

**Wabigoon Forest
Independent Forest Audit
2015 – 2020**

Arbex Forest Resource Consultants Ltd.

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1.0 Executive Summary

This report presents the findings of an Independent Forest Audit of the Wabigoon Forest conducted by Arbex Forest Resource Consultants Ltd. for the period of April 1, 2015 to March 31, 2020. The Forest is managed by Domtar Inc. under Sustainable Forest License # 541953.

The Wabigoon Forest lies within the Ontario Ministry of Natural Resources and Forestry Dryden District in the Northwestern Region. There is one Local Citizens Committee (Dryden Local Citizens Advisory Committee) associated with the Wabigoon Forest. The Forest is certified as sustainably managed by the Sustainable Forestry Initiative and the Forest Stewardship Council.

Procedures and criteria for the audit are specified in the 2020 Independent Forest Audit Process and Protocol. The audit term is April 1, 2015 to March 31, 2020. The audit scope covers the implementation of Phase II of the 2008-2018 Forest Management Plan (years 8,9,10), the preparation, development and implementation of the 2018-2019 Contingency Plan, the preparation of the 2019-2029 FMP and the implementation (year one) of the 2019-2029 plan. Management plan documents were reviewed in relation to relevant provincial legislation, policy guidelines and Forest Management Planning Manual requirements. Audit field site examinations were completed by helicopter and truck in October 2020.

Weakness in the forest sector economy had negative implications on the level of achievement of the forest management plans. Harvest levels during the audit term achieved 74% of the planned target. The level of silviculture treatment area is in line with the area harvested. The Annual Reports indicate that forest management operations achieved a satisfactory level of compliance.

Forest management was planned and implemented in accordance with the Crown Forest Sustainability Act and the management plan targets are consistent with the achievement of plan objectives and forest sustainability. The Dryden Local Citizens Advisory Committee was well managed and provided significant benefits to the forest management process. The late delivery of the Enhanced Forest Resource Inventory necessitated the development of a Contingency Plan (which extended the Long-Term Management Direction by one year). All Forest Management Planning Manual requirements were met for the development of the 2008-18 Forest Management Plan, the 2018-19 Contingency Plan, and the 2019-2029 Forest Management Plan. Four issue resolution requests and two Individual Environmental Assessment requests were associated with the development of the 2019-2029 Forest Management Plan. All issue resolution processes met the requirements of the Forest Management Planning Manual.

In spite of the many challenges associated with the development of the Contingency Plan and the 2019-2029 Forest Management Plan, forest management planning was in accordance with the requirements of the Forest Management Planning Manual and the proposed plan objectives and targets are consistent with the achievement of forest sustainability.

The 2015 Independent Forest Audit Action Plan outlined strategies to resolve long standing problems associated with the quality, and approval of forest management documents and other products. Although progress was made and the working relationship between the auditees has improved, problems persist with respect to product quality and meeting mandated approval timelines.

We also identified some shortcomings with respect to forestry aggregate pit management and the silviculture program:

- Operational standards for the management of forestry aggregate pits were not consistently met.
- Passive disc trenching often failed to create suitable site conditions for renewal on some harvested sites and within chipper debris pads.
- On some competitive sites the aerial chemical tending program achieved variable success.
- Timelines for the submission of compliance inspection reports were not consistently adhered to.
- Domtar's monitoring and reporting programs were at times, insufficient to evaluate the effectiveness of some forest operations.

In addition, the production of the Enhanced Forest Resource Inventory had systemic problems delaying the forest management planning process.

Notwithstanding the foregoing, on balance we concluded that an effective forest management program is being implemented and that the Wabigoon Forest is being managed substantially in compliance with the terms and conditions of the Sustainable Forest License.

The audit team concludes that the management of the Wabigoon 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 Domtar Inc. # 541953.

The forest is being managed consistently with the principles of sustainable forest management, as assessed through the 2020 Independent Forest Audit Process and Protocol.

Bruce Byford

Bruce Byford R.P.F.
Lead Auditor



2.0 Table of Findings

Table 1 Findings

| Concluding Statement: |
|--|
| <p>The audit team concludes that the management of the Wabigoon 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 Domtar Inc. # 541953. The forest is being managed consistently with the principles of sustainable forest management, as assessed through the Independent Forest Audit Process and Protocol.</p> |
| Findings: |
| <p>Finding # 1:</p> <p>The production process for the development of the Enhanced Forest Resource Inventory had systemic problems.</p> |
| <p>Finding # 2:</p> <p>The operational standards for forestry aggregate pits identified in the 2019 Forest Management Plan were not consistently met.</p> |
| <p>Finding # 3:</p> <p>On some competitive sites the aerial chemical tending program achieved variable success.</p> |
| <p>Finding # 4:</p> <p>Passive disc trenching often failed to create suitable site conditions for renewal on some harvested sites and within chipper debris pads.</p> |
| <p>Finding # 5:</p> <p>A significant percentage of Ministry of Natural Resources and Forestry and the Domtar Inc. compliance inspection reports were not submitted in accordance with the timelines identified in the Forest Management Plan and the Forest Compliance Handbook.</p> |

Finding # 6:

Domtar's monitoring and reporting programs were insufficient to evaluate the effectiveness of some forest operations.

Finding # 7:

The implementation of the 2015 Independent Forest Audit Action Plan did not fully resolve issues associated with the production, review and approval of forest management documents and products.

3.0 Introduction

This report presents the findings of an Independent Forest Audit (IFA) of the Wabigoon Forest (WF) conducted by Arbex Forest Resource Consultants Ltd. for the period of April 1, 2015 to March 31, 2020. The audit scope covers the implementation of Phase II of the 2008-2018 Forest Management Plan (2008 FMP) (years 8,9,10), the preparation and development of the 2018-2019 Contingency Plan¹ (CP)², the preparation of the 2019-2029 FMP (2019 FMP) and the implementation (year 1) of that plan.

The WF is managed by Domtar Inc. (Domtar) under the authority of Sustainable Forest Licence (SFL) # 541953. The Forest is administered by the Ontario Ministry of Natural Resources and Forestry (MNR) Dryden District.

The Forest is certified as sustainably managed by the Sustainable Forestry Initiative (SFI) and the Forest Stewardship Council (FSC).

The 2015 IFA was conducted by Arbex Forest Resource Consultants Ltd. The audit resulted in four recommendations. A major management shortcoming identified was that the production and approval of required reports and plans was inefficient and costly. With the critical exception that corrective measures be taken immediately to resolve that issue, the audit team concluded that forest sustainability as assessed through the 2015 IFAPP was being achieved and recommended that the SFL be extended for a further five years.

3.1 Audit Process

The Crown Forest Sustainability Act (CFSA) requires that all Sustainable Forest Licences (SFLs) and Crown Management Units (CMUs) be audited every five to seven years by an independent auditor. The 2020 Independent Forest Audit Process and Protocol (IFAPP) provides guidance in meeting the requirements of Ontario Regulation 160/04 made under the CFSA. The scope of the audit is determined by the MNR in specifying mandatory audit criteria outlined in Appendix A of the IFAPP. The audit scope is finalized by the auditors in conducting a management unit risk assessment by identifying optional audit criteria from Appendix A to be included in the audit. The final audit scope is accepted by the Forestry Futures Trust Committee (FFTC) with any subsequent changes to the audit scope requiring agreement between the FFTC, MNR and the Lead Auditor.

The procedures and criteria for the delivery of the IFA are specified in the 2020 IFAPP. The audit generally assesses licence holder and MNR compliance with the Forest

¹A Contingency Plan is an interim forest management plan that is required when circumstances affect the production/implementation of a 10-year forest management plan.

Management Planning Manual (FMPM) and the CFSA in conducting forest management planning, operations, monitoring and reporting activities. The audit also assesses the effectiveness of forest management activities in meeting the objectives set out in the Forest Management Plan (FMP). The audit further reviews whether actual results in the field are comparable with planned results and determines if the results were accurately reported. The results of each audit procedure are not reported on separately, but collectively provide the basis for reporting the outcome of the audit. The audit provides the opportunity to improve Crown forest management in Ontario through adaptive management. Findings of “*non-conformance*” are reported. A “*Best Practice*” is reported when the audit team finds the forest manager has implemented a highly effective and novel approach to forest management or when established forest management practices achieve remarkable success.

Details of the audit processes are provided in Appendix 4. Health and safety directives associated with the COVID-19 pandemic restricted the number of individuals involved in the field audit and limited some aspects related to the delivery of the audit (e.g. in person interviews, in-office work etc.).

The field site assessments were conducted in October 2020, utilizing a three-person team. Profiles of the audit team members, their qualifications and responsibilities are provided in Appendix 6.

3.2 Management Unit Description

The Wabigoon Forest (WF) is managed by Domtar under Sustainable Forest License (SFL) # 541953. The Forest is situated within the Ministry of Natural Resources and Forestry Dryden District in the Northwestern Region. Forest management records are maintained in Dryden. One Local Citizens Advisory Committee (LCAC), based in Dryden, is associated with the Forest.

The WF is certified as sustainably managed under the Forest Stewardship Council (FSC) and Sustainable Forestry Initiative (SFI) certification systems.

The WF is a mid-sized management unit (678,870 ha). Productive forest land comprises approximately 80% of the Crown managed land base (Table 2). Patent land occupies only 3,575 ha. The WF consists of three discrete parcels of land with the town of Dryden located approximately in the center of the management unit. The communities of Wabigoon, Dinorwic, Eagle River and Vermillion Bay are situated within its boundaries.

The WF is predominately situated within the Boreal Forest Region, although a portion of the unit is in the transition zone between the Boreal Forest and Great Lakes St. Lawrence Forest Regions. The Forest is dominated by coniferous forest units (See Figure 2).

Spruce and jack pine predominate growing in either pure stands or in association with trembling aspen and white birch. Mixedwood associations of balsam fir, white birch, spruce and pine are common in the central portion of the unit. An age class area is skewed with a surplus of timber in the 41-60 age class and deficits in the 21-40 age class and age classes greater than 100 years. This age class area structure has implications for the provision of a balanced wood supply (harvest level declines are projected over successive terms) and habitat for some wildlife species through time (Figure 3).

First Nation communities and Métis organizations with an interest in the WF include: the Wabigoon Lake Ojibway Nation, Eagle Lake First Nation (FN), Naotkamegwaning FN, Wabauskang FN, Mitaanjigamiing FN and the Lac Seul FN. Métis Councils include the Atikokan and Area Métis Council, Kenora Métis Council, Northwest Métis Council and Sunset Country Métis Council.

The WF is well accessed by provincial highways and primary and secondary roads and as such provides a wide array of recreational and tourism-related opportunities. There are 60 licensed tourism operations associated with the Forest. Six Resource Stewardship Agreements with remote tourism businesses are in place.

White-tailed deer and moose are the principal large herbivores. The moose population is in decline and Moose Emphasis Areas (MEAs) were included in the 2019 FMP partly to address this concern and as well as meet the requirements of the Boreal Landscape Guide (BLG). Numerous Species at Risk (SAR) that are known or thought to occur on the Forest including wolverine, bald eagle, short-eared owl, golden eagle and grey fox.

Table 2 Area of Crown Managed Land by Land Type (Ha)

| Managed Crown Land Type | Area (Ha) |
|--------------------------------|-----------|
| Non-Forested | 105,983 |
| Non-Productive Forest | 30,842 |
| Protection Forest ² | 8,858 |
| Production Forest ³ | 533,187 |
| Forest Stands | 475,256 |
| Recent Disturbance | 57,673 |

² Protection forest land is land on which forest management activities cannot normally be practiced without incurring deleterious environmental effects because of obvious physical limitations such as steep slopes and shallow soils over bedrock.

³ Production forest is land at various stages of growth, with no obvious physical limitations on the ability to practice forest management.

| | |
|---|---------|
| Below Regeneration Standards ⁴ | 258 |
| Total Productive Forest | 542,046 |
| Total Forested: | 648,028 |
| Total Crown Managed: | 678,870 |

Source: FMP 1 2019 FMP

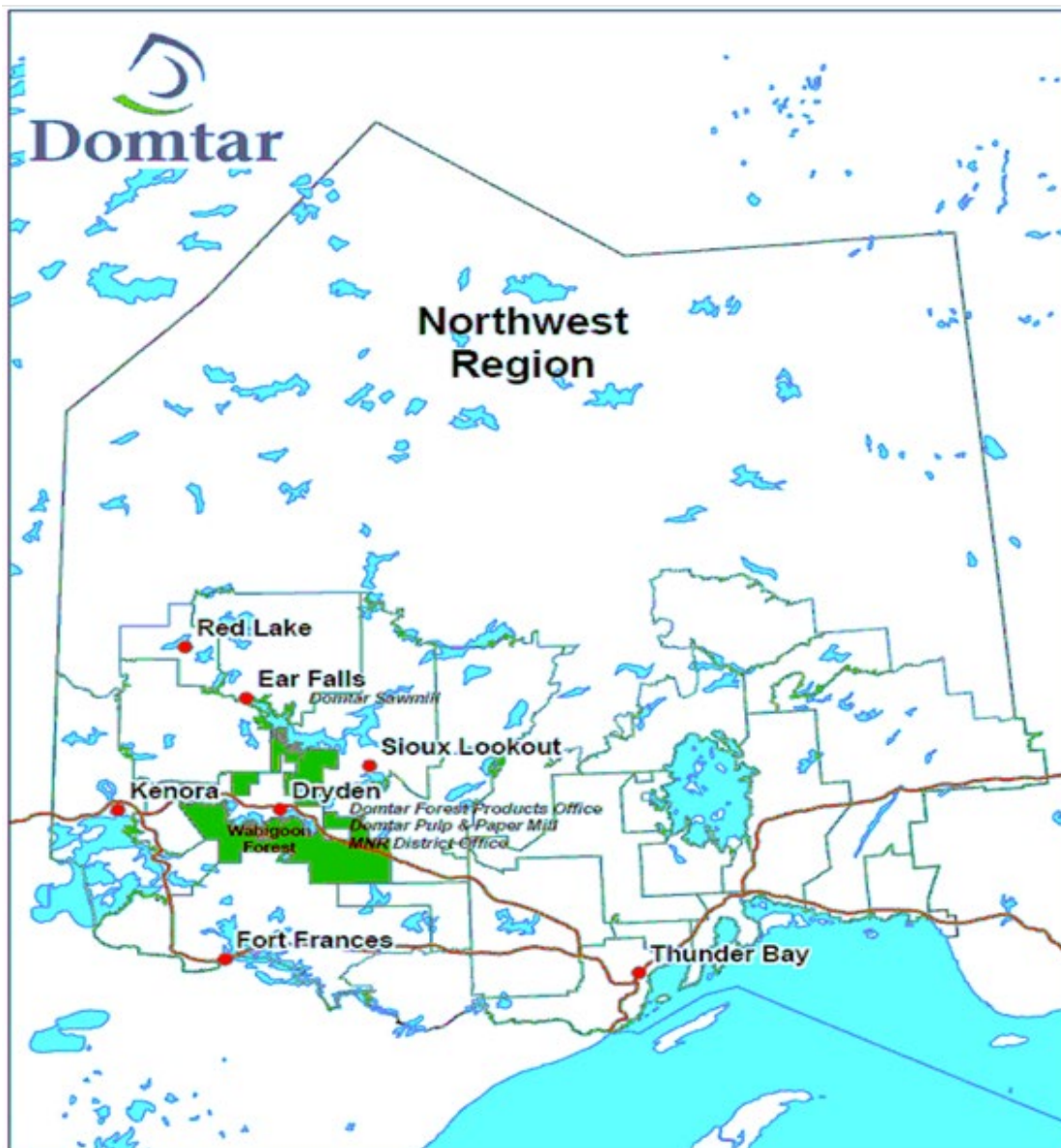


Figure 1 Location of the Wabigoon Forest.

⁴ Below Regeneration Standards refers to the area where regeneration treatments have been applied but the new forest stands have yet to meet free-to-grow standards.

Figure 2 Forest Distribution within the Available Crown Managed Forest⁵

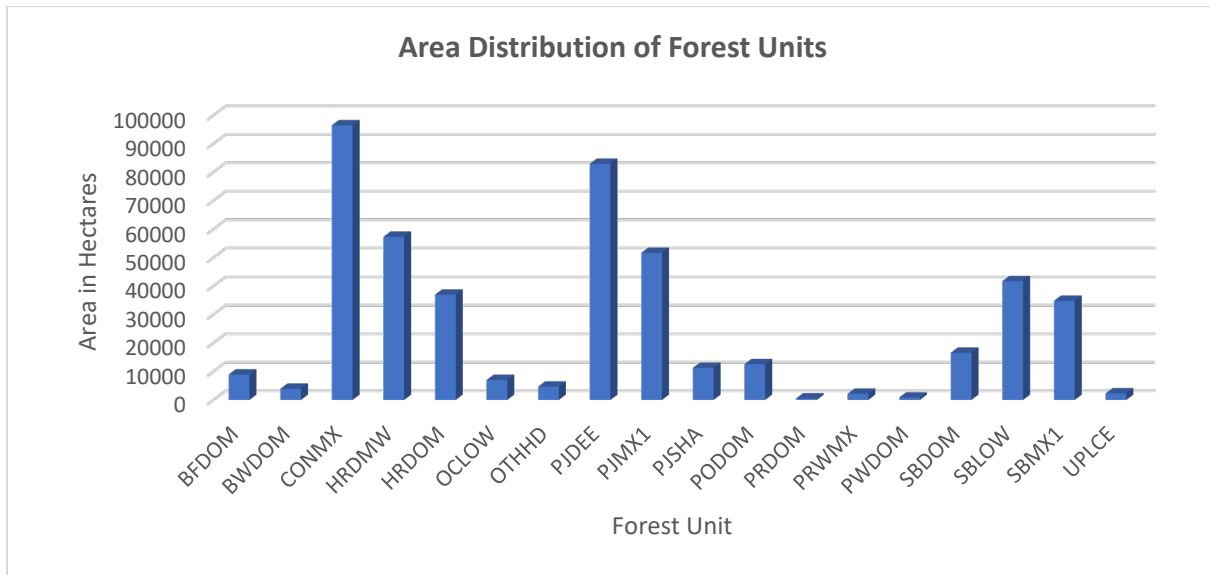


Figure 2 Forest Unit Distribution within the Available Crown Managed Forest

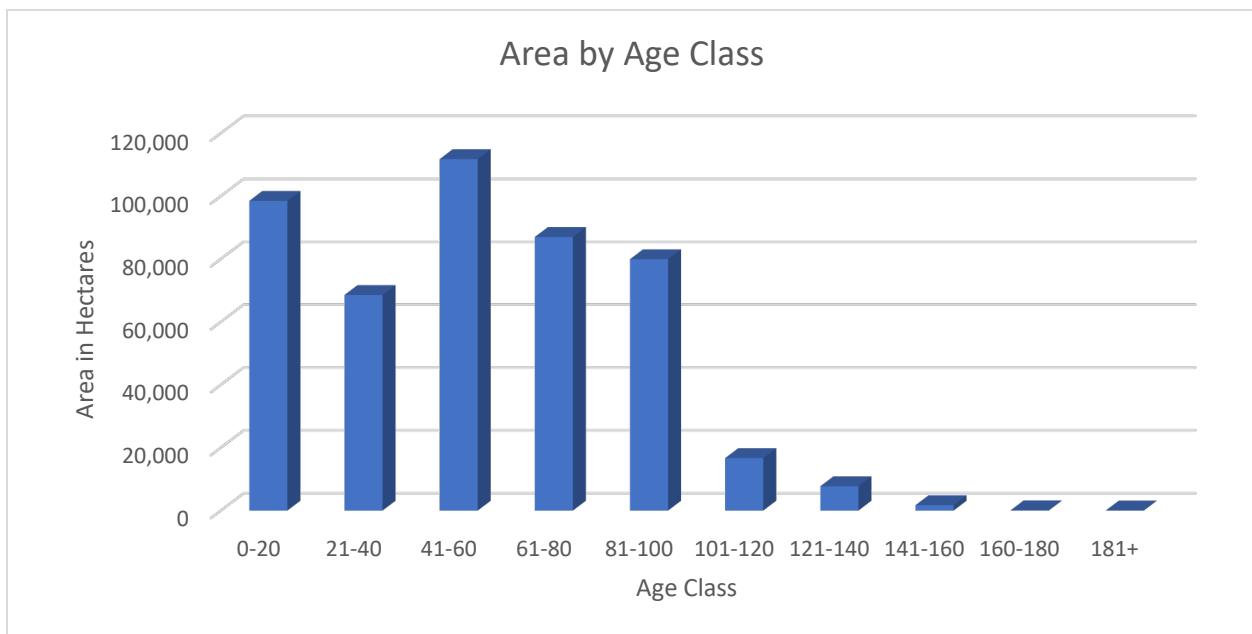


Figure 3 Managed Crown Forest Area by Age Class

⁵Forest Units are as follows: PWDOM=White Pine Dominant, PRDOM=Red Pine Dominant, PRMIX=Red and White Pine Mix UPCLC=Upland Cedar, OLOW=Other Conifer Lowland, SBLOW=Spruce Lowland, SBDOM=Spruce Dominant, PJSHA=Jack Pine Shallow, PJDEE= Jack Pine Deep, PODOM=Poplar Dominant, BWDOM=White Birch Dominant, OTHHD=Other Hardwood, SBMX1=Spruce Mixedwood, PJMX1=Jack Pine Mixedwood, BFDOM=Balsam Fir Dominant, HRDOM=Hardwood Dominant, HRDMW=Hardwood Mix, ConMX=Conifer Hardwood Mix

4.0 Audit Findings

4.1 Commitment

The Commitment Principle is deemed to be met since the Forest is certified under the Sustainable Forestry Initiative (SFI) and the Forest Stewardship Council (FSC).

4.2 Public Consultation and First Nations and Métis Community Consultation

FMPM public consultation requirements for the development of the Contingency Plan, 2019 FMP, the Annual Work Schedules (AWSs), and Plan Amendments for the audit period were met.

Our interviews and record review indicated that stakeholders were made aware of the planning process and that opportunities were provided for input and engagement in the forest management planning process. Public comments for each stage of the planning process and the responses from MNRF or the SFL are summarized in Appendix K of the 2019 FMP Supplementary Documentation.

Significant issues for the development of the CP and 2019 FMP included the protection of resource-based tourism values and cottager subdivisions. These issues resulted in the implementation of the dispute resolution and Individual Environmental Assessment (IEA) processes, with four issue resolution requests and two IEA requests associated with the development of the 2019 FMP. Three issue resolutions were resolved at the District Manager level which resulted in an enhanced AOC and the application of conditions, products and agreements for activities in close proximity to two tourism operations⁶.

At the Stage 5-Final Inspection of the 2019 FMP there was an IEA request by a cottager for a 90 metre (m) water quality AOC. The request was actioned.

The Migisi Sahgaigan (Eagle Lake) FN requested an IEA based on a number of issues. These included a lack of funds to support engagement and capacity building at the community level, potential impact on cultural values, and increased access affecting the moose population, and traditional use areas. There was also a desire for increased benefits from forest management, including monetary proceeds from fines levied for compliance infractions⁷. The Ministry of Environment, Conservation and Parks (MECP) response to the IEA request referenced a previous Relationship Agreement between the FN, SFL holder and MNRF. That agreement included commitments made by both the SFL and MNRF and the response directed that those were to be fulfilled. We understand that the MNRF and SFL are continuing to work with the community on this

⁶ Tourism concerns are to be prior to operations in 2026.

⁷ The First Nation was advised that there were no monetary fines levied against the SFL for non-compliance matters.

matter, so we do not provide a finding. We note that the delays attributed to the IEA delayed the start-up of forestry operations planned in the 2019 FMP by approximately two weeks.

We concluded that FMPM requirements for issue resolution were met.

First Nations and Métis Communities

Our document review and interviews revealed that for the development of the 2019-2029 FMP the MNRF met all FMPM requirements for notices and invitations to the various communities to participate in the process. Naotkamegwaning FN participated on the Planning Team. Offers were extended to develop a customized consultation approach at each stage of the planning process however no requests were received. Open houses were held at Wabigoon Lake Ojibway, Naotkamegwaning and Wabauskang FN.

Our audit team had limited success engaging with the FN communities. Our discussions with four community representatives indicated a general concern with respect to the protection of values and the use of herbicides. The Métis Nation of Ontario (MNO), representing the four Métis councils associated with the WF, indicated a desire for increased involvement but are limited by a lack of economic and staff capacity.

FN and Métis background information and updated values information were available for the planning process. We note updated values for the Wabigoon Lake Ojibway FN resulted in the removal of several proposed harvest blocks.

Our interviews and document review indicated that Domtar and MNRF implemented programs to meet their obligations to provide indigenous communities with forest management benefits. Numerous indigenous people are employed in the Domtar mill, woodlands and associated operations. Domtar service contracts with outside contractors include the following language: *“Domtar strongly encourages all Contractors to hire visible minorities particularly First Nations whenever possible, to build a workforce that reflects the diversity of the communities in which we operate”*. We note that Domtar annually supports programs and initiatives for indigenous youth including field tours, career opportunity presentations, scholarships and employment programs. In addition to meeting the FMPM notification and consultation requirements the MNRF engaged with FN communities to provide information on broader natural resource topics (forest, fish and wildlife management) as well as various options for protection of identified cultural values. The District was also part of a broader MNRF initiative to develop a customized consultation process for Metis councils.

Our assessment is that both the MNRF and Domtar generally met their FMPM obligations with respect to indigenous peoples.

Local Citizens Advisory Committee

There is one Local Citizens Advisory Committee (LCAC) associated with the Forest called the Dryden Local Citizens Advisory Committee. This is a long-standing committee (established in 1996) with members appointed by the MNRF District Manager. There are ongoing recruitment efforts to adequately reflect community interests associated with the Forest. We note that in 2018 the District Manager enhanced community representation with the addition of tourism, naturalists and small forestry businesses. Our assessment is that Committee members represent an appropriate range of interests.

While the committee is primarily focused on forestry (e.g. AWS, AR, amendments, FMP planning) other agenda topics such as fisheries and wildlife are routinely part of the agenda.

There are approximately nine meetings per year and our sample of minutes indicated there was usually a quorum in attendance at meetings.

Members we interviewed (7) complimented both the MNRF and Domtar for ongoing efforts to “... *allow individuals to participate effectively and meaningfully in FMP development.*” Terms of Reference are regularly updated with the most recent being in January 2017. An effectiveness survey for the development of the 2019-2029 FMP was completed by LCAC members that indicated a 78% effectiveness rate.

The FMPM, Section 2.2.6. requires the LCAC to produce a report of its activities for each stage of the FMP process. For the 2019-2029 FMP that task was completed and reported in Supplementary documentation, Section L.

While registering specific concerns (e.g. spraying, defragmentation of old growth, forest rotation cycles) with respect to the 2019-2029 FMP the LCAC agreed “...*the final plan should proceed*”.

LCAC minutes indicate FMP development was discussed at approximately 40 meetings between January 2015 and August 2018. There was LCAC member attendance at approximately 55% of the Planning Team meetings and member attendance at 5 of 6 FMP training sessions. Updated values maps were routinely shared with the LCAC.

The LCAC was actively involved in communication efforts with respect to Plan development including sponsoring a “Forestry 101” open community meeting and attendance at information centers (i.e. Dryden, Ignace).

Our record reviews and interviews indicate the LCAC adhered to its Terms of Reference. During the audit term it participated in the implementation of the final years of the 2008- 2018 FMP, the development of the 2018-2019 Contingency Plan and the preparation and implementation of year 1 of the 2019-2029 FMP.

Our assessment is that this is a well-managed LCC that fully meets the requirements and intent of the Forest Management Planning Manual (FMPM).

4.3 Forest Management Planning

The Enhanced Forest Resource Inventory (eFRI) required for the development of the 2019-2029 FMP was delivered late⁸ and had significant quality and interpretation issues, necessitating the difficult tasks of preparing a one-year Contingency Plan (CP) at the same time that planning was underway for the 2019 FMP (Finding # 1)⁹.

All FMPM¹⁰ requirements for the CP were met; a CP Proposal was prepared, and opportunities were provided to the LCAC, the public and FN and Métis communities to review and comment on the proposal. As required by the FMPM, the CP was approved by the MNRF Regional Director.

No new strategic information was incorporated in the CP so strategic forest management modelling and the analysis of forest management alternatives was not required for the development of the plan. All planned operations were consistent with the Long-Term Management Direction (LTMD) of the 2008 FMP¹¹. Operational prescriptions (e.g. areas of concern, harvest, renewal, tending) and Silviculture Ground Rules (SGRs)¹² were consistent with the approved 2008 FMP and updated with/new species at risk information (e.g. barn swallow). No salvage harvest operations were planned. We concluded that planned operations in the CP were consistent with the LTMD and the achievement of forest sustainability.

We found the planning for the 2019-2029 FMP met FMPM requirements. Each FN and Métis organization was afforded an opportunity to participate on the Planning Team but many communities were unable to allocate staff or resources to the planning process.¹³ Progress updates were provided to communities throughout plan development by the MNRF. The LCAC was engaged and provided input into the planning process. As required by the FMPM, all progress checkpoints (e.g. planning inventory, management objectives checkpoint, LTMD checkpoint) were confirmed and documented in the Analysis Package. Planning milestones and consultation requirements for the development of the plan were generally met.

We note that, the FMP was not designated as a Section 18 *Overall Benefit Instrument under the Endangered Species Act* and was prepared under the regulatory exemption for Crown forestry (O.Reg.242/08 s.22.2.). As such, a summary of monitoring for species at risk, and the Supplementary Documentation required by Part B, Section 4.7.5 of the 2017 FMPM, was not required. While forest operations are exempt from the

⁸ The eFRI was delivered to the SFL in February 2015. The SFL accepted the inventory with errors in July, 2015 and corrected remaining errors in association with updates. At the time of the receipt of the inventory the base aerial photography was approximately 10 years old.

⁹ Challenges related to the eFRI included the fact that it was not compliant with the requirements of FIM, checking tools did not work properly and there were difficulties in adapting the MNRF MIST tool to the inventory attributes.

¹⁰ 2017 Forest Management Planning Manual

¹¹ The 2019 LTMD was not endorsed by the Regional Director in time for the preparation of the CP.

¹² SGRs are “specifications, standards and other instructions, that direct silvicultural activities on a management unit during the period of the forest management plan.”

¹³ The Metis Nation of Ontario attended planning team meetings early in the process but withdrew participation over an issue of the FMPM text describing communications with communities.

permitting process under the ESA, there is still a requirement for SAR to be protected. Protection is provided through the documentation of operational prescriptions for an AOC for known SAR values and ensuring implementation of the prescriptions during operations (as required in Ontario Regulation 242/08 Section 22.1.). SAR were appropriately considered during planning; habitat descriptions, the application of guidelines and operational prescriptions are provided in the FMP text. For the plan term there are no requirements or conditions related to SAR that require the implementation of a monitoring program.

For the development of the 2019 FMP, the LTMD was prepared under the 2009 FMPM as per the phase-in provisions of the 2017 FMPM. Patchworks¹⁴ software was utilized as the primary modelling platform utilized for long term strategic analysis. The tool was used to model forested land on the WF through 150 years (using 10-year planning periods) to project changes in forest structure and composition. The model also supported the evaluation of forest diversity, timber production, changes in landscape level indicators and wildlife habitat. For the development of the LTMD, the Forest was portioned into two key zones i) to account for productive land converted to roads and landings and 2) to explore moose habitat objectives within moose emphasis areas (MEA's)¹⁵. We note that the designation of MEAs on the landscape was challenging as there were differences in opinion as to the requirement for, and the number of areas, to allocate within the Forest. Five MEAs were designated¹⁶. We were also informed that the use of the MIST tool was challenging since there was a lack of experience in using the tool and there were compatibility issues with inventory attributes.

The development of the LTMD was an iterative process with adjustments to model inputs being made to balance the achievement of forest management objectives with operational considerations¹⁷. Inputs and assumptions used to develop modelling inputs for forest dynamics, landscape targets and silvicultural options were reasonable and based on the best information available. Base assumptions and constraints for management are detailed in the FMP Analysis Package.

Model assumptions were reviewed and confirmed by the Planning Team using the best available science and information and new legislation, regulation and policy. We note that, yield curve assumptions (while largely comparable to those used for the development of the 2008 FMP), were adjusted to address concerns over the underestimate of jack pine yield and reflected harvest volume data from the previous plan term. This approach for the development and validation of planning volume yields estimates is reasonable and appropriate.

¹⁴ Patchworks is a spatially explicit GIS-based sustainable forest management planning model.

¹⁵ Five MEA's out of an initial 16 candidate areas were selected as a result of the zoning process.

¹⁶ Background information provided to the audit team indicated that "the area is experiencing declines in moose populations. MEAs were included in the FMP partly to address these concerns as well as direction by the Landscape Guide".

¹⁷ A model calibration was undertaken to confirm that the model was functioning as expected. Then a series of management scenarios were developed to explore the impacts and effects from sequentially exploring various model controls, target achievement and indicator reports all based on the same model.

Plan objectives, indicators, desirable levels and targets for harvest and wildlife habitat were developed by the Planning Team with input from the LCAC and MNRF advisors¹⁸. Information sources for the development of the plan included previous FMPs, MNRF guides and planning directions, Annual Reports and the 2015 IFA. Operational prescriptions for AOCs were consistent with the *Forest Management Guide for Conserving Biodiversity at the Stand and Site Scales* (Stand and Site Guide). Silviculture Ground Rules (SGRs) were developed by a Registered Professional Forester with support from the Planning Team, Plan Advisors and other experienced local resource personnel. We conclude that the LTMD achieved a satisfactory balance of all objectives and indicators, was consistent with legislation and policy, appropriately considered direction in the forest management guides and provides for forest sustainability.

Comments received from the public were appropriately documented (e.g. Supplementary Documentation, Summary of Public Consultation) and appropriately addressed by either the MNRF or Domtar.

Planned operations met the intent of the LTMD. Operational planning considered the most current values information, relevant guidelines (e.g. Forest Management Guide for Conserving Biodiversity at the Stand and Site Scales) and public input.

Values maps were updated during the planning process and MNRF staff indicated that there was adequate funding to collect values information. Public input with respect to values protection was also documented, verified and where appropriate added to values maps. AOC prescriptions conformed to MNRF direction and prescription documentation included a section for an analysis of alternatives to protect the value should that be required.

There are 60 licensed tourism operations associated with the Forest. All resource-based tourism operators were contacted by Domtar to determine if there was an interest in negotiating a Resource Stewardship Agreement (RSA). Six Resource Stewardship Agreements are in place. All requirements for the protection of resource-based tourism values were addressed, from initial consultations through to the protection of values with AOC prescriptions.

There were seven amendments¹⁹ associated with the CP. There are two administrative amendments associated with the 2019 FMP²⁰. There was an issue with respect to the timeframes for final approval of amendments, with some amendments requiring months for approval. We address this issue in Finding # 7.

The content of Annual Work Schedules (AWS) generally conformed to FMPM requirements and the proposed forest management activities were consistent with those outlined in the FMP.

¹⁸ Eight management objectives and 38 indicators were developed.

¹⁹ Amendments were required to reflect a policy change, corrections to allocations, AOC value changes and changes to planned access corridors.

²⁰ FMP Text and Tables (no change to FMP required) and Access

We conclude that despite the challenges associated with the late delivery of the eFRI, the designation of MEAs and adoption of new planning tools, forest management planning was generally in accordance with the requirements of the FMPM and that the proposed FMP objectives and targets are consistent with the achievement of forest sustainability.

4.4 Plan Assessment and Implementation

Our field assessments confirmed that Silvicultural Ground Rules¹⁴ (SGRs), Silvicultural Treatment Packages¹⁵ (STPs) and Forest Operations Prescriptions (FOPs) were appropriate for the forest cover types and site conditions on the WF. A discussion of the silvicultural program is provided in the sections below.

Harvest

Harvesting is licensed through Domtar's license and Overlapping Forest Resource Licence Agreements. Seven harvest contractors operate on the WF²¹. Conifer fibre is delivered to the Domtar pulp mill in Dryden. Hardwood fibre is delivered through business-to-business arrangements with Weyerhaeuser (Kenora), Norbord Inc. (Barwick) and Resolute Forest Products (Thunder Bay).

Harvesting operations utilize the clearcut silvicultural system with a combination of cut-to-length and/or field chipping. The ARs indicate that forest management operations achieved a satisfactory level of compliance.

Conifer utilization exceeded hardwood utilization (conifer utilization achieved 95% of the planned volume (2.65 million m³) while hardwood utilization achieved 49% of the planned volume (1.15 million m³).

Table 3 presents the planned versus (vs) actual harvest area by forest unit for the audit term. Overall, the actual area harvested was 74% of the planned target.

²¹ Raleigh Falls Timber, Resolute Forest Products, Wabigoon Lake Objibway Nation, Fenwick Chipping, Noopimiing Anokeewing, Pat Griffiths and Hollyn Timber.

Table 3 Actual vs. Planned Harvest Area by Forest Unit (2015-2020)

| Forest Unit ²² | Planned Harvest (Ha) | Actual Harvest (Ha) | Actual vs Planned % |
|---------------------------|----------------------|---------------------|---------------------|
| BWD | 15.6 | 16.5 | 106 |
| HMX | 5,846.7 | 4,347.9 | 74 |
| POA | 1,380.0 | 1,082.0 | 78 |
| OTHHD | 8.8 | 0.5 | 6 |
| HRDOM | 361.3 | 198.2 | 55 |
| PODOM | 181.1 | 21.9 | 12 |
| Subtotal | 7793.5 | 5,667.0 | 73 |
| CED | 84.0 | 21.0 | 25 |
| CMX | 9,335.7 | 6,538.4 | 70 |
| PJD ²³ | 724.3 | 927.4 | 128 |
| PJM | 3,769.6 | 2,869.8 | 76 |
| PJP | 2,672.0 | 2,236 | 84 |
| PJSHA | 8.3 | 0.0 | 0 |
| PRWMX | 4.8 | 25.4 | 529 |
| SBL | 2,329.8 | 1,001.2 | 42 |
| SBM | 3,777.6 | 2,993.2 | 79 |
| SBP | 1,684.0 | 1,673.0 | 99 |

²² Forest Units are as follows: BWDOM=White Birch Dominant, HMX=Hardwood Mix, POA=Poplar All, OTHHD=Other Hardwood, HRDOM= Hardwood Dominant, PODOM=Poplar Dominant, CE=Cedar, CMX=Cedar Mixedwood, PJD= Jack Pine Dominant, PJM=Jack Pine Mixedwood, PJP=Jack Pine Productive, PJSHA=Jack Pine Shallow, PRWMX=Red and White Pine Mix, SBL=Spruce Lowland, SBM=Spruce Mixedwood, SBDOM=Spruce Dominant, BFDOM=Balsam Fir Dominant, OCLOW=Other Conifer Lowland

²³ Formally PJDEE. The PJD FU was added in the 2019-2029 FMP.

| | | | |
|-----------------|-----------------|-----------------|-----------|
| SBDOM | 55.7 | 32.2 | 57 |
| SHA | 1,788.0 | 1,291 | 72 |
| BFDOM | 125.0 | 63.1 | 50 |
| OCLOW | 1.7 | 17 | 1000 |
| Subtotal | 26,361.1 | 19,688.9 | 75 |
| Total | 34,154.6 | 25,355.9 | 74 |

Source: Annual Reports (included are 2019/20 estimates).

As shown in Table 3, although the actual harvest was below planned levels, the harvest in the PJD, BWD, PRWMX and OCLOW forest units exceeded forecasted levels. The higher than planned harvest area was rationalized for operational, economic, and environmental efficiencies since the harvested stands were small and/or within larger designated harvest blocks. In all cases the area cut is within the available harvest area (AHA) projected in the 10-year FMPs and were therefore within the acceptable limits.

The harvest of jack pine fell significantly short of area planned in the 2018-2019 CP and was carried over into the 2019 FMP. Actual harvest achieved was 128% of the planned target, however, the 2017 FMPM (Part D Section 3.2.3) allows up to two years of the average annual available harvest area by forest unit to be identified and harvested to provide operational flexibility.

Two salvage harvest operations (approximately 30 and 122 ha respectively) were conducted to recover timber damaged in windthrow events. FMPM requirements for the operations were met.

We concluded that harvest operations were properly implemented. Our site inspections found that harvest blocks were approved for operations in the AWSs, that the harvest prescriptions were implemented in accordance with the SGRs, and that individual FOPs were prepared and appropriately implemented for each harvest block. AOC prescriptions within or adjacent to cut blocks were properly implemented. We note that harvest block configurations were designed to meet landscape level objectives to the extent possible given the existing forest structure.

Slash and Chipper Debris Management

Domtar implemented a *Logging Debris Pads and Landings Management Protocol* and a *Debris Disposal Standard Operating Procedure* for the management of logging debris and the reclamation of slash piles and chip pads. The protocols and procedures have been largely effective addressing the issues related to productive land loss associated with harvest operations, although, as discussed below, we did encounter slash piles that

had been reported as burned but had not been treated (Finding # 6) and found that passive disc trenchers were ineffective in exposing mineral soil for planting in debris pads (Finding # 4).

Slash piling and burning was undertaken in conjunction with cut-to-length operations. The burn program was generally effective with 459 ha being made available for renewal operations. The relatively small scale of the slash piling and burning program (41% of the planned burn program was achieved), reflected the relatively small amounts of hardwood and conifer sawlogs harvested and the processing of conifer into chips for the pulp market. Where burning was implemented the area had been recovered for renewal activities.

Domtar implements a chipper debris management program where debris are either carried back into the cutover or are spread with the objective to achieve an overall depth of less than 20 cm. Passive disc trenching was commonly utilized to facilitate the creation of plantable microsites in the debris pads. On many sites it was not evident that mineral soil had been exposed. Seedling mortality rates within the debris pads were high and surviving seedlings commonly exhibited signs of stress. Domtar indicated that they had an expectation that seedling survival will be reduced on the pads and that over time, with the decomposition of the debris, natural ingress may result in higher stocking levels in the pads.

Appropriate choices of site preparation equipment can be expected to facilitate natural ingress and augment the survival rate of planted stock to help secure the investment in renewal (i.e. stock production and planting) (Finding # 4).

Area of Concern Management

AOC prescriptions to protect identified values were completed as required in the 2019 FMP. Appropriate prescriptions were provided in the Supplementary Documentation. Our random sample of twenty-five AOC confirmed that they conformed to applicable MNRF guidelines and requirements in the FMP. For the development of the 2019 FMP MNRF staff indicated that there was adequate funding to update and collect values information (e.g. stick nests, winter habitat). AOC prescriptions contained in the AWSs were reviewed by MNRF staff. The AOC prescription documentation conformed to FMPM requirements.

Document reviews and interviews with MNRF staff revealed that public and LCC input with respect to values protection was documented, verified and where required added to values maps. We note that values maps were made available to the LCAC.

Our review of Forest Operations Information Program (FOIP) reports and field inspections did not reveal any issues associated with AOCs. Our assessment is that values identification and the field implementation of AOC prescriptions fully met all FMPM and management plan requirements.

Site Preparation (SIP)

FMP targets for mechanical site preparation were not achieved due to the lower than planned harvest levels and a lack of sites suitable for SIP treatments (Table 4). Mechanical site preparation treatments comprised 89% of the SIP treatments but achieved 75% of the planned FMP target.

Table 4 Area (Ha) of Actual vs. Planned Site Preparation (2015-2020)

| Site Preparation Treatments | Planned 5 Year Ha | Actual Ha | Actual vs Planned % |
|-----------------------------|-------------------|---------------|---------------------|
| Mechanical SIP | 18,100 | 13,527 | 75 |
| Chemical SIP | 799 | 1,707 | 214 |
| SIP Total | 18,999 | 15,234 | 81 |

Source: Annual Reports (2019/20 estimates included).

Site preparation was predominately by passive disc trenching. Our site investigations indicated that the effectiveness of the site preparation treatments varied considerably depending on the choice of equipment, site attributes (prevalence of sand or rocks and soil depth) and other factors such as duff layer thickness and the amount of logging slash accumulation. On the more challenging sites, passive trenching was less effective than powered trenching. Often the failure to create suitable microsites with passive trenching resulted in low densities of conifer crop trees, especially in seeding treatments. As stated, passive trenching was used to create microsites for planting in debris pads with limited success (Finding # 4).

Pre and/or post-harvest site evaluations would assist the forest manager to better tailor the selection of mechanical site preparation equipment to the prevailing site conditions and yield more uniform and widespread mineral soil exposure for renewal treatments.

We did not observe evidence of environmental or site damage arising from site preparation activities.

Chemical site preparation treatments occurred on 1,708 ha. Approximately 65% of the treatments were in the last year of the audit term reflecting the increased harvesting of mixedwood stands at the end of the audit term. Our field audit found the treatments were effective as an early vegetation control measure.

Renewal

Table 5 presents the planned vs actual area renewed for the 2015-2020 audit term. The area renewed (artificial and natural) constitutes 74% of the reported harvest area.

Table 5 Area (Ha) of Actual vs. Planned Renewal Treatments (2015-2020)

| Renewal Treatments | Planned 5 Year (Ha) | Actual (Ha) | Actual vs Planned % |
|----------------------------|---------------------|---------------|---------------------|
| Natural Renewal | 9,571 | 2,568 | 27 |
| Artificial Renewal – Plant | 14,043 | 13,158 | 94 |
| Artificial Renewal – Seed | 6,950 | 3,475 | 50 |
| Total Renewal | 30,564 | 19,201 | 63 |

Source: Annual Reports (2019/20 estimates included).

With the exception of some aerial seeding operations, renewal treatments were consistent with the SGRs (See Section 4.6). On the WF forest unit definitions are very refined with the area delineated often being quite small (< 2 Ha). Due to logistical challenges associated with avoiding small areas these stands were included in broadcast seeding treatments.

Natural renewal treatments achieved 27% of the planned target (9,571 ha planned vs, 2,568 ha actual). Treatments were applied on approximately 10% of the harvest area and were typically prescribed for hardwood dominated forest or areas of lowland black spruce. Our inspections of harvest blocks managed for natural renewal found the blocks were typically well stocked to the desired tree species on less competitive sites. Seeding was noticeably less effective in situations where passive trenching had either not created suitable microsites (i.e. exposed mineral soil) or reduced levels of competing vegetation.

Artificial renewal was most frequently utilized renewal treatment. Treatments were directed to conifer or conifer-dominated mixedwood harvest blocks. To meet old growth and biodiversity objectives 73.7 ha of red pine and 38.5 ha of white pine were planted. With the exception that some of areas where SIP treatments had not created suitable microsites, planted areas were frequently well-stocked with natural ingress augmenting conifer stocking levels.

On balance, we concluded that an effective renewal program was implemented.

Renewal Support

Renewal support activities were sufficient to meet projected renewal program requirements. Audit term activities included cone (seed collection) and tree improvement activities at two seed tree orchards. Domtar participates in Forest Genetics Ontario as a member in the Superior Woods Tree Improvement Association.

Tending

Table 6 presents the area of actual vs. planned tending treatments. Aerial herbicide spraying achieved 70% of the planned target. The ARs indicate that issues related to weather (frost and wind conditions) and contractor availability had challenged the delivery of the aerial herbicide program.

Table 6 Area (Ha) of Actual vs. Planned Tending Treatments (2015-2020)

| Tending Treatments | Planned 5 Year (Ha) | Actual (Ha) | Actual vs Planned % |
|---------------------------|------------------------------------|------------------------|--|
| Aerial Herbicide Tending | 9,689 | 6,801 | 70 |
| Pre-Commercial Thinning | 1,073 | 0.0 | 0 |
| Total Tending | 10,762 | 6,801 | 63 |

Source: 2015-2018 Annual Reports (2019/20 estimates included).

On many of the inspected sites, the application of chemical herbicide was effective in controlling competing vegetation with high rates of mortality for target species. Our field site inspections indicated that monitoring site competition and the application of timely and effective tending were frequently required in order to ensure conifer renewal on competitive sites (i.e. sites on silty or loam soils with significant site vegetative competition). We encountered situations where conifer crop trees were absent, present at low densities (due to mortality from hardwoods, shrubs and grasses and/or low initial stocking) or exhibited reduced growth (due to suppression by competing vegetation).

A strategy in the 2008 FMP was to “*regenerate poor and offsite hardwood to more suitable conifer species*” and to *regenerate more competitive sites to spruce with herbicide tending*”. Over the audit term a declining trend in silviculture success²⁴ was reported²⁵. Over successive management terms there has been minor declines in the area of mixedwoods and corresponding increase in spruce, jack pine and hardwood-dominated stands. The low rate of silviculture success was attributed to site competition from hardwoods, jack pine ingress, the failure to meet the stocking standard due to low initial stocking levels, and differences in sampling methodologies between the MNRF and Domtar. Ineffective or poorly timed tending treatments could also be a contributing factor.

Effective tending treatments can be expected to improve the level of silviculture success on many sites. We questioned the application of tending treatments on some of the observed blocks due to the poor condition of potential crop trees, and/or low stocking levels. Timely monitoring would enable the forest manager to adjust the silviculture

²⁴ Regeneration is considered a silvicultural success when all the standards of the SGR applied to the stand have been met and the projected forest unit is achieved.

²⁵ As an example, the 2018 AR indicates that while regeneration success is high (100%) the silviculture success rate is low at 35%.

program to ensure that interventions are effective, and that silviculture success is achieved. Tending assessment surveys should focus on crop tree densities within candidate spray sites as well as competition assessment (i.e. species, density and height) (Finding # 3).

There was no pre-commercial thinning (PCT) completed during the audit period. Field monitoring and surveying of potential thinning sites identified that spacing is not required due to site class/conditions (shallow soils, rocky, granite exposure, etc.), and density (marginally high densities are not feasible to thin). The Company's strategy is to space only highly productive sites less than four meters in height to optimize growth potential of the young trees.

Protection

During the audit term there were no major stand replacing natural disturbance events, and no protection programs other than monitoring functions were implemented.

A jack pine budworm infestation has recently expanded in the northwestern region and into significant areas on the WF. A planned aerial spray program in 2020 was postponed due to the COVID-19 and is now being considered for 2021.

Access Management

During the audit term \$22.16 million was invested in primary and branch road construction and maintenance (\$15.35 Crown and \$6.81 SFL holder). A total of 28.3 kilometers (kms) of primary road and 39.3 kms of branch roads were constructed. In addition, a network of 642 km of operational roads was constructed. On average, 675 km of primary roads and 80 km of branch roads were maintained annually. In general, primary and branch access roads were well maintained. Ninety-one water crossing were constructed (three bridges, 77 culverts and 11 winter crossings). Our site inspections found that the crossings were well-constructed, and we did not observe any significant environmental issues associated with the crossings.

Road Use Management Strategies (RUS)²⁶ are appropriately detailed in the FMP. Road decommissioning was by water crossing removal or the use of gates or berms (12 water crossings were removed, and two access controls were established). We found the reporting on road decommissioning inconsistent and it is unclear as to the number of kilometers of road decommissioned in the audit term. A finding is not issued as planning for road decommissioning improved in the 2019/20 AWS which outlines a clear process whereby Domtar and the MNRF will jointly identify roads for decommissioning and/or transfer to the Crown.

²⁶ RUS#2 addresses road abandonment through water crossing removal and/or road decommissioning. RUS#3 and #4 addresses water crossing removal and/or temporary installation and transfer of roads to the Crown. RUS#5 describes strategy for access restriction by signage as a condition of the FMP and RUS#7 describes water crossing removals.

4.5 Systems Support

The 2020 IFAPP Human Resources Principle criterion were deemed met by the SFI and FSC certifications.

4.6 Monitoring

Domtar prepared Compliance Plans as required by the FMPM and in accordance with the Guidelines for Industry Compliance Planning. MNRF prepared annual compliance plans that identified priority areas, targets and assigned staff responsibilities. Inspection activities documented in the Forest Operations Information Program (FOIP) over the audit term generally reflected directions in both the Domtar and MNRF Compliance Plans.

During the audit term approximately 564 inspections were completed. Domtar completed approximately 75% of the inspections with MNRF completing approximately 25%. Based on the compliance history on this Forest we believe this was an appropriate balance of compliance effort. Inspections were appropriately spread across all activities, harvest blocks and contractors.

Domtar and MNRF staff worked proactively and cooperatively to identify issues and develop corrective actions. In response to identified issues Domtar initiated targeted training with contractors and/or at annual training sessions. MNRF participated in those information and training sessions as required. Domtar maintains current and effective databases on movements to and from harvesting blocks and MNRF indicated there were no major issues with respect to reporting timelines or suspended blocks.

We note that there were five not-in-compliance reports resulting in a 98% in-compliance achievement. Twenty-nine operational issues were identified (six by Domtar and 23 by the MNRF). These issues were addressed in a timely manner and all were appropriately closed.

A significant number of compliance inspection reports submitted by both Domtar and the MNRF exceeded the required 20 working day timeline required by FOIP²⁷ (Finding # 5).

Our assessment is that, with the exception noted in Finding # 5 the compliance program met FMP and the Forest Compliance Handbook requirements.

Monitoring of Silvicultural Activities

Silviculture assessments and other monitoring functions are summarized in the FMP and CP and are tracked in Domtar's Geographic Information System (GIS). Monitoring activities included Forest Operations Inspections, Assessments of Regeneration Success (Free-to-Grow, planting quality), post-tending assessments and monitoring

²⁷ 40% of Domtar inspections and 79% of MNRF inspections.

programs for roads and water crossings. Monitoring of low density planted areas and the stand evaluations for potential pre-commercial thinning was also undertaken.

Finding # 6 addresses issues we identified with the monitoring and reporting program (i.e. a failure to report exceptions monitoring activities, application of tending treatments on areas where renewal was sparse or absent).

Free-to-Grow Surveys)

Free-to-Grow (FTG) surveys are typically conducted 10-14 years after harvest depending on the forest unit. FTG surveys were conducted using large-scale photography and remote sensing assessments. Audit term FTG surveys confirm that harvested stands are being regenerated with 35,696 ha surveyed and 97.4% of the surveyed area meeting the FTG standards. Areas which failed to meet the required standards usually did not meet minimum height requirements and/or stocking densities. These stands are to be monitored, and appropriate silviculture interventions implemented on a required basis. Our aerial reconnaissance of FTG blocks confirmed the forest unit descriptions and stocking levels reported.

Silviculture Effectiveness Monitoring

A key principle of Ontario's forest sustainability framework is to ensure that regeneration efforts are achieving the standards in the FMP. The effectiveness of forest operations prescriptions in achieving the desired forest unit must be understood to facilitate reporting on forest sustainability and to provide reliable information for forest management planning.

The MNR Silvicultural Effectiveness Monitoring (SEM) program was implemented during all years of the audit term and reported on in the ARs. The reporting format appropriately described Field Task results, sampling procedures and summarized the field findings in accordance with the NWR Silviculture Effectiveness Monitoring Strategy (June 5, 2015).

Monitoring results indicate that regeneration success²⁸ was 100%, while silvicultural success²⁹ had decreased over time to a low of 35% in 2018/2019. As a general trend (over successive management terms) there had been a minor decline in the area occupied by mixedwoods and corresponding increase in the area of spruce, jack pine and hardwood-dominated stands. The natural ingress of hardwoods and jack pine, or a failure to meet the stocking threshold for intensive SGRs were cited as the principal reasons for not achieving the planned forest unit.

²⁸ Regeneration success occurs when the regeneration meets all the standards of a SGR but the stand is regenerated to a forest unit other than the projected unit.

²⁹ Regeneration is considered a silvicultural success when all the standards of the SGR applied to the stand have been met and the projected forest unit is achieved.

On balance, for the audit term, the MNRF concluded that WF is regenerating adequately and that, with few exceptions, site occupancy and stocking was sufficient to meet the SGR and FTG standards.

Exceptions Monitoring

There are no exceptions to the approved forest management guides in the 2019 FMP and exceptions monitoring is not required for that plan term. Exceptions identified in the Phase II 2008 FMP included full tree logging on shallow soils on Ecosite (ES) 11 and 12 sites where soil depth is less than 20 centimeters³⁰, aerial seeding of jack pine as a regeneration method on certain ecosites and harvesting within an operational zone of an eagle nest³¹.

Due to the small size of some of the seeded blocks, monitoring surveys were to be scheduled every second or third year. The FMPM requires that the AR text must include a discussion of the monitoring of exceptions (Part B, Section 4.7.5). Domtar provided a spreadsheet³² indicating that exceptions monitoring occurred on 715 ha in 2017 for aerial seeding treatments however, this was not reported in any of the ARs in the audit term (Finding # 6).

Forest Renewal Trust Specified Procedures Report

The Forest Renewal Trust (FRT) provides dedicated funding (reimbursement of silviculture expenses) to renew the forest according to the standards specified in the FMP. Our inspections of the areas invoiced in the "*Forest Renewal Trust Specified Procedures Report*" (SPR) confirmed that FRT payments were for eligible silviculture work.

Monitoring of Roads and Water Crossings

Domtar monitors roads and water crossings through the course of normal operations and in accordance with the direction of the FMPs. Domtar personnel also routinely monitor roads after heavy rainfalls. Maintenance and/or remedial action(s) are implemented based on the monitoring information with consideration of the risk to public safety, environmental concerns and available resources. MNRF staff and the general public also regularly report on road or water crossings conditions that warrant attention. We did not encounter any significant environmental issues associated with water crossings or roads during our field audit.

³⁰ Full tree harvesting on shallow sites is monitored and researched at the regional level. Recent studies suggest that past restrictions on full-tree harvesting on sites with very shallow or coarse textured, sandy soils were unwarranted and further support the revised silviculture guide now recommending that full-tree logging on very shallow soils has a high probability of meeting future stand objectives provided rotation length exceeds 80 years. As a result of these findings the MNRF has revised its management direction for logging on shallow sites.

³¹ The 2010 Stand and Site Guide no longer lists the monitoring of eagle nests in operational zones as an exception.

³² Spreadsheet File Name: Exceptions_monitoring_2017.

One of the requirements of the FMPM is for information products associated with road construction, maintenance, monitoring, access controls and decommissioning to identify the segments of roads that will be decommissioned, and the type of decommissioning activities. As discussed in Section 4.3., the District Office and Domtar staff have developed a joint process for the planning and documentation of road decommissioning and road transfers.

Our sampling of the invoices submitted to the Forest Roads and Maintenance Agreement (FRMA) indicated that they were complete and accurate.

Aggregate Pits

Our field audit revealed that operational standards for forestry aggregate pits were not consistently met (Finding # 2). Issues observed at non-conforming pits included steep slopes, the undercutting of the working face, or trees within 5 meters of the excavation face. At two locations, pits were close to the access road and were not sloped at a 2:1 angle presenting a potential safety issue. Pit rehabilitation work was generally well done, although two inspected rehabilitated pits required additional “grooming” to achieve proper sloping in some portions of the pit.

Annual Reports

ARs were available for each year in the audit scope except for the 2019-2020 AR, which is not required until November 15, 2020. Submission deadlines for the initial submission and review were met. Except for the 2014/2015 AR, the timelines for the submission of revised annual reports were met. We note that third submissions were required for the 2018, 2017 and 2015 ARs and that approval times for the documents often did not meet the FMPM standard (Finding # 7).

Finding # 6 discusses the omission of exceptions monitoring reporting in the 2017/2018 AR.

4.7 Achievement of Management Objectives & Forest Sustainability

FMP objectives are monitored and formally reported on in ARs and/or a Trends Analysis Report. The following trends were identified in the 10-Year Annual Report:

- Planned harvest levels (area and volume) were not achieved resulting in the underachievement of plan targets for silviculture activities and economic benefits.
- No significant silviculture back-log exists or is accumulating.
- FMP objectives are largely met or there is movement towards FMP desirable levels.
- Plan assumptions and projections are generally consistent with operations

- Conifer utilization was significantly higher than hardwood utilization.
- A successful renewal program has been implemented.

The report concludes that forest sustainability is not at risk from the implementation of forest management activities and that planning objectives are meeting or are within an acceptable tolerance of desired levels to maintain progress towards sustainability.

Appendix 2 provides more details on our assessment of plan objective achievement. In our assessment of the achievement of forest sustainability we examined factors such as the achievement of plan objectives, progress towards the desired future forest condition, and the level of benefits derived from the implementation of the FMP. Our field site visits, document and record reviews and interviews also informed our sustainability conclusion. We concluded that the achievement of long-term forest sustainability as assessed by the IFAPP, is not at risk. This conclusion is based on the following:

- Forest management was planned and implemented in accordance with the CFSA and FMP targets are consistent with the achievement of plan objectives and forest sustainability.
- Forest management modelling demonstrated that the planned operations met the intent of the LTMD.
- Despite the harvest area being lower than planned, the majority of FMP objectives and targets are being achieved or progress is being made towards their achievement.
- SGRs and Forest Operations Prescriptions (FOPs) were generally appropriate for the forest cover types and site conditions observed in the field.
- Regeneration efforts are aligned with the level of harvest and on balance an effective program is being implemented (as observed during the field audit and reported by FTG surveys).
- Domtar and MNRF compliance programs have been responsive to the forest management operations with respect to compliance targets, problem identification, and cooperative training initiatives. Compliance monitoring indicates that operations are highly compliant.

4.8 Contractual Obligations

We concluded that Domtar is substantially in compliance with the terms and conditions of the SFL (Appendix 3).

The IFAPP requires auditors to assess the effectiveness of the actions developed to address the recommendations of the previous audit. That 2015 IFA provided five recommendations. Three recommendations were directed at improving the working relationships between MNR District Office and Domtar. The approved Action Plan outlined ongoing formal meetings to discuss issues, a process to reduce alterations and timelines associated with the submission and review of documents, and a high level “scorecard” to track improvements. Although progress was made and the working relationship between the auditees has improved, problems continued into this audit term with respect to product quality and meeting mandated approval timelines (Finding # 7).

4.9 Concluding Statement

In spite of the challenges associated with the late delivery of the eFRI, the designation of MEAs and adoption of new planning tools, we found that forest management planning was in accordance with the requirements of the FMPM and that the proposed FMP objectives and targets are consistent with the achievement of forest sustainability.

The audit did identify some shortcomings and issues with respect to the delivery of the forest management program:

- there were issues with document quality and delays in amendment approvals.
- operational standards for the management of forestry aggregate pits were not consistently met.
- passive disc trenching at times failed to create suitable conditions for renewal on some competitive ecosites and within chipper debris pads.
- on some competitive sites the aerial chemical tending program achieved variable success.
- timelines for the submission of compliance inspection reports were not consistently adhered to.
- Domtar’s monitoring and reporting programs were at times insufficient to evaluate the effectiveness of some forest operations, and
- the production of the Enhanced Forest Resource Inventory had systemic problems which delayed the forest management planning process.

Notwithstanding the foregoing, we concluded that an effective forest management program is being implemented and that the WF is being managed substantially in compliance with the terms and conditions of the SFL.

The audit team concludes that the management of the Wabigoon 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 Domtar Inc. # 541953. The forest is being managed consistently with the principles of sustainable forest management, as assessed through the Independent Forest Audit Process and Protocol.

Appendix 1
Findings

Independent Forest Audit – Record of Finding

Finding # 1

Principle: 3 Forest Management Planning

Purpose of 3.3.

To review the assembly of background information, appropriateness and completeness of the FMP management unit description, and how it was used in plan preparation

Procedure(s):

3.3.2. Assess whether the FRI has been updated, reviewed and approved to:

- Accurately describe the current forest cover that will be used in the development of the FMP
- Assess whether MNRF provided inventory base feature data and FRI for managed Crown and non-licensed Crown areas to the SFL.

Background Information and Summary of Evidence:

The FIM states “*In cases of MNR providing the newer polygon forest, it must be provided no later than nine months prior to the invitation to participate.*” The licensee is responsible for checking the eFRI for completeness within 3 months of delivery and responsible for maintaining and updating the FRI thereafter (2009 FMPM). The eFRI was delivered to the SFL in February 2015.

During the inspection of the inventory the SFL “*found deficiencies associated with the interpreters calls and some functionality in attribute data structure that prevented function of the inventory data.*” Land ownership information was provided by the MNRF as a composite product which was not prepared as a management plan ready dataset. Domtar accepted the inventory with errors in July 2015 and corrected remaining errors in association with updates.

The Analysis Package reports that “*information provided was not in a format that was readily adapted to the FIM requirements*”. This was an obstacle that required attention from both the MNRF and SFL. The late delivery of the forest inventory coupled with requirements to correct erroneous information resulted in the requirement for a Contingency Plan.

We were informed that Ontario is improving the forest inventory by investing in the acquisition of Light Detection and Ranging (LiDAR) data, an advanced remote sensing technology. This new forest inventory information will inform forest management planning and decision-making by providing quantitative information on key forest structural attributes, including tree height

and wood volume. The program also continues to explore targeted opportunities to improve species composition mapping using cost-effective, quantitative approaches. The program's delivery approach is supported by the Provincial Forest Inventory Advisory Committee, which includes representatives from forest industry, academia, and the Provincial government.

Discussion:

The planning inventory for the management unit provides information required for forest management planning, including forest modelling, habitat modelling and forest diversity analysis. Systemic issues related to the production process of the eFRI have persisted for a significant period of time and the continuing difficulties with the production of timely and accurate forest inventories is a major bottleneck for the achievement of forest management planning schedules. The delays and accuracy issues with the eFRI resulted in additional time and expense in the forest management planning process on the WF.

Finding # 1:

The production process for the development of the Enhanced Forest Resource Inventory had systemic problems.

Independent Forest Audit – Record of Finding

Finding # 2

Principle: 4 Plan Assessment and Implementation

Criterion: 4.7 Access

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

Procedure(s):

1. Review and assess in the field the implementation of approved access activities. Include the following:
 - select a representative sample of each type of access activity (road construction, various types of water crossings - winter, culverts, bridges, road maintenance, decommissioning, and reclamation) from primary, secondary/branch and tertiary/operational roads constructed during the five-year period of the audit; include category 14/forestry aggregate pits for new roads and existing roads.

Background Information and Summary of Evidence:

Appendix V of the FMPM (2017) and the 2019 FMP (pg. 262) detail the operational standards that apply for the extraction of aggregate resources for Forestry Aggregate Pits. Included in the standards are requirements that:

- topsoil and overburden, where present must be stripped and stored on site.
- undercutting of the working face is not permitted and; the working face must be sloped at the angle of repose.
- all trees within 5 meters of the excavation face must be removed,
- when the pit is inactive, all pit faces must be sloped at the angle of repose,
- when operating within 15 meters of a proposed roadside ditch, no excavation is to take place below the elevation of the planned depth of the proposed ditch; all excavations must be immediately sloped to no steeper than 2:1 (horizontal:vertical) angle.
- Progressive rehabilitation of the site must be on-going during the 10-year period, starting from the commencement of the forestry aggregate pit.

Final rehabilitation must include:

1. Sloping of all pit faces to a minimum 3:1 (horizontal:vertical);
2. Re-spreading of any topsoil overburden that was stripped from the site; and

3. Mitigative measures, to the satisfaction of MNRF, to prevent erosion (e.g. establishment of vegetation).

Discussion:

Site investigations revealed that operational standards for forestry aggregate pits were not consistently met. Issues observed at non-conforming pits included steep slopes, the undercutting of the working face, or trees within 5 meters of the excavation face. At two locations pits were close to the access road and were not sloped at a 2:1 angle.

Pit rehabilitation work was generally well done, although two inspected rehabilitated pits required additional “grooming” to achieve proper sloping in some portions of the pit.

Finding # 2:

The operational standards for forestry aggregate pits identified in the Forest Management Plans were not consistently met.

Independent Forest Audit – Record of Finding

Finding # 3

Principle: 4 Plan Assessment and Implementation

Criterion: 4.4. Renewal, 4.5 Tending and protection

Review and assess in the field the implementation of approved renewal operations.

Review and assess in the field the implementation of approved tending and protection activities

Procedure(s):

Assess whether actual (tending and protection) activities were appropriate and effective for the actual site conditions.

Background Information and Summary of Evidence:

A strategy in the 2008 FMP was to “*regenerate poor and offsite hardwood to more suitable conifer species*” and to *regenerate more competitive sites to spruce with herbicide tending*”. The ARs indicate that while regeneration success is high, the silviculture success had declined over the audit term (2015-2016 (83.6%), 2016-2017 (69.2%), 2017-2018 (36%), 2018-2019 (35%).

The lower rates of silviculture success rate were attributed site competition from hardwoods, jack pine ingress, the failure to meet the stocking standard due to low initial stocking levels, and differences in sampling methodologies between the MNR and Domtar. Ineffective or poorly timed tending treatments could also be a contributing factor.

Our sample indicated that, on most areas, herbicide treatments were effective. However, we did encounter areas that exhibited patchy mortality of target species, low crop tree densities, and crop trees that exhibited poor growth due to site competition.

Discussion:

Our field site inspections indicated that monitoring site competition and the application of timely and effective tending is required to ensure successful conifer renewal on competitive sites.

We questioned the utility of tending treatments on some sample blocks due to the low crop densities and/or the poor condition of potential crop trees. Timely monitoring would enable

the forest manager to adjust the silviculture program to ensure effective interventions are implemented and that a higher probability for silviculture success is achieved. Tending assessment surveys should focus on crop tree densities within candidate spray sites as well as competition assessment (i.e. species, density and height). These assessments would more adequately address potential information gaps that result in spray treatments on sites where; the application of herbicide had no benefit as a stand conversion to hardwood had occurred, or the growth response slowed by crop tree suppression.

Finding # 3:

On some competitive sites the aerial chemical tending program achieved variable success.

Independent Forest Audit – Record of Finding

Finding # 4

Principle: 4 Plan Assessment and Implementation

Criterion: 4.4. Renewal

Review and assess in the field the implementation of approved renewal operations (site preparation and regeneration).

Procedure(s):

Review and assess in the field the implementation of approved renewal operations. Including the assessment of whether site preparation treatments were appropriate and effective for the actual site conditions.

Background Information and Summary of Evidence:

Site preparation was predominately by passive disc trenching. Our site investigations indicated that the effectiveness of the passive trencher treatments varied considerably depending on the prevailing conditions at the site (e.g. duff layer thickness, accumulation of logging slash and debris and other site attributes such as the prevalence of sand or rocks). In contrast, power disc trenching was very effective in exposing mineral soil and providing adequate microsites for seeding or planting.

Domtar commonly used passive disc trenchers to create plantable microsites within chipper debris pads with the objective of reducing the loss of productive land to forest management operations. On the pads inspected, the equipment was ineffective in exposing mineral soil or creating suitable microsites for renewal treatments. Mortality rates for seedlings planted in the pads were high and often any surviving seedlings were in poor condition (exhibiting signs of stress).

Discussion:

Effective site preparation treatments are typically required to promote the establishment and growth of desired species. Site preparation activities remove or reduce competing vegetation, reduce logging debris, and expose mineral soil to facilitate the establishment, growth, and survival of the desired tree species. As well, the investment in site preparation creates viable and well-spaced microsites for renewal (i.e. seeding or planting).

The almost exclusive dependence on passive disc trenching for mechanical site preparation was largely ineffective on sites with thicker duff layers, higher occurrences of logging slash or more difficult site conditions (i.e. stony soils). The lack of suitable microsites for planting or seeding resulted in low to insufficient stocking to conifer crop trees and/or significant site competition. The use of a hydraulic trencher or other equipment choices may have been more effective on these sites. Mechanical site preparation alternatives should be reviewed during pre- or post-harvest site evaluations to provide the forest manager with the ability to better tailor equipment selection to the prevailing site conditions with the objective of yielding more uniform and widespread mineral soil exposure for renewal treatments.

The use of passive trenching to create plantable microsites within chipper debris pads was largely ineffective as mineral soil was typically not exposed. Seedling mortality rates were high, and surviving seedlings were frequently in poor condition exhibiting signs of stress. At the time of the audit, the objective to reclaim productive land lost to logging debris was not satisfactorily met. It is possible that through time with the decomposition of the debris natural ingress of trees may result in higher stocking levels on the landings.

Finding # 4:

Passive disc trenching failed at times to create suitable site conditions for renewal on some harvested sites and within chipper debris pads.

Independent Forest Audit – Record of Finding

Finding # 5

Principle: 6 Monitoring

Criterion: 6.1. District compliance planning and associated monitoring

6.2.1. SFL Compliance planning and monitoring

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.

Review and assess whether an SFL compliance plan has been developed and implemented to effectively monitor program compliance and the effectiveness in accordance with the conditions of the SFL, the FMPM and FIM, including standards established by the Minister

Procedure(s):

Determine whether the MNRF District electronically submitted in MNRFs compliance information system to the MNRF database and ... in accordance with requirements and timelines specified in MNRF procedures and the FIM.

Determine whether the FOIP reports have been submitted electronically to the MNRF database in accordance with requirements including timelines specified in MNRF procedures and the FIM.

Background Information and Summary of Evidence:

The Forest Compliance Handbook requires the forest industry to monitor all forest management activities through the Forest Operations Information Program (FOIP). It requires that compliance inspections and reports are to be completed, recorded and submitted in the FOIP system in accordance with supporting procedures contained in directive FOR 07 03 05.

That directive requires completed inspection reports to be approved by the MNRF and SFL designated approver. MNRF and forest industry reports with no associated operational issues are to be approved and submitted in the FOIP system no more than 20 working days after the inspection is completed. There is no difference in timelines for submitting reports for MNRF and Industry Inspectors.

Discussion:

Domtar inspectors completed approximately 418 FOIP inspections during the audit term. Approximately 244 of those inspections were approved and submitted within the required 20-day time limit. Approximately 174 of the inspection report approvals (41%) were late.

MNRF inspectors completed approximately 146 FOIP inspections during the audit term. Approximately 30 of those inspections were approved and submitted within the required 20-day time limit. Approximately 116 of the inspection report approvals (79%) were submitted late.

Finding # 5:

A significant percentage of Ministry of Natural Resources and Forestry and the Domtar Inc. compliance inspection reports were not submitted in accordance with the timelines identified in the Forest Management Plan and the Forest Compliance Handbook.

Independent Forest Audit – Record of Finding

Finding # 6

Principle: 6 Monitoring

To determine whether monitoring and reporting programs as implemented, were sufficient to monitor and report on the effectiveness of forest operations in meeting FMP objectives.

Criterion: 6.5.

To determine whether the ARs have been prepared in accordance with the applicable FMPM. Assess whether the reports accurately reflect the implemented activities...

Procedure(s):

On a sample basis, as part of the field audit ...determine and report on whether the reported information summarizes and evaluates operations accurately and completely as demonstrated by actual field conditions.

Criterion: 6.3

Procedure

Assess the actual level of the monitoring program including whether:

- It was in accordance with the FMP, including silviculture guide exceptions monitoring

Background Information and Summary of Evidence:

Through its Forestlands Environmental Management System (January 23, 2020) Domtar identifies direction that includes monitoring of "... *harvesting, road construction, and reforestation activities...*" Active blocks are checked for scheduled implementation and compliance with the FMP and that information is documented, analyzed and provides direction for any required monitoring adjustments.

The 2019 -2029 FMP, Section 4.7, provides an overview that "*Forest management operations are regularly monitored to ensure compliance with the management plan with particular emphasis on operations...*" Section H in the Supplementary Documentation states, "*Both formal and informal procedures can contribute to an effective monitoring program.*" Our interviews and document reviews indicated that Domtar has a complete suite of formal and informal monitoring procedures in place to track its field operations (e.g. FOIP reporting, spreadsheets, GPS mapping, and field inspections). The required systems are in place and functioning effectively. However, during the field audit we encountered some situations which suggested that, for some circumstances, monitoring of forest management activities was

either not occurring, was poorly timed (or scheduled) or was insufficient to result in operational changes when field results were ineffective or poor. For example:

- Some slash piles although documented as burnt had not been treated,
- A forestry aggregate pit that was reported as closed had not been rehabilitated,
- Some roads that had been reported as decommissioned had not been decommissioned,
- Passive trenching on competitive sites at times failed to create suitable conditions for renewal on some harvested areas and within chipper debris pads,
- The aerial chemical tending program targeted some sites with poor stocking.

The FMPM requires that AR text must also include a discussion of the monitoring of exceptions (Part B, Section 4.7.5), if any was undertaken and any related concerns. Domtar provided a spreadsheet which indicates that exceptions monitoring occurred on an area of 715 ha in 2017. The audit term ARs indicate that no exceptions monitoring activities occurred.

Discussion:

Domtar has an array of formal and informal monitoring procedures to monitor and track its field operations. We encountered some instances where there was a lack of field monitoring and/or reporting to verify, report on and evaluate the effectiveness of field operations.

Finding # 6:

Domtar's monitoring and reporting programs were insufficient to evaluate the effectiveness of some forest operations.

Independent Forest Audit – Record of Finding

Finding # 7

Principle: 8 Contractual Obligations

The licensee must comply with the specific licence requirements. Specific requirements, when relevant to the MNRF, must be followed.

Criterion: 6.5.

An action plan responding to audit findings is to be completed, the action plan is to be implemented and a status report is to be prepared within 2 years following approval of the action plan unless otherwise directed by the Minister.

Procedure(s):

2. Review, including through interviews, the audit action plan and assess whether;
 - The action plan appropriately addressed the audit findings.
3. Review the audit action plan status report and assess whether,
 - Actual actions were effective in addressing audit findings.

Background Information and Summary of Evidence:

A major shortcoming identified in the 2015 IFA was with respect to the production and approval of forest management documents and records as well as the interpretation of technical standards for forest management data products. The audit reported that the issue had persisted for more than five years and as a result, the working relationship between the Domtar and the District Office had become antagonistic.

Responding to that situation, Arbex Forest Resource Consultants Ltd. provided the following recommendations.

- Recommendation # 2 dealt with “...*the protracted and divisive submission and review process for FMP’s, Annual Reports and FIM products*”.
- Recommendation # 3 directed the MNRF to “...*adhere to the wording and intent of the FMPM direction for the review of forest management documents and products.*”
- Recommendation # 4 directed Domtar to “...*ensure that FMPM and FIM products are submitted in accordance with FMPM and FIM requirements/standards*”.

The approved Action Plan detailed strategies including monthly meetings, engagement and training sessions and a documented process to guide staff to ensure quality reports and timely approvals.

Although progress was made and the working relationship between the auditees has improved, some problems remain with respect to product quality and meeting mandated approval timelines.

For example, the FMPM requires that ARs be submitted to the MNRD by November 15 in accordance with the requirements of FIM and Part E of the FMPM. MNRD has an opportunity to review the AR for completeness and accuracy and is to provide the results of the review within 30 days. Revised reports are to be submitted by February 15 or within 60 days of the receipt of comments. We were informed that the ARs required “*continued iterative reviews*” which resulted in a requirement to submit the ARs two or three times and there were also significant delays in AR approval/acceptance.

| | 2014/15 | 2015/16 | 2016/17 | 2017/18 | 2018/19 |
|----------------------------------|------------|------------|------------|------------|------------|
| Initial Submission | 14/11/2015 | 14/11/2016 | 15/11/2017 | 15/11/2018 | 15/11/2019 |
| MNRD Review Comments | 18/12/2015 | 13/12/2016 | 15/12/2018 | 18/12/2018 | 16/12/2019 |
| 2nd Submission | 11/03/2016 | 15/02/2017 | 12/02/2018 | 15/02/2019 | 14/02/2020 |
| MNRD Review Comments | 22/04/2016 | | | 29/10/2019 | 03/03/2020 |
| 3rd Submission | 28/04/2016 | | | 29/10/2019 | 12/03/2020 |
| Final Approval | 12/05/2016 | 31/01/2018 | 03/01/2018 | 16/12/2019 | 23/03/2020 |

The MNRD District review of the second submission of the 2015/2016 AR indicated that “*they would not complete a full review of the AR due to the severity and significant errors contained in the initial view of the product*”. We note that the review of the initial submission of the 2017 AR identified approximately 110 required alterations. It is noteworthy, that there were significantly fewer reviewer comments (approximately 47) associated with the review of the 2018 AR.

Timelines for the approval of plan amendments were also problematic. We were provided evidence which indicates that administrative amendments “*take up to 20 weeks (5 months for approval) and minor amendments taking up to 34 weeks to get approved (8 months)*”. We were informed that the fundamental reasons for the perpetual delays by both parties include “*ineffective communications, understanding mutual expectations, and respecting each other’s roles in the management of the Wabigoon Forest*”. Other issues identified for delays included “*competing priorities, product quality, delays in getting internal direction, staff availability, timing of submissions, disagreement on approaches and perspectives, and challenges related to the interpretation of new manuals and requirements for indigenous consultation*”.

Discussion

Issues with respect to document quality and adhering to approval schedules have now persisted for more than ten years. It is important to note that the local MNRD District Manager and the Regional Director are responsible for ensuring the Action Plan is implemented.

Notwithstanding the barriers and challenges associated with the review and approval of FMP documents and products, and that the work is on-going to address issues, and that some progress has been made, improvement is still required.

Finding # 7:

The implementation of the 2015 Independent Forest Audit Action Plan did not fully resolve issues associated with the production, review and approval of forest management documents and products.

Appendix 2
Management Objectives Table

| 2008- 2018 FMP OBJECTIVES | ASSESSMENT OF OBJECTIVE ACHIEVEMENT (MET, PARTIALLY MET, NOT MET) | AUDITORS COMMENTS |
|---|---|---|
| 1. To emulate natural disturbance and landscape patterns characteristic of Site Region 4S as described in the <i>Forest Management Guidelines for the Emulation of Fire Disturbance Patterns - Analysis Results, April 4, 1997.</i> | MET | <p>Movement towards disturbance size class and frequency is reflective of the natural template over the plan period. Residual patches were in accordance with planned targets.</p> <p>No harvest areas were planned in marten core areas during the term.</p> |
| 2. To maintain or move towards a natural range of forest composition and age classes which includes mature/overmature age classes and rare forest types while staying within a socially acceptable range. | MET | Harvest levels were 74% of planned. In total 25 ha of Pr/Pw were harvested with 73.7 ha of red pine and 38.5 ha of white pine planted. |
| 3. To maintain forest function for wildlife habitat in the Wabigoon Forest | MET | Implementation of planned harvest and renewal was achieved. Overall compliance rate for the audit term was approximately 98 % with no significant issues associated with AOC implementation or protection. |
| 4. To provide road-based access, land use and recreational opportunities through road maintenance and development of access to areas planned for harvest within the period. | MET | Currently 0.50km/km ² of Crown Productive Crown Area, target was 0.48km/km ² > |
| 5. To implement forestry operations in a manner that minimizes conflicts with non- | MET | The compliance rate for the audit term was approximately 98% with |

| 2008- 2018 FMP OBJECTIVES | ASSESSMENT OF OBJECTIVE ACHIEVEMENT (MET, PARTIALLY MET, NOT MET) | AUDITORS COMMENTS |
|--|---|---|
| timber resource users and protects non-timber values, in order to provide all users with the opportunity to benefit from the forest. | | no significant issues associated with AOC implementation or protection. The LCAC assigned itself a 78% effectiveness rating. Six Resource Stewardship Agreements were negotiated for the 2019 FMP. |
| 6. To effectively regenerate harvest areas to free growing status in a manner that is consistent with the regeneration standards outlined in the Silvicultural Ground Rules for the Wabigoon Forest. | PARTIALLY MET | 97% of areas surveyed were declared FTG, however silvicultural success decreased over the audit term. |
| 7. To implement forestry operations in a manner that minimized conflicts with non-timber resource users, and protects non-timber values in order to provide all users with the opportunity to benefit from the forest. | MET | The LCAC assigned itself a 78% effectiveness rating. Six Resource Stewardship Agreements were negotiated for the 2019 FMP. First Nation values maps were updated and included in FMP planning. |
| 8. To recognize and respect the legitimacy and presence of other commercial businesses, and to contribute to the economic viability of resource-based businesses in or adjacent to the Wabigoon Forest through the protection of values. | MET | Six Resource Stewardship Agreements were negotiated for the 2019 FMP. AOCs were appropriately developed and implemented. |
| 9. To provide a predictable and continuous supply of wood | MET | Modeling indicated that a continuous supply of |

| 2008- 2018 FMP OBJECTIVES | ASSESSMENT OF OBJECTIVE ACHIEVEMENT (MET, PARTIALLY MET, NOT MET) | AUDITORS COMMENTS |
|--|---|--|
| products to the forest products industry from the Wabigoon Forest. | | forest products was achieved. Wood supply requirements were met under the prevailing market conditions. |
| 10. To maintain the productivity of soil function, and to protect water quality and fisheries habitat where forest management activities occur in the Wabigoon Forest. | MET | Overall compliance rate for the audit term was approximately 98% with no significant issues associated with soil and water protection or fisheries values. |
| 11. To provide continuous social benefits resulting from the forest products industry that relies on fibre from the Wabigoon Forest. | MET | Targeted volumes were made available. |
| 12. To provide opportunities for Aboriginal community involvement in the planning process for the 2019 Forest Management Plan for the Wabigoon Forest. | MET | All aboriginal communities were contacted in the planning process with invitations to participate on the planning team. All FMPM notifications were sent out and all communities were provided the opportunity to request a customized communication process |
| 13. To plan and implement forest management activities in a manner that protects all known Aboriginal Values. | MET | There were no instances of non-compliance related to protection of known aboriginal values. |
| 14. To have the Local Citizens Advisory Committee effectively participate in plan development. | MET | The LCAC assigned itself a 78% effectiveness rating. |

Appendix 3

Compliance with Contractual Obligations

| Licence Condition | SFL Holder Performance |
|--|--|
| Payment of Forestry Futures and Ontario Crown charges. | Payments of Forestry Futures and Crown Charges were made in full. |
| Wood supply commitments, MOAs, sharing arrangements, special conditions. | All wood supply commitments were met to the extent possible given prevailing market conditions. MOAs were not negotiated but business-to-business arrangements were in place. |
| Preparation of FMP, AWS and reports; abiding by the FMP, and all other requirements of the FMPM and CFSA. | The 2019 FMP was completed and approved in time for operations to commence, a one-year contingency plan was developed and approved. The plan was completed in accordance with the FMPM and met the requirements of the CFSA. The AWSs and ARs met reporting and format requirements. |
| Conduct inventories, surveys, tests and studies; provision and collection of information in accordance with FIM. | A monitoring and silviculture assessment program was implemented. Most of the required surveys and data collection were completed in accordance with FIM requirements. We provide Finding # 6 to address an issue with exceptions monitoring reporting. |
| Wasteful practices not to be committed. | There were no recorded instances of wasteful practices during the audit term. |
| Natural disturbance and salvage SFL conditions must be followed. | Conditions for salvage operations were met. |
| Protection of the licence area from pest damage, participation in pest control programs. | Protection management activities for pests were not carried out during the audit term. A spray program for Jack Pine budworm planned for 2020 was postponed until 2021 due to the COVID-19 pandemic. |
| Withdrawals from licence area. | There were no withdrawals from the license area. |
| Audit Action Plan and Action Plan Status Report prepared. | An Audit Action Plan and Action Plan Status Report were prepared and submitted according to the IFAPP timelines. |

| | |
|--|--|
| | Although progress was made in addressing issues identified in the 2015 IFA, we concluded that the implementation of the Action Plan had not fully resolved problems associated with the production, quality and approval of forest management documents and information (Finding # 7). |
| Payment of forest renewal charges to Forest Renewal Trust (FRT). | As of April 2020, there were no outstanding FRT charges. |
| Forest Renewal Trust eligible silviculture work. | Our field investigations verified that payments were for eligible silviculture work. |
| Forest Renewal Trust forest renewal charge analysis. | Forest Renewal Trust renewal charge analysis work was completed annually and approved by the MNRF. |
| Forest Renewal Trust account minimum balance. | The Minimum balance of \$ 2,137,500 was exceeded in every year of the Audit term. On August 20, 2020 the FRT balance was \$3,813,323. |
| Silviculture standards and assessment program. | Silviculture assessment work was completed annually. Finding # 6 addresses a requirement to improve monitoring for some silviculture and forest management activities. |
| First Nations and Métis opportunities. | Opportunities were made available. An IEA associated with the 2019 FMP in part addressed a desire by a local FN to benefit more directly from forest management activities. |
| Preparation of a compliance plan. | Compliance plans were prepared as required. |
| Internal compliance prevention/education program. | There were active internal compliance/education programs. |
| Compliance inspections and reporting; compliance with compliance plan. | The compliance program conformed to priorities and directions in the Compliance Plan. Finding # 5 addresses the issue that reporting was frequently not in accordance with specified timelines. |

| | |
|---|---|
| SFL forestry operations on mining claims. | There were no SFL forestry operations on mining claims. |
|---|---|

Appendix 4

Audit Process

Appendix 4

Audit Process

The IFA consisted of the following elements:

Risk Assessment: A risk assessment was completed in April 2020 to determine which IFAPP optional procedures would be audited. The risk assessment report was submitted to the Forestry Futures Trust Committee and the MNRF Integration Branch for endorsement and approval on April 24, 2020.

Audit Plan: An audit plan describing the schedule of audit activities, audit team members, audit participants and the auditing methods was prepared and submitted to the Domtar, MNRF Dryden District, Northwest Region MNRF Office, Forestry Futures Trust Committee and the LCAC Chair in June 2020.

Public Notices: Public participation in the audit was solicited through a public notice on radio station CKDR's website.

All Indigenous communities with an interest in the Forest were contacted by mail and invited to participate and/or express their views. Indigenous community leaders/forestry staff received several follow-up calls and/or emails.

All LCAC members received an email explaining the audit process with an invitation to participate in the audit process. A sample of LCAC members received follow-up telephone calls and interviews.

Contractors operating on the unit were invited by email to participate in the field audit and/or provide comments to the audit firm.

Field Site Selection: Field sample sites were selected randomly by the Lead Auditor in June 2020. Sites were selected in accordance with the guidance provided in the IFAPP (e.g. operating year, contractor, geography, forest management activity, species treated or renewed, and access) using GIS shapefiles provided by Domtar. The sample site selections were reviewed by Domtar and MNRF District staff during a Zoom Meeting on July 10, 2020.

Site Audit: COVID-19 pandemic restrictions related to office closures resulted in the audit team spending 3 days on the WF in October conducting the field audit and interviews. The field audit achieved a minimum 10% sample of the forest management activities that occurred during the audit term (see the IFA Field Sampling Intensity on the WF below). A sample (16%) of the areas invoiced in the "*Forest Renewal Trust Specified Procedures Report*" (SPR) was also inspected to verify conformity between invoiced and actual activities³³. The field inspection included site-specific (intensive)

³³ Fiscal year 2018-2019.

and landscape-scale (extensive helicopter) examinations. The Closing Meeting was held on October 15.

Not every hectare of the area sampled is surveyed, as this is not feasible. Individual sites are selected to represent a primary activity (e.g. harvesting, site preparation) but all associated activities that occurred on the site are assessed and reported in the sample table. The audit team also inspected the application of Areas of Concern prescriptions, forestry aggregate pit management and rehabilitation and water crossing installations.

Report: This report provides a description of the audit process and a discussion of audit findings and conclusions.

Procedures Audited by Risk Category

| Principle | Optional – Applicable (#) | Optional – Selected (#) | Optional - % Audited | Mandatory Audited (#) (100% Audited) | Comments |
|--|---------------------------|-------------------------|----------------------|---|---|
| 1. Commitment | N/A | N/A | N/A | N/A | The SFI and FSC certifications met IFAPP Principle 1 criterion. |
| 2. Public Consultation and FN/Métis Community Involvement & Consultation | 5 | 2 | 20 | 3 | There were four issue resolution and two IEA requests associated with the development of the 2019 FMP. |
| 3. Forest Management Planning | 40 | 2 | 5 | 40 | The late delivery of the eFRI caused planning challenges and resulted in a requirement to prepare a CP. |
| 4. Plan Assessment & Implementation | 2 | 0 | 0 | 0 | |
| 5. System Support | 2 | 1 | 50 | N/A | The SFI and FSC certifications met IFAPP Principle 5 criterion. |

| | | | | | |
|---|---|---|----|----|---|
| | | | | | A major finding of the 2015 IFA dealt with the production and approval of forest management documentation and other products. This IFA reviewed the status of the Action Plan to address the issue. |
| 6. Monitoring | 9 | 1 | 10 | 12 | Findings for the optional criterion support the auditor's sustainability conclusion. |
| 7. Achievement of Management Objectives and Forest Sustainability | 0 | 0 | 0 | 13 | |
| 8. Contractual Obligations | 7 | 3 | 40 | 22 | |

IFA Field Sampling Intensity on the Wabigoon Forest³⁴

| Activity | Total Area (Ha) / Number | Planned Sample Area (Ha) | Actual Area (Ha) Sampled | Number of Sites Visited ³⁵ | Percent Sampled |
|----------------------------------|--------------------------|--------------------------|--------------------------|---------------------------------------|-----------------|
| Harvest | 34,005 | 3,400 | 6,112 | 150 | 18 |
| Renewal – Artificial | 19,979 | 2,000 | 2,314 | 93 | 12 |
| Renewal – Natural | 1,765 | 176 | 286 | 6 | 16 |
| Site Preparation – Mechanical | 22,067 | 2,206 | 2259 | 113 | 10 |
| Site Preparation – Chemical | 2,151 | 215 | 283 | 6 | 10 |
| Tending | 5,913 | 595 | 812 | 22 | 14 |
| FTG | 36,209 | 3,620 | 3700 | 65 | 10 |
| Water Crossings (# of Crossings) | 91 | 11 | | 11 | 12 |

³⁴ Not all 2019-2020 activities were reported at the time of sample selection

³⁵ The relatively small area of the sample blocks resulted in a high number of sites being inspected in order to achieve a minimum 10% sampling intensity.

| | | | | | |
|---|-------|-----|-----|----|----|
| Aggregate Pits (# of Pits) | 145 | 15 | | 16 | 10 |
| Forest Renewal Trust Specified Procedures Report Activities | 4,387 | 446 | 708 | 28 | 16 |

Source: Domtar Shapefiles & Field Binders

Summary of Consultation and Input to the Audit

Public Stakeholders

Public participation in the audit was solicited through a web notice posted on radio station CKDR's website. The notice invited interested individuals to contact the audit firm with comments. No responses were received.

MNRF

MNRF District staff who attended the field audit and/or had responsibilities on the WF were interviewed. General comments and concerns expressed by staff to the auditors were:

- On-going issues with respect to the quality of management documentation.
- Concern that submission deadlines for forest management products were not being met.
- Concern that SGRs were not being modified to reflect field results.

Domtar

Staff were interviewed and participated in the field audit. General comments made to the audit team included:

- A concern with weak forest products markets.
- Concern with the review process for forest management documents and records.
- Concern with the inability to manage small areas associated with forest units.
- Concern with FTG stocking standards and guidelines.
- Concern with approval timelines for amendments.

LCAC Members

Individual members of LCAC received a letter inviting their participation in the audit and several LCAC members were interviewed. General comments to the audit team included:

- Satisfaction with the response of both Domtar and MNRF to questions and information requests.
- General satisfaction with the management and operation of the Committee that provided a respectful forum to discuss issues.
- Concern about species at risk and moose populations.

- Concerns both for and against new access roads.

First Nations

All Indigenous and Métis communities with an identified interest in the Forest were contacted by mail, telephone and/or email and asked to express their views on forest management during the audit term and/or participate in the field audit. Comments expressed to the audit team included:

- Concern about a general lack of capacity (financial and staff) to fully participate in FMP development.
- Confusion with respect to the various audit initiatives and associated requests for community participation.
- Concern with respect to the protection of culturally significant values.
- A desire for a greater share of the benefits provided by forest management.
- An indication that both MNRF and Domtar were quick to respond to requests for information.

Harvest Contractors

Contractors were sent an email inviting their participation in the audit and inviting comment on forest management activities during the audit term. No responses were received.

Appendix 5
List of Acronyms Used

List of Acronyms Used

| | |
|---------|---|
| AHA | Available Harvest Area |
| AOC | Area of Concern |
| AR | Annual Report |
| AWS | Annual Work Schedule |
| B.Sc.F. | Bachelor of Science in Forestry |
| CFSA | Crown Forest Sustainability Act |
| CP | Contingency Plan |
| CRAs | Compliance Reporting Areas |
| eFRI | Enhanced Forest Resource Inventory |
| ESA | Endangered Species Act |
| FAP | Forestry Aggregate Pit |
| FFTC | Forestry Futures Trust Committee |
| FMP | Forest Management Plan |
| FMPM | Forest Management Planning Manual |
| FN | First Nation |
| FOIP | Forest Operations Information Program |
| FOP | Forest Operations Prescription |
| FRT | Forest Renewal Trust |
| FSC | Forest Stewardship Council |
| FTG | Free-to-Grow |
| FU | Forest Unit |
| Ha | Hectares |
| IFA | Independent Forest Audit |
| IFAPP | Independent Forest Audit Process and Protocol |

| | |
|----------------|---|
| KM | Kilometer |
| LCAC | Local Citizens Advisory Committee |
| LCC | Local Citizens Committee |
| LiDAR | Light Detection and Ranging |
| LTMD | Long-Term Management Direction |
| m ³ | Cubic Meters |
| MECP | Ministry of Environment, Conservation and Parks |
| MNR | Ministry of Natural Resources and Forestry |
| MEA | Moose Emphasis Area |
| NIC | Not-in-Compliance |
| NWR | Northwest Region |
| R.P.F. | Registered Professional Forester |
| RUS | Road Use Management Strategy |
| SAR | Species at Risk |
| SEM | Silviculture Effectiveness Monitoring |
| SFI | Sustainable Forestry Initiative |
| SFL | Sustainable Forestry Licence |
| SGR | Silvicultural Ground Rule |
| SIP | Site Preparation |
| SPR | Specified Procedures Report |
| vs. | Versus |

Appendix 6
Audit Team Members and Qualifications

Appendix 6

Audit Team Members and Qualifications

| Name | Role | Responsibilities | Credentials |
|---|---|--|---|
| Mr. Bruce Byford R.P.F. President Arbex Forest Resource Consultants Ltd. | Lead Auditor Forest Management Planning Harvest & Silviculture Auditor | Audit Management & coordination Liaison with MNRF and FFTC Review documentation related to forest management planning and review and inspect silviculture practices Determination of the sustainability component. | B.Sc.F. ISO 14001 Lead Auditor Training. FSC Assessor Training. 39 years of consulting experience in Ontario in forest management planning, operations and resource inventory. Previous work on 44 IFA audits with lead auditor responsibility on all IFAs. 27 FSC certification assessments with lead audit responsibilities on 7. |
| Mr. Al Stewart Arbex Senior Associate | Public Participation including First Nations & LCC Participation in Forest Management Process Forest Compliance Road Construction and Maintenance Forestry Aggregate Pits | Review documentation and practices related to forest management planning & public participation/consultation processes. Review & inspect AOC documentation & practices. Review of operational compliance. Determination of the sustainability component. | B.Sc. (Agr) ISO 14001 Lead Auditor Training. FSC assessor training. 48 years of experience in natural resource management planning, field operations, policy development, auditing and working with First Nation communities. Previous work experience on 44 IFAs. |
| Riet Verheggen R.P.F. Arbex Associate | Harvest and Silviculture Contractual Compliance Assessment of Achievement of Forest Management Objectives | Determination of the sustainability component. Review and inspect silvicultural practices and related documentation. Review and inspect documents related to contractual compliance. | B.Sc.F. 26 years of experience in natural resource management, policy development and auditing. Previous work on 5 IFAs. |