-2017

IFA	Independent Forest Audit
IFAPP	Independent Forest Audit Process and Protocol
KBM	KBM Resources Group
LCC	Local Citizens Committee
LTMD	Long-term Management Direction
MEA	Moose Emphasis Areas
MNRF	Ministry of Natural Resources and Forestry
MOECC	Ministry of Environment and Climate Change
RPF	Registered Professional Forester
RLS	Resource Liaison Specialist
SAR	Species at Risk
SEM	Silvicultural Effectiveness Monitoring
SEV	Statement of Environmental Values
SFM	Sustainable forest management
SFL	Sustainable Forest Licence
SGR	Silvicultural Ground Rule
SI	Silvicultural Initiative
SO-iSTARS	Site Occupancy Index Silviculture Treatment, Assessment and Reporting System
SRNV	Simulated Range of Natural Variation
T&C	Terms and Conditions
WT	Williams Treaty

APPENDIX 6 – AUDIT TEAM MEMBERS AND QUALIFICATIONS

Name	Responsibility	Qualifications
Laird Van Damme	Lead auditor, core team member (silviculture, planning, monitoring, contractual obligations, determination of sustainability)	R.P.F., M.Sc.F.; 30 years of experience as a practicing forester, educator and consultant; primary areas of practice are silviculture, forest management and forest research; completed ISO 14001 EMS Lead Auditor training; worked on 21 previous IFAs serving many roles and he has extensive third-party forest certification audit experience.
Peter Higgelke	Core team member (harvest, ecological planning and implementation, access planning and implementation, determination of sustainability)	R.P.F.; M.Sc.F.; 30 years of forestry experience in Ontario; Peter has completed numerous IFAs in various roles including lead, harvest, silviculture, wildlife, planning, Aboriginal involvement and public consultation; FSC - five certification audits and eight surveillance audits;
Terry Honsberger	Core team member (wildlife, ecological planning and implementation, access planning and implementation, contractual obligations, determination of sustainability)	M.Sc. Fish and Wildlife Management diploma from Sir Sandford Fleming College, an H.B.Sc. in Forestry, and a M.Sc. from Lakehead University. Experienced in conducting Species at Risk surveys for many taxa including mammals, avian, flora, fish, amphibians and reptiles.
Rike Burkhardt	Core team member and auditor for Aboriginal involvement (contractual obligations, determination of sustainability; consultation, socioeconomic impacts)	R.P.F., M.F.C.; 20 years of forestry experience in Ontario. Projects include areas of forest management and conservation, natural resource policy analysis, jurisdictional scans, and public and Indigenous engagement. Has participated in approximately a dozen previous IFAs.

BANCROFT-MINDEN FOREST IFA: 2011-2017

Mike Barten	Audit team member (secretariat, consultation, socioeconomic impacts and other supervised components as needed)	H.B.E.Sc. and Geography. Works on KBM forestry-related projects, Aboriginal projects, jurisdictional policy scans, and research support. Has been a team member on two previous IFAs.
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