

**Romeo Malette Forest
Independent Forest Audit
2012 – 2019**

Arbex Forest Resource Consultants Ltd.

September, 2019

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1.0 Executive Summary

This report presents the findings of an Independent Forest Audit of the Romeo Malette Forest (Sustainable Forest Licence # 550398) conducted by Arbex Forest Resource Consultants Ltd. The audit utilized a risk-based approach based on the 2019 Independent Forest Audit Process and Protocol. The term of the audit was April 1, 2012 to March 31, 2019. The audit assessed the implementation of years 4 and 5 of Phase I and Years 6, 7, 8, 9 and 10 of Phase II of the 2009-2019 Forest Management Plan. The audit also examined the planning process for the development of the 2019-2029 FMP. The audit field site investigations were completed by helicopter and truck in July 2019.

The Forest is managed by Rayonier Advanced Materials Canada G.P. and administered by the Ministry of Natural Resources and Forestry, Timmins District. Rayonier Advanced Materials Canada G.P. acquired Tembec Industries Inc. in 2017 and the Tembec woodlands staff were retained with the acquisition. There is one Local Citizens Committee associated with the Forest.

We concluded that forest management was planned in accordance with the requirements of the relevant Forest Management Planning Manual and that Forest Management Plan targets are consistent with the achievement of plan objectives and forest sustainability. The modelling process for development of the Long-Term Management Direction was complex and challenging but the high level of transparency and cooperation between the Ministry of Natural Resources and Forestry, Timmins District and Rayonier Advanced Materials Canada G.P. resulted in the production of a quality forest management plan. The plan objectives were generally met (e.g. diversity, supply of wildlife habitat, maintenance of social and economic benefits) and there was movement towards the achievement of the Long-Term Management Direction.

An effective renewal program was implemented with the area renewed exceeding the area harvested.

The Local Citizens Committee made a positive contribution to the development of the Forest Management Plan and the ongoing implementation of forest management activities. There was First Nation and Métis involvement in the development of the forest management plan and Rayonier Advanced Materials Canada G.P. negotiated several agreements (e.g. harvesting, herbicide planning) with individual communities that has both increased and maintained their participation in forest management.

During the audit term, Rayonier Advanced Materials Canada G.P. had an in-compliance record of approximately 98 percent. We credit this exceptional record to the excellent working relationship between the Timmins District and Rayonier Advanced Materials Canada G.P. and the overlapping licencees. This was achieved because of the experience, training, knowledge and ongoing presence on the Forest of the staff of both parties and the use of improved technology.

We did identify an issue with the management of some aggregate pits (Finding # 1). We concluded that the Northeastern Regional Office and the Timmins District Office of the Ministry of Natural Resources and Forestry did not consistently meet the direction of the Silviculture Effectiveness Monitoring program (Finding # 2). We had some concerns with respect to the management and delivery of Core Task 3 of the Silviculture Effectiveness Monitoring program but do not provide a finding as we concluded that the overarching finding on Silviculture Effectiveness Monitoring would address our issues. Our review of wood supply commitments and the licence documents lead to two findings; that all poplar was not directed in accordance with an Overlapping Forest Resource Licence Agreement (Finding # 3) and that a Memorandum of Agreement has not been negotiated between Rockshield Engineered Wood Products ULC and the Sustainable Forest Licence holder as required (Finding # 4).

Despite the identified shortcomings, on balance, our assessment is that Rayonier Advanced Materials Canada G.P and the Ministry delivered an effective forest management program. Rayonier Advanced Materials Canada G.P met all the legal and regulatory requirements for the preparation and implementation of the 2009 Forest Management Plan. The silviculture program is effectively renewing the Forest and benefits are accruing to the local communities. There were no observed instances of significant environmental damage arising from forestry operations.

The audit team concludes that the management of the Romeo Malette 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 # 550398 held by Rayonier Advanced Materials Canada G.P. The Forest is being managed consistently with the principles of sustainable forest management as assessed through the Independent Forest Audit Process and Protocol, 2019.

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 Romeo Malette 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 (SFL) # 550398 held by Rayonier Advanced Materials Canada G.P. 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>Operational standards for forestry aggregate pits were not consistently met.</p>
<p>Finding # 2:</p> <p>The Northeastern Regional Office and the Timmins District Office did not fully meet Silviculture Effectiveness Monitoring program direction on the Romeo Malette Forest.</p>
<p>Finding # 3:</p> <p>All veneer grade poplar was not made available to Rockshield Engineered Wood Products ULC as directed by the Overlapping Forest Resource Licence Agreement between the Sustainable Forest Licence holder and Little John Enterprises Ltd.</p>
<p>Finding # 4:</p> <p>A Memorandum of Agreement has not been signed between Rockshield Engineered Wood Products ULC and the Sustainable Forest Licence holder as required by Supply Agreement # 536235 dated April 1, 2018 (as amended). The target volume of 13,380 m³/ year of poplar veneer as outlined in the Supply Agreement has not been met.</p>

3.0 Introduction

This audit report has been prepared by Arbex Forest Resource Consultants Ltd. for the conduct of the 2019 Independent Forest Audit (IFA) of the Romeo Malette Forest (RMF). The audit utilized a risk-based approach based on the 2019 Independent Forest Audit Process and Protocol (IFAPP). The term of the IFA is April 1, 2012 to March 31, 2019. The audit assessed the implementation of years 4 and 5 of Phase I and Years 6, 7, 8, 9 and 10 of Phase II of the 2009-2019 Forest Management Plan (FMP). The audit also examined the planning process for the development of the 2019-2029 FMP. The Forest is Forest Stewardship Council (FSC) certified so the IFAPP Commitment Principle and the human resources criteria of the System Support Principle are considered met.

The RMF is managed by Rayonier Advanced Materials Canada G.P. (RYAM) and administered by the Ministry of Natural Resources and Forestry (MNR) Timmins District. RYAM acquired the Sustainable Forest Licence (SFL) from Tembec Industries Inc. in 2017. Tembec woodlands staff were retained with the acquisition. There is one Local Citizens Committee (LCC) associated with the RMF.

The previous IFA (2012) was conducted by Craig Howard and Associates. The audit resulted in thirteen recommendations/findings. The auditors found that the SFL holder was in compliance with the terms and conditions of the SFL and recommended that the SFL be extended. This audit confirmed that the 2012 IFA recommendations have been appropriately addressed.

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 2019 Independent Forest Audit Process and Protocol (IFAPP) provides guidance in meeting the requirements of Ontario Regulation 160/04 made under the CFSA and further required in MNR's Environmental Assessment Requirements for Forest Management on Crown Lands in Ontario (MNR-75). The scope of the audit is determined by the MNR in specifying mandatory audit criteria (Appendix A of the IFAPP). The audit scope, finalized by the auditors in conducting a management unit risk assessment, identified optional audit criteria from Appendix A to be included in the audit. The final audit scope was 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 2019 IFAPP. The audit generally assessed licence holder and MNR compliance with the Forest Management Planning Manual (FMPM) and the CFSA in conducting forest management planning, operations, monitoring and reporting activities. The audit also assessed the effectiveness of forest management activities in meeting the objectives

set out in the Forest Management Plan (FMP). The audit further reviewed whether actual results in the field are comparable with planned results and determined 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.

Arbex Forest Resource Consultants Ltd. conducted the IFA in July 2019, utilizing a three-person team. Profiles of the audit team members, their qualifications and responsibilities are provided in Appendix 6. Details on the audit processes implemented are provided in Appendix 4.

3.2 Management Unit Description

The Romeo Malette Forest¹ (RMF) is located within the Timmins District in the Northeast Region of the MNRF. The Sustainable Forest Licence (SFL) is held by Rayonier Advanced Materials Canada G.P. (RYAM). RYAM acquired Tembec in 2017 and the Tembec woodlands staff were retained with the acquisition.

The RMF encompasses an area of approximately 586,607 hectares (ha) of Crown managed land of which 92% is Crown managed forested land. Non-forested land (i.e. water, grass, unclassified lands and agricultural land) comprise 8% (44,269 ha) of the land base (Table 2). Patent land consists mainly of mining claims and is concentrated in the eastern portion of the unit and along highway corridors. Major highways situated within, or near, the unit include highways 101, 144 and 655 (Figure 1).

¹ The Romeo Malette Forest is also called the Forest in this report.

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

Managed Crown Land Type ²	Area (Ha)
Non-Forested	44,269
Non-Productive Forest	33,236
Protection Forest ³	10,576
Production Forest ⁴	498,526
Forest Stands	414,179
Recent Disturbance	51,416
Below Regeneration Standards ⁵	32,931
Total Productive Forest	509,102
Total Forested:	542,338
Total Crown Managed:	586,607

Source: FMP 1 2019 FMP

The RMF is located entirely within the Boreal Forest Region, with approximately one third in the Northern Clay Belt Section and two thirds in the Central Transitional Section of the Boreal Forest Region to the south. The main tree species include jack pine, black and white spruce, poplar and white birch with minor components of balsam fir, cedar, larch and white pine and red pine. Figure 2 presents the area of managed productive forest by forest unit.

The northern portion (Clay Belt) has relatively flat to gently rolling terrain interspersed with eskers and depressions. The Central Transitional Section consists largely of glacial deposits of boulder sand till overlaying bedrock. The topography is rolling with interspersed ridges.

² Excludes lands classified as “Other”.

³ 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.

⁴ Production forest is land at various stages of growth, with no obvious physical limitations on the ability to practice forest management.

⁵ 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

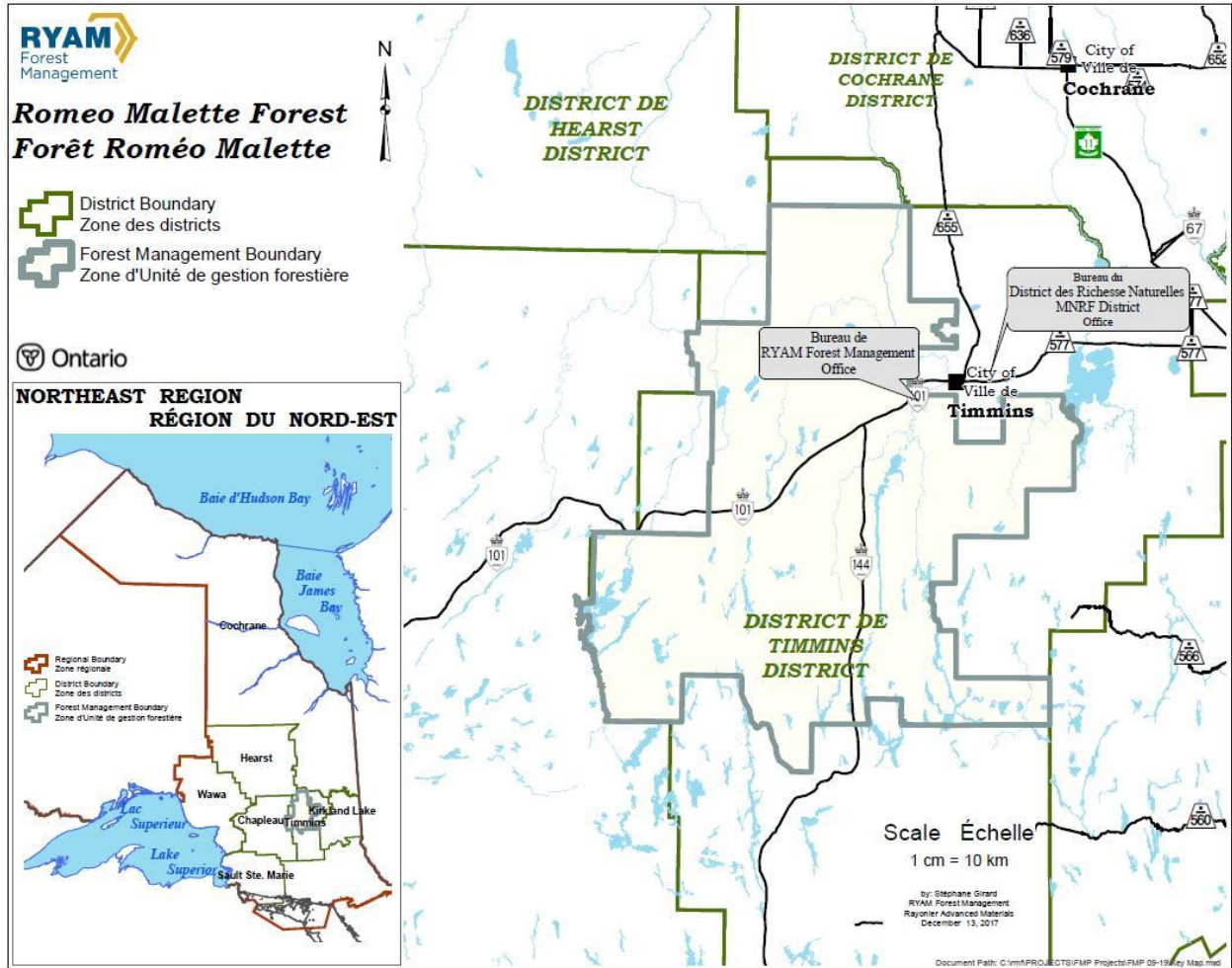
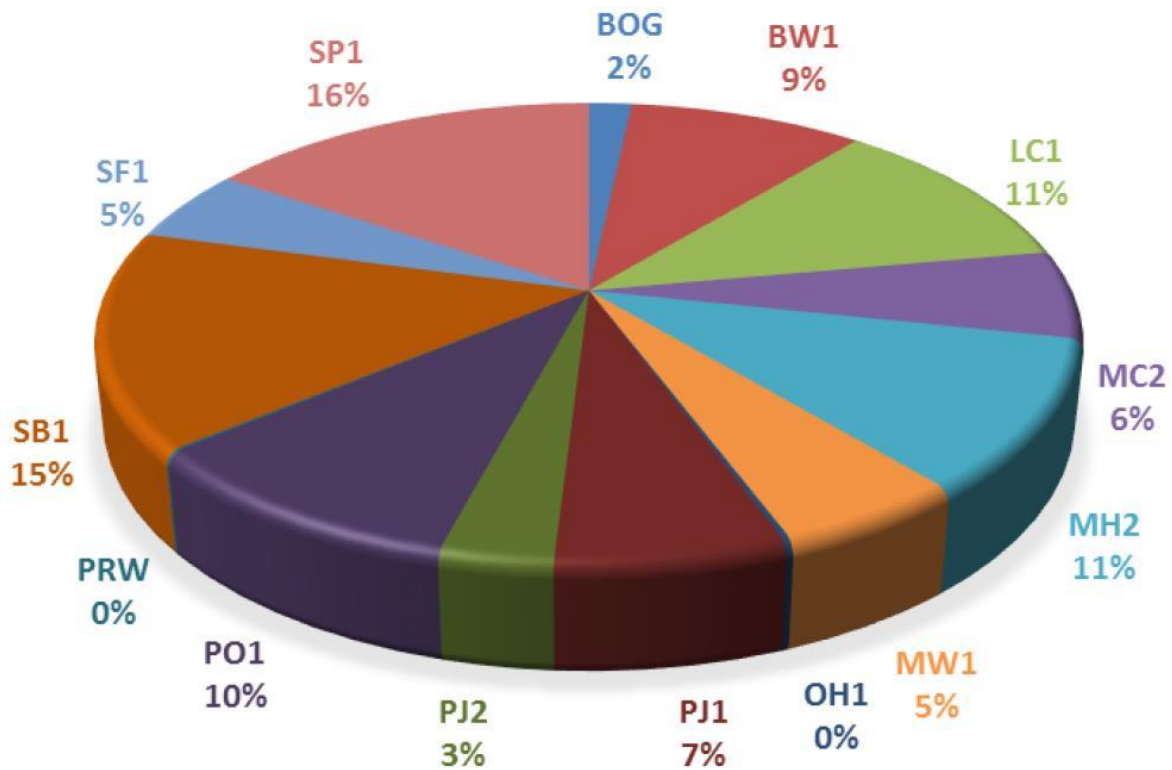


Figure 1 Location of the Romeo Malette Forest

Figure 3 depicts the proportion of Crown managed productive forest by age class. The RMF can be characterized as a young forest with only 19% of forest older than 100 years. The age class structure is not in balance with 21% of the forest area within the 81-100 age class and 19% of the forest area less than 21 years old. The 2019 FMP attributes the area in the youngest age class to natural depletions (including Timmins Fire # 9) and harvest depletions.

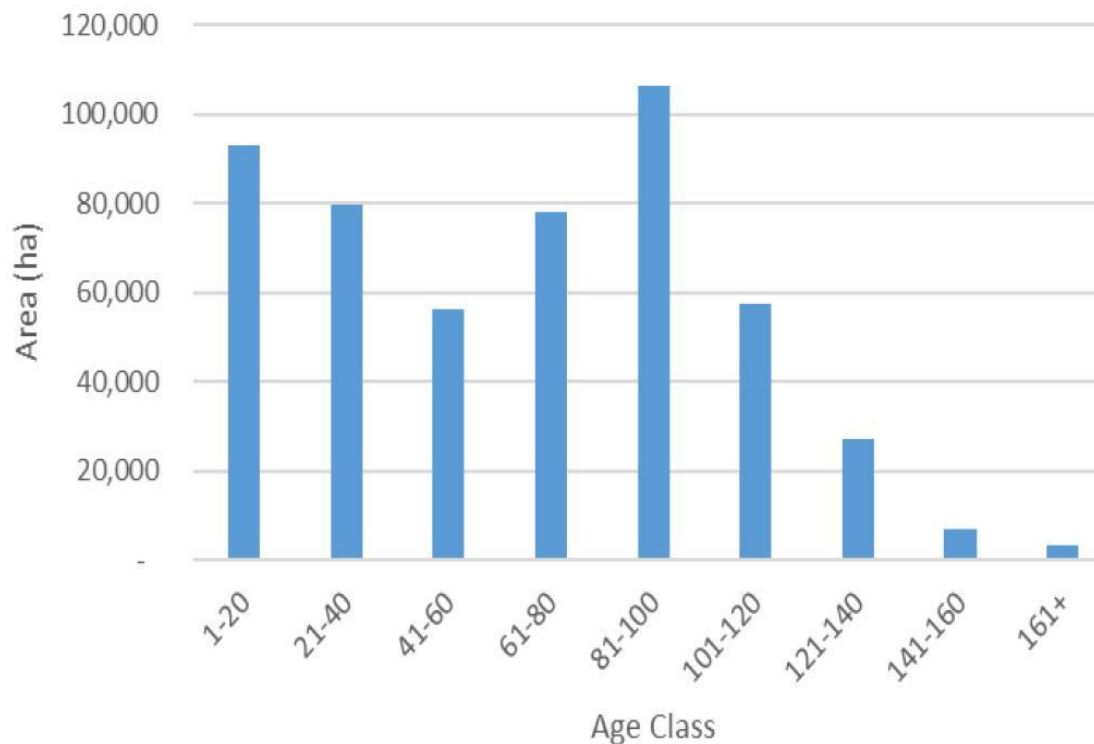
Figure 2 Proportional Area Managed Productive Forest by Forest Unit⁶



Major wood markets for spruce/pine/fir include RYAM (Chapleau and Cochrane), and EACOM (Timmins, Ostrum and Nairn Centre). Lesser volumes of sawlogs are delivered to Little John Enterprises (LJE) in Timmins. Small volumes of sawlogs were also delivered to Cheminis Lumber in Larder Lake and Liskeard Lumber in Elk Lake. Pulp quality conifer was utilized by the Resolute mill in Iroquois Falls (now closed) and Domtar in Espanola. GP Northwoods LP in Englehart is the major consumer of non-veneer poplar. Rockshield Engineered Wood Products ULC (Cochrane) utilized the poplar veneer. Lesser volumes of poplar were also utilized in the LJE mill in Timmins.

⁶ Forest Units are as follows: BW1=White Birch Dominated, LC1= Black Spruce/Cedar/Larch MW1=Jack Pine/Birch/Aspen MW2= Black Spruce/Aspen PJ1= Jack Pine, PJ2= Jack Pine/Black Spruce PO1=Poplar SP1=Black Spruce Lowland, SF1= Spruce/Fir/Cedar SP1=Spruce/Jack Pine, PWR=White Pine/Red Pine, OH1= Other Hardwoods BOG=Spruce Bog.

Figure 3. Proportion of Crown managed productive forest by age class.



Source: 2019 FMP

One Local Citizens Committee (LCC) is associated with the Forest (Timmins Local Citizens Committee).

The RMF encompasses the traditional territories of five First Nations (FN); Mattagami FN, Matachewan FN, Taykwa Tagamou FN, Wahgishig FN and Flying Post FN. The Métis Nation of Ontario (MNO) (Timmins) also has an interest in the Forest.

The Forest supports a diversity of wildlife species common to the Boreal Forest Region. Several Species at Risk (SAR) are associated with the RMF including; bank swallow, little brown myotis (bat), Blandings turtle, eastern cougar, bald eagle, and the woodland caribou. The 2019 FMP addresses woodland caribou habitat requirements in accordance with the Boreal Landscape Guide.

There are eight resource-based tourism (RBT) establishments, 67 traplines and 19 bear management areas associated with the RMF. Given its proximity to the City of Timmins, the RMF is actively used by the local and regional population for a wide range of recreational pursuits (e.g. hunting, fishing, cottaging, snowmobiling etc.).

The most significant natural disturbance event during the audit term was a 2012, wildfire (Timmins Fire # 9) which burned approximately 40,000 ha (9%) of the forest area. The fire destroyed several planned areas of harvest operation as well as areas where silvicultural work had been completed.

4.0 Audit Findings

4.1 Commitment

The Commitment Principle is deemed to be met since the Forest is certified under the Forest Stewardship Council (FSC).

4.2 Public Consultation and First Nations and Métis Community Involvement and Consultation

First Nations and Métis Communities

There are five First Nations (FN) and a Métis organization associated with the Romeo Malette Forest; Taykwa Tagamou Nation, Wahgoshig FN, Mattagami FN, Flying Post⁷ FN, Matachewan FN⁷ and the Métis Nation of Ontario (MNO).

Aboriginal Background information and updated values information were available for planning. MNRF met all FMPM requirements for notices and invitations to the involved communities to participate in the 2019 forest management planning process. Invitations were extended to participate on the FMP Planning team and representatives from Mattagami, Matachewan and MNO joined the team. The MNRF provided formal training opportunities to the communities throughout the planning process to assist in understanding the development of a Forest Management Plan (e.g. Long Term Management Direction, Ontario Landscape Tool). Communities were offered information sessions and opportunities for consultations at each stage of the Plan development. Open houses were held with the Mattagami, Wahgoshig and Matachewan FNs. We concluded that the MNRF Timmins District met its forest management planning obligations for consultation with FNs and Métis communities.

We concluded that RYAM (Tembec) met its contractual obligations related to the involvement of FNs and Métis communities in forest management benefits. Some examples include; a formal Long-Term Forestry Agreement (LTFA) with Taykwa Tagamou Nation's forestry business (Island Falls Forestry) has been in place since 2001, Mattagami and Matachewan FNs have been active participants in RYAMs Herbicide Alternative Program, and RYAM sponsors the Outland Youth Employment Program directed at indigenous youth.

Local Citizens Advisory Committee

There is one Local Citizens Committee (LCC) associated with the Forest (Timmins Local Citizens Committee (TLCC)). This is a standing committee with members appointed by the MNRF District Manager. The TLCC has a primary focus on the Romeo Malette Forest but also has involvement, to different degrees, with adjacent Forests (i.e.

⁷ The Flying Post and Matachewan FNs are engaged in Treaty Land Entitlement Negotiations with Ontario and Canada.

Abitibi River, Gordon Cosens, Timiskaming, Spanish, Pineland and Sudbury). In 2014 the Committee also assumed the responsibilities of the disbanded Gogama LCC.

The Committee membership represents a range of community interests, including FN and Métis members. Meetings are held approximately nine times a year and our sample of meeting minutes indicated there was always a quorum in attendance. While the committee is primarily focused on forestry (e.g. Annual Work Schedules (AWS), Annual Report (AR) amendments, FMP planning) other agenda topics such as fisheries and wildlife are routinely part of the agenda.

Our interviews with members indicate there is a good working relationship with both the MNRF and the SFL holder. Members were pleased with the efforts made by both organizations to respond to questions and concerns and provide timely and relevant information.

We note that the 2017 Terms of Reference for the LCC has yet to be approved by the District Manager. We do not provide a finding as the Committee is functioning effectively and meeting its mandate. It is also noteworthy that the District Manager(s) associated with this LCC regularly attended meetings. Based on our experience on numerous audits we have found that when the District Manager actively engages with his/her LCC it functions more effectively. The members also report that their voluntary participation has increased value.

LCC self-evaluations ranked their experience and effectiveness during the development of the FMP as a 7.4 and 8.4 out of a possible 10. The LCC statement⁸ for the 2019 FMP states: *“In general, the members of the Timmins LCC are in agreement with the Final 2019-2029 Forest Management Plan for the Romeo Malette Forest.”*

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

4.3 Forest Management Planning

The 2019 FMP was developed using the 2009 FMPM up to Stage Three – Review of Proposed Operations. The 2012 Audit recommendation regarding the terms of reference approval prior to the issuance of the public invitation to participate was addressed. The planning process for the development of the 2019-2029 Forest Management Plan met FMPM requirements. Representatives from two First Nations and a Métis community⁹ participated on the FMP Planning Team. The Local Citizens Committee (LCC) was engaged and effectively provided input into the planning process. There were delays in the development of the Long-Term Management Direction (LTMD) (Stage Two) and Information Centres (Stage Three and Four) due to issues related to the complexities of the spatial planning exercise. As a result of good cooperation amongst planning team members and the implementation of compressed review times

⁸ The FMPM requires a summary statement of the LCC position on the development and objectives of the FMP.

⁹ Matachewan FN, Mattagami FN and the Métis Nation of Ontario – Region 3

for certain plan products by the MNR, the final plan was approved on time and operations commenced on April 1, 2019. We conclude that the LTMD appropriately achieved an acceptable balance of objectives and indicators, was consistent with legislation and policy, appropriately considered direction in the forest management guides and provides for forest sustainability. There were no requests for Issue Resolution during the 2019 FMP planning process.

Patchworks¹⁰ (an MNR approved spatial model) and Ontario's Landscape Tool (OLT) were utilized for the development of the FMP. We concluded that the 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. The 2012 IFA recommendation to include the impact of silvicultural success results in strategic modelling exercise was completed. Base assumptions and constraints for management were detailed in the FMP and supplementary documentation. It is noteworthy that, in response to Timmins Fire # 9, assessments of its impact on wood supply were conducted by RYAM and the MNR Regional Office and the results compared to a Patchworks assessment on wood supply and biodiversity in preparation for Phase II planning. Under the Boreal Landscape Guide direction, it is unclear what the short and long-term impacts of the fire will be at this time.

Information sources for the development of the plan objectives and indicators included the past FMPs, Independent Forest Audits and FSC audits, Aboriginal Background Reports, MNR guides and planning directions, annual reports and submissions from the LCC and general public. Operational prescriptions for Areas of Concern (AOC) 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. The 2012 Audit recommendation to document changes to SGRs has been addressed.

Public consultation occurred at five stages during the preparation of the 2019 FMP. The requirements of the 2009 FMPM were followed for Stages One and Two and the requirements of the 2017 FMPM were used for Stages Three, Four and Five to the extent reasonably possible. As noted, the Terms of Reference production schedule was not met for the Review of Proposed Operations and the Review of the Draft Forest Management Plan. Despite the delays we concluded that public consultation requirements for the development of the FMP were met.

As required by the FMPM, all progress checkpoints and endorsements (e.g. planning inventory, management objectives checkpoint, LTMD checkpoint) were confirmed and documented in the Analysis Package. Planned operations met the intent of the LTMD.

¹⁰ Patchworks is a sustainable forest management optimization model that enabled the planning team to incorporate real-world operational consideration into the strategic planning framework and was used to assess the long-term potential of the Forest. The model simulation results in a spatial harvest allocation that meets the management objectives to the fullest extent possible.

FMPM requirements for the determination of available harvest volumes were developed with a Patchworks model function which maximized an even flow of wood volume under a suite of biodiversity indicators (Spruce-Pine-Fir and Poplar). For most species the committed volumes were achieved and the benchmark volume levels in the Regional Wood Supply Strategies were met for all species. Operational planning appropriately considered the most current values information, relevant guidelines (e.g. Ontario's Woodland Caribou Conservation Plan (CCP), *Forest Management Guide for Conserving Biodiversity at the Stand and Site Scales*) and public input.

Species at Risk (SAR) were appropriately considered during planning. Habitat descriptions, the application of guidelines and operational prescriptions are provided in the FMP text and supplementary documentation. Woodland Caribou is listed as a threatened species under the Endangered Species Act (ESA) (2007). The species is managed under the Forest Management Guidelines for the Conservation of Woodland Caribou: A Landscape Approach (MNR 1999), as well as the Ontario's Woodland Caribou Conservation Plan (CCP). The RMF includes a small portion of the Kesagami Caribou Range (31,000 ha) which is within the continuous caribou range. Due to the relatively small area designated, the Planning Team determined that the most appropriate way to address caribou habitat was to identify the objectives of the Dynamic Caribou Habitat Schedules (DCHS) in the Forests (i.e. Abitibi River Forest and Gordon Cosens Forest) immediately adjacent to the RMF caribou range and included the RMF portion of the range as an F Block in the Abitibi Rivers DCHS. The block is scheduled for harvest in the 2019 FMP and when harvested is expected to create a large contiguous block between the Forests consistent with the habitat objectives in the MNRF's *Ontario's Range Management Policy for Caribou* (2014). Simply stated the area is a preferred harvest area in the first period of the 2019 plan and an operational deferral for the duration of the planning horizon. The audit team concurs with the approach adopted given the relatively small area affected on the RMF. We concluded that the alignment of the RMF range with adjoining Forests is consistent with the CCP intent of large landscape planning for caribou (i.e. connectivity and long-term habitat supply).

Values maps were updated. Adequate funding was available for MNRF to collect values information. Public input with respect to values was also documented, verified and as appropriate incorporated in the maps. Area of Concern (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. Conditions of Regular Operations (CRO's) were also developed for habitat features which were not specifically identified as an AOC (i.e. dens and nests).

Four prescriptions were developed for tourism and cottaging lakes. No Resource Stewardship Agreements (RSA) were negotiated during the 2019 FMP planning process. In addition to the operational prescriptions, tourism values were protected through the application of the *Management Guideline for Forestry and Resource-Based Tourism* and the development and implementation of AOC prescriptions for accessed and remote tourism lakes where tourism operations exist.

Fifteen FMP amendments (14 administrative, 1 minor) and related revisions were approved during the audit period. All amendments were consistent with FMPM direction, FMP objectives, and were appropriately documented.

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

We conclude that forest management was planned in accordance with the requirements of the relevant FMPM and that FMP targets are consistent with the achievement of plan objectives and forest sustainability. It is our assessment that a quality FMP was produced.

4.4 Plan Assessment and Implementation

Harvest

For operations under the 2009 FMP areas harvested under the clear-cut system followed the direction found in the Forest Management Guide for Natural Disturbance Emulation (NDPEG). For lowland areas careful logging to protect advance regeneration and residual trees and facilitate seeding is the predominant silviculture system adopted. Since 2014 residual requirements were planned in accordance with the Forest Management Guide for Conserving Biodiversity at the Stand and Site Scales (Stand and Site Guide (SSG)). Guideline requirements for the provision of habitat for featured species and SARs were applied during operational planning based on site conditions and known habitat features.

During the first nine years of the 2009-2019 FMP, harvest levels achieved 78% of the planned area targets (Figure 4). Over the audit term 97% of the planned harvest volume for Spruce-Pine-Fir (SPF), and 73% of Poplar and White Birch has been utilized. Table 3 presents the actual vs. planned harvest area for 2012-2019. Table 4 presents a summary of the planned vs. actual volume utilization between 2012 and 2019. Improved yield information and the new enhanced Forest Resource Inventory has helped reduce the variance between planned and actual harvest volumes.

Salvage harvest operations were scheduled in 2012 to recover timber damaged by Timmins Fire # 9. A total of 457 hectares was salvaged and SFL conditions for salvage operations were met. Operations were curtailed due to significant levels of damage caused by the white-spotted sawyer beetle.

The field audit inspected 20% of the area harvested during the audit term. Our site inspections found that the harvest blocks were in accordance with the FMP and the applicable Annual Work Schedule (AWS). Residual tree retention within blocks was generally in accordance with the applicable guideline (e.g. NDPEG, SSG). The audit team did not observe any instances of significant environmental damage related to harvesting on the inspected sites.

Table 3 Actual vs. Planned Harvest Area by Forest Unit (2012-2019)

Forest Unit	Planned 7 Year Harvest (Ha)	Actual 6 Year Harvest (Ha)	Actual vs Planned %
BW1	2,989	2,381	80
LC1	4,454	2,132	48
MW1	1,158	759	66
MW2	3,665	2,240	61
MW3	1,979	1,399	71
PJ1	1,418	827	58
PJ2	893	532	60
PO1	2,908	2,056	71
SB1	2,460	1,581	64
SF1	2,081	1,654	79
SP1	5,721	4,085	71
Sub Total	29,726	19,646	66
2018/19¹¹		3,500	
Total	29,726	23,146	78

Source: 2012-2018 Annual Reports/Estimate 2018/19

¹¹ Estimate provided by RYAM.

Table 4 Planned vs. Actual Volume (000's m³) (2012-2019)

Species	Planned Volume (m ³)	Actual Volume (m ³)	Actual vs Planned %
Pw/Pr	0	76	
Pj	277,998	374,814	135
Sp	1,603,840	1,523,201	95
B	256,613	196,046	76
Ce	14,350	432	3
La	14,350	1,796	13
Conifer SubTotal	2,167,151	2,096,365	97
Bw	401,646	185,142	46
Po	690,935	609,136	88
OH	0	126	
Hardwood Sub Total	1,092,581	794,404	73
Total	3,259,732	2,935,969	90

Source: 2012-2018 Annual Reports/2018/19 iTREES

In general, wood utilization levels for SPF and poplar are relatively high.¹² White birch utilization is lower and historically there has been only sporadic markets for cedar and larch. Options were developed in the FMP to address utilization issues in instances where markets for hardwoods (particularly birch) and some conifer species (i.e. larch and cedar) are limited or did not exist or in instances where volumes of pulp-sized SPF is not marketable, or only portions of poplar stems could be merchandized. In these situations, the FMP commits RYAM, in consultation with the MNRF, to follow the requirements of the Northeast Region Operations Guide for Marketability Issues (2013). This guide was developed to allow harvest operations to deviate from normal utilization practices in some stands and to allow merchandizing for one log product type leaving the rest of the tree behind. Strategies in the guide attempt to minimize the amount of unmarketable species harvested and include the option to retain higher densities of merchantable trees and/or wood fibre on site in order to satisfy silviculture and habitat requirements or market related issues associated with a certain species or product. Other strategies include the avoidance of stands with poor quality hardwood, the

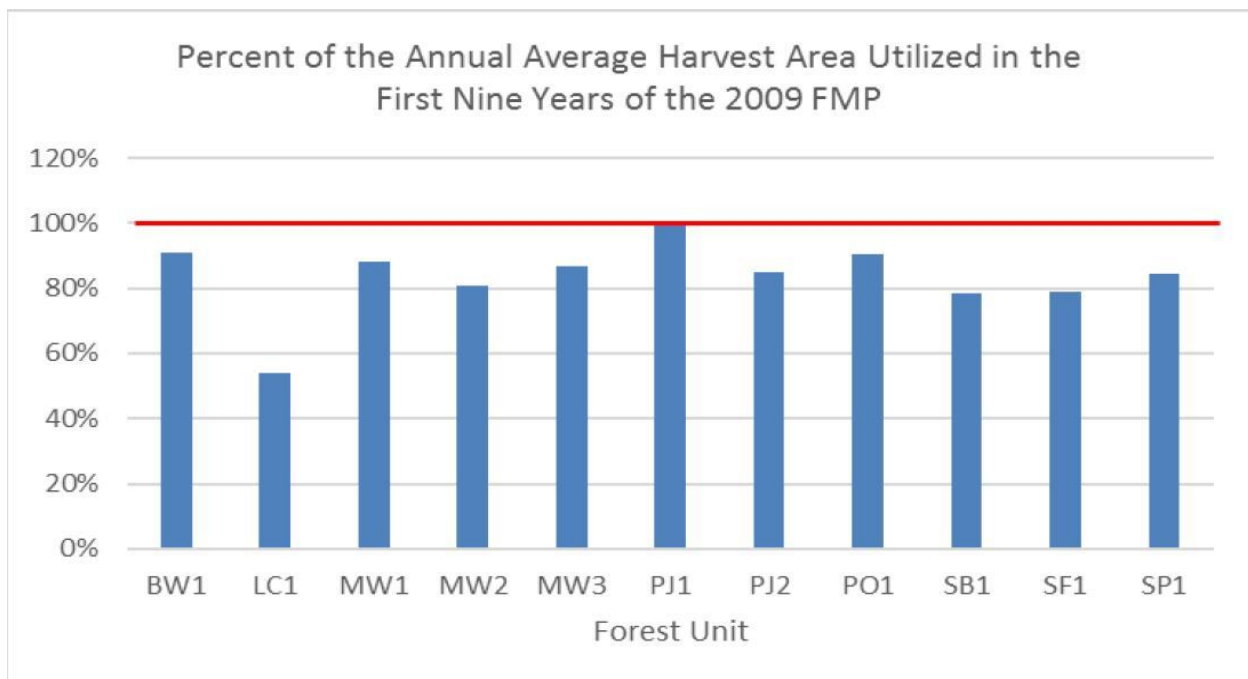
¹² The 2019 FMP indicates that the actual utilization of SPF and poplar in the 2009 FMP was 106 and 96 percent respectively after Year 7. White birch utilization was at 61% for the same period.

targeting of stands, the option to implement second pass harvests, deferred harvesting, and the minimizing the number of non-desirable species as residuals. Under the guideline up to 25 stems/ha may be retained within the harvest block. All other unmarketable trees that have been harvested must be brought to roadside in order that future silviculture work is not impeded and to facilitate potential future utilization of the timber. During the field audit we observed frequent instances where portions of poplar had been merchandized for veneer and the non-merchantable portions of the tree had been piled at roadside.

The 2012 IFA audit identified an issue with the inappropriate use of Careful Logging Around Advanced Growth (CLAAG) as a renewal technique on some ecosites. To address this concern FRI stand descriptions were confirmed by aerial reconnaissance and in instances where the understory was insufficient to meet regeneration requirements harvest contractors were instructed to employ a group seed tree prescription. During the field audit, we visited nine sites where CLAAG harvesting had been implemented and found that these sites are effectively well-stocked and free-to-grow.

All inspected harvest blocks were, on balance, properly implemented and were approved for operations in the Annual Work Schedules (AWS). Area of Concern prescriptions in or adjacent to harvest blocks were properly implemented.

Figure 4 Harvest Area Utilized by Forest Unit (2009-2018)



Source: Trends Analysis Report

Slash Management

The 2012 IFA provided a recommendation that Tembec increase its efforts to reduce the productive land area covered by slash and report on the implementation of its slash management program in Annual Reports (AR). Reporting and spatial information on slash management became an AR requirement beginning with the 2013-2014 report and was completed (in accordance with the direction) for each of the following years in the audit term.

The level of slash management implemented is based on RYAM's silviculture intensity matrix in FMP-21. The 2019 FMP modelling assumption for productive land loss is 3-4%. RYAM tracking indicates that the current losses are below this benchmark.

Slash piling was conducted utilizing mechanical site preparation equipment until 2014. After 2014, slash piling was still undertaken as part of the mechanical site preparation program with all piling being done by bulldozer. For areas harvested under cut to length operations slash is distributed over the cutover during operations. Some slash grinding/chipping operations were also completed. Other slash management strategies included the deliberate piling of slash piles on unproductive portions of landings and making hardwood slash available to the public for firewood.

The RYAM "*Strategy to Minimize the Loss of Productive Area*" does not identify slash burning or conversion of slash to hog fuel. The last instance of slash burning occurred in 2006-07. We note that the 2009 FMP stipulated that 2% of slash piles on elite and intensive silviculture blocks be left unburned to provide wildlife habitat.

Our assessment is that the intent of the 2012 IFA recommendation was met, and FMP objectives related to slash have been achieved.

Area of Concern Management (AOC)

AOC prescriptions to protect identified values were completed and implemented as required in the 2009 FMP. For the development of the 2019 FMP our interviews indicated there was appropriate information to meet planning requirements and the MNRF indicated there was adequate funding to collect values information. Prescriptions are included in the AWSs and reviewed for approval by the MNRF. AOC documentation included a section for an analysis of alternatives to protect the value should that be required. Public input with respect to values was appropriately documented, verified and incorporated on values maps (as appropriate). We randomly sampled AOC prescriptions in each AWS (total 15) and confirmed that they were in accordance with the appropriate MNRF guidelines. Our assessment is that values identification and the development of AOC prescriptions met all FMPM requirements.

The 2012 IFA provided a recommendation that the MNRF and the SFL holder jointly update information and procedures on stream classification and permanency. The intent of the recommendation was to resolve any discrepancies as part of Phase II operational planning and that was accomplished. The procedures in the 2017 FMPM and Forest Information Manual (FIM), and 2009 FMP Technical Specifications are followed between MNRF and RYAM when unidentified and incorrectly identified streams are encountered. Our assessment is that MNRF and RYAM actions meet the intent of the recommendation.

The 2012 IFA also included a recommendation that Corporate OMNR provide a summary of how wildlife monitoring information was collected provincially and applied to the 2009 FMP. In March 2014, a plan was completed and presented to the LCC.

Site Preparation (SIP)

During the audit term, SIP treatments achieved 103% of the planned target. Mechanical site preparation treatments overachieved the planned targets. Chemical site preparation treatments were lower than planned due to fewer sites requiring the treatment (Table 5). The Timmins Fire # 9 burned a number of areas scheduled for site preparation which negated the requirement for site preparation.

Table 5 Area (Ha) of Actual vs. Planned Site Preparation (2012-2019)

Site Preparation Treatments	Planned Ha	Actual Ha	Actual vs Planned %
Mechanical SIP	5,068	5,716	113
Chemical SIP	3,912	3,513	90
SIP Total	8,980	9,229	103

Source: Year 10 AR

SIP operations were by powered disc trencher. The areas we inspected exhibited good mineral soil exposure. There was no evidence of significant environmental damage arising from the operations.

Renewal

Renewal activities achieved 93% of the planned targets (Table 6). The area renewed exceeded the area harvested during the audit term (23,146 ha harvested vs 28,616 ha renewed).

Natural renewal treatments were implemented on approximately 64% of the area renewed. Natural renewal is typically prescribed for the renewal of hardwood dominated forest or conifer in lowland areas. In lowland areas, CLAAG was the predominant harvesting method and our inspections confirmed natural regeneration success on these sites. Overall, our inspections of harvest blocks managed for natural

renewal found the blocks well stocked to the desired tree species. In some instances, in portions of a block, lower stocking was observed. It is expected that natural ingress over time will increase stocking levels.

Artificial regeneration was implemented on the 32% of the area renewed. Our inspections of harvest blocks managed through artificial regeneration found that they were generally well stocked to the desired crop species. Sites with lower stocking densities are expected to achieve higher levels as the plantation ages through natural ingress.

One of the FMP forest diversity objectives is to increase the amount of White (Pw) and Red Pine (Pr) on the forest. During the audit term, an average of 51,196 Pw seedlings and 6,370 Pr seedlings were planted annually. The inventory of white pine seed for the RMF was depleted in 2014. Seed requirements were met from the adjacent Martel Forest, as such a finding is not provided.

Jack pine seeding occurred on 630 ha. Our site inspection of the treated site found the treatment was effective and a high stocking to jack pine had been achieved.

Table 6 Area (Ha) of Actual vs. Planned Renewal Treatments (2012-2019)

Renewal Treatments	Planned (Ha)	Actual Achievement (Ha)	Actual vs Planned %
Natural Renewal	21,400	19,410	91
Artificial Renewal – Plant	8,435	8,678	103
Artificial Renewal – Seed	893	528	59
Total Renewal	30728	28,616	93

All renewal treatments observed in the field were consistent with the SGRs.

Renewal Support

Species and genetic diversity were maintained through the management of local and genetically improved seed. With the exception of white pine seed collection,¹³ there was an active cone collection program during the audit term and other renewal support activities (i.e. planting stock production) were sufficient to meet renewal program requirements.

¹³ In the Timmins area good cone crops for white pine typically occur every 8-10 years

Tending

Planned targets for aerial tending were not achieved (84% of planned) with 11,414 ha being treated. The lower than planned level of achievement reflects fewer areas requiring competition control than forecast, and RYAM's FSC commitment to reduce the use of herbicides¹⁴. RYAM has addressed social concerns (and FSC certification requirements) related to the use of herbicides by reducing the concentration of active ingredient (ai.) utilized in spray treatments to better reflect the types and densities of competing vegetation on each specific site. Competition surveys are undertaken to direct chemical treatments to areas where herbicide treatments are most warranted and would yield the most benefit.

During the field audit we inspected 19% of the sites treated by aerial herbicide applications. On balance, the majority of sites exhibited adequate to good competition control. In areas where the treatment appeared to be less effective, factors such as the timing of the treatment, lower concentrations of active ingredient, and weather conditions may have contributed to the survival of the competing vegetation.

Protection

No protection programs other than monitoring functions were implemented during the audit term. Several natural disturbances were reported including insect damage (i.e. spruce budworm, forest tent caterpillar), disease (i.e. Septoria Leaf spot and canker), ice damage, blow down and small-scale wildfires. With the exception of Timmins Fire # 9, none of these events affected the implementation of the management plan.

Access Management

During the audit term, 47 kilometers (kms) of primary road and 260 kms of branch were road constructed. In general, primary access roads were well-built and maintained. Surface conditions on branch roads were variable reflecting the lack of operations and/or a reduction in maintenance due to economic conditions. Decommissioning of operational roads was undertaken to reduce the loss of productive land and prevent public access into protected areas. Decommissioning activities included ditching and berm construction. Our interviews with MNRF and RYAM staff indicated that the decommissioning efforts were generally successful in preventing vehicle traffic. Forty-eight water crossings were constructed, and eleven crossings were removed. We inspected thirteen water crossings, and found that, on balance, culvert and bridge installations were well-constructed.

¹⁴ RYAM implemented a Herbicide Alternative Program (HAP) in 2010. In addition to a reduction in the level of active ingredient sprayed other non-herbicide approaches have been adopted (e.g. use of larger planting stock, alternate SIP techniques etc.).

4.5 System Support

The 2019 IFAPP Human Resources Principle criterion were met through the FSC certification.

4.6 Monitoring

Compliance Monitoring

RYAM and Tembec prepared Compliance Plans in accordance with the Guidelines for Industry Compliance Planning. A summary of the Forest Operations Information Program (FOIP) shows that during the audit term the SFL holder(s) and MNRF completed 287 inspections. The SFL holder(s) completed 71% of the inspections and MNRF completed 29%. There were 7 Not in Compliance (NICs) findings resulting in an in-compliance rate of approximately 98%. It is noteworthy, that no NICs have been reported since 2014.

With such an excellent compliance rate, we investigated a sample of reported Operational Issues (10) during the audit¹⁵. Our assessment is that the SFL holder and MNRF District have worked proactively and cooperatively to identify issues, develop corrective remedies and follow up with targeted training with individual contractors or at annual training sessions.

The 2012 IFA included a recommendation directed at timely submission of FOIPs and training in Compliance Handbook requirements for overlapping licencees (OLs). Our document review and interviews produced evidence of training (e.g. annual training sessions) as well as ongoing MNRF and Tembec/Ryam meetings to address Compliance Handbook requirements when issues were identified. The OLs have been operating on the Forest for some time with experienced compliance inspectors. A sample of FOIP reports over the audit term (25) indicated that reporting approvals and timelines were generally met. Company updates on movements to and from harvesting blocks is reported to the MNRF on a weekly basis and MNRF staff indicated there were no serious issues with respect to reporting timelines or suspended blocks.

The 2012 IFA also included a recommendation directed at addressing outstanding/pending¹⁶ issues in the FOIP database. All pending issues were addressed cooperatively between the MNRF and Tembec in July 2013. Regular meetings are now scheduled to address backlogs if they are detected. Our review of FOIP data for pending issues determined that issues were addressed on a regular basis and no backlog exists.

¹⁵ For example, Inspection 275305 in 2013, 276566 in 2014, 279712 in 2019

¹⁶ When an operational issue is detected it is assigned a pending status until MNRF determines if it will be assigned corrective action or a "Not in Compliance".

Our assessment is that both the SFL holder and MNRF completed an appropriate number of inspections based on the harvest levels and the compliance history of the contractors. The level and focus of inspection activities generally reflects the directions in the RYAM and MNRF Compliance Plans. The 2012 IFA provided a recommendation that Corporate OMNR review compliance reporting requirements (i.e. in the FIM, FMPM and Forest Compliance Handbook) and provide additional guidance regarding the level of detail to be included in FOIP reports. A review was completed that concluded requirements and processes for reporting were effective, and that no changes were required. Our review of FOIP reporting during the audit term indicated that completed reports were comprehensive and understandable.

The MNRF and RYAM have experienced compliance staff with an excellent working relationship. They are regularly in the field, detect potential issues early and quickly address them. We credit these individuals for the excellent compliance record. Our assessment is that the compliance program fully met the requirements of the FMPM, Forest Compliance Handbook and FMP targets.

Monitoring of Silvicultural Activities

Silviculture assessments and other monitoring functions are summarized in the FMPs. Monitoring activities included Forest Operations Inspections, Assessments of Regeneration Success (Free to Grow (FTG), planting quality), and post-tending assessments. We reviewed evidence that monitoring programs were implemented.

Free to Grow Survey (FTG)

During 2009 FMP term, 32,102 ha were depleted and 5,754 ha (17%) were declared as successfully regenerated.¹⁷ The remaining area is either un-surveyed (25,721 ha) or declared not sufficiently regenerated (626 ha). Following renewal treatment(s) upland sites are scheduled for FTG survey in seven years and lowland sites in ten years. There was no backlog of areas requiring survey.

We note that for previous management plan terms high rates of renewal success were also reported (e.g. 2002- 98.9%, 1997 – 99.4%). The 2012 IFA recommendation to improve the accuracy of FTG stand delineation and stand attributes was met by pre-stratifying FTG working maps and/or treatment type prior to conducting FTG flights.

Our field sampling generally substantiated the stand descriptions and forest unit designations reported.

¹⁷ Data in the area reported in Table 2 (Area Below Regeneration Standards) and the area reported in the FTG survey as area remaining un-surveyed or declared NSR are not comparable. The differences in the reported areas occur because the FTG survey reports NSR land from 2009 FMP operations (e.g. area harvested since 2009 that has not been declared FTG) while Table 2 reports all area in the land base that is not FTG or recently depleted (i.e. includes un-surveyed areas from previous plans, NSR lands from previous plans).

Assessment of Past Silviculture Performance

Table AR-10 (Year 7 AR) indicates that at the time of the report preparation 5,024 ha had been harvested and 5,310 ha had been surveyed for regeneration success. Ninety-eight percent of the area surveyed was deemed successfully regenerated (5,206 ha).

Direction in the 2017 Forest Operations and Silviculture Manual (FOSM) requires that two assessments of regeneration be undertaken: 1) the assessment of establishment and 2) the assessment of performance. Tables in the Year 10 AR reflect this requirement. The reporting format required by the 2017 FMPM for the completion of AR-12, AR-13 and AR-14 requires the area declared FTG be used as a surrogate for the establishment area since the area reported as disturbed (harvest or natural disturbance) is currently being treated and has largely not been surveyed. For the 2009 FMP the area assigned was approximately 70% of the LTMD forecast. Without more establishment data to draw from we are unable to make conclusions or identify trends.

Silviculture Effectiveness Monitoring SEM)

The Northeast Regional SEM Strategy (2012) identifies the delivery of Core Task 1 as an essential component of the SEM program; that Core Task 2 is secondary to the Core Task 1 objective, which needs to be done in conjunction with or by a regional monitoring program. In reference to Core Task 4, the strategy simply states that the Districts should expend more effort on completing projects.

With respect to Core Task 3 (i.e. check of recent or current silvicultural operations), the Strategy identifies the task as a best practice and deemed work on Task 3 deliverables was better suited as part of the compliance monitoring program. Procedures for the delivery of the Task are not specified (e.g. sampling procedures, reporting specifications etc.). In spite of the reference to the positioning of Core Task 3 in the compliance monitoring program, we note that The Regional SEM policy direction with respect to Core Task # 3 (as a compliance monitoring function) is not supported in Provincial directions for FOIP or SEM. Neither the FMPMs, the Compliance Handbook or Timmins District Annual Compliance Plans reference FOIP inspections as a proxy for SEM investigations. Further, the 2012 (and all audit term) District Annual Compliance Plans state that *“Silviculture Effectiveness Monitoring (SEM) is recognized as an important piece of the District’s overall forest monitoring efforts but is not addressed as part of this compliance plan. SEM activities are planned separately based on regional direction which is issued annually. SEM surveys will not be recorded in the Forest Operations Information Program.”* We note that the NER SEM Strategy does not reference sampling or reporting procedures related to Core Task # 3, so it is not apparent as to how the results of Forest Operations Information Program (if collected) and the Silviculture Effectiveness Monitoring Program results were to be integrated or reconciled. We were not able to locate any evidence that this circumstance is fully understood within the MNRF. We had concerns with respect to the management and delivery of SEM Core Task 3. We concluded that the overarching finding on SEM would address our issues (Finding # 2).

Timmins District undertook SEM for six years of the seven-year audit term (no SEM monitoring occurred on the RMF in 2014/15). When silviculture effectiveness monitoring was conducted it was, for the most part, limited to Core Task 1. The 2012 SEM Report references Core Task # 3 work being completed under the auspices of a FOIP field check of an on-going renewal operation. FOIP inspections in 2012 and 2013 document FOIP field checks on tree planting operations and record very limited silviculture data (e.g. stocking densities) which could loosely support SEM program objectives. Silviculture information is not recorded in subsequent FOIP inspection reports of silvicultural field operations (2015, 2016 and 2018). These reports focus solely on the operational compliance of the activity (e.g. whether or not operations occurred within approved areas; the presence of spray notices etc.).

In our opinion the Core Task #3 work referenced in the 2012 District SEM report did not meet the intent of the Provincial Program as only stocking densities are reported and this information is based on a limited number of sample plots. We were unable to ascertain if the FOIP inspection results were utilized by the Regional SEM program. It is also unclear if this work was conducted under the direction of the NER SEM Strategy direction (per page 5) or contravened the District Compliance Plan which stipulates that that SEM work not be planned or recorded under FOIP.

The quality of SEM reports was variable, with several of the audit term reports not meeting the direction for documentation of Core Task 1. In some instances, documentation was incomplete and in general, there is a lack of critical analysis as to emerging trends in findings over successive years, or insight as to areas requiring further investigation (Finding # 2).

There are significant variances between SFL holder FTG survey results and MNRF Core Task 1 results in the 2016 report. All MNRF FTG surveys resulted in Not Sufficiently Regenerated (NSR) classification due to low stocking levels on harvest blocks with PO1, MW1, SB1, and SP1 Forest Units. In contrast, the SFL holder identified the blocks as either a Regeneration or Silviculture Success¹⁸ (indicating that minimum stocking standards were achieved). The NER Strategy document identifies “opportunities for an annual SEM information exchange meeting for both MNR and SFL staff to review results and lessons learned” as a Best Management Practice. Despite the significant variation in findings our interviews with the SFL holder and MNRF staff indicated that no discussions or efforts to reconcile data discrepancies have taken place since 2014/2015 (Finding # 2).

Exceptions Monitoring

The 2009 and 2019 FMPs indicate that there are no exceptions to the approved forest management guides and as such, exceptions monitoring was not required.

¹⁸ A regeneration success is when regeneration standards in the SGR are met, a silviculture success when regeneration standards and the Forest Unit in the SGR is achieved.

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. We inspected 23% of the area invoiced in the “*Forest Renewal Trust Specified Procedures Report*” (SPR) and confirm that FRT payments were for eligible silviculture work.

Monitoring of Roads and Water Crossings

Roads and water crossings are monitored through industry and MNRF FOIP inspections, during normal operations and in accordance with the direction in the FMP. Bridges on active haul routes are inspected once a year. Roads not used for timber operations are monitored on the basis of a risk assessment with emphasis on the values that could be impacted (e.g. fish habitat) and public safety concerns on a three-year basis (provided crossings are in place). We were provided with completed copies of RYAM’s annual Bridge Inspection Checklist (e.g. stringers, decking, railing/curb, abutment details, etc.).

A review of FOIPs related to Access indicated one Not in Compliance (NIC) in 2012 and two in 2013. Between 2013 and 2019 no incidences were reported. During the audit term there were no NICs related to maintenance activities.

Both RYAM inspections and MNRF compliance planning and monitoring had a focus on water crossings. MNRF reviewed water crossing installations, repairs and removals in accordance with the direction of a 2017 water crossing protocol negotiated with the federal government. In situations where culverts are plugged by beavers, RYAM has an arrangement with the local trapper’s association to remove the nuisance animals.

The FMP (Supplementary Documentation 6.1.15) provides direction on Primary, Branch, Operational and Existing roads that includes road identifiers, information on alternate corridors, an environmental analysis, use management strategies and monitoring. The RYAM Geographic Information System (GIS) maintains a database of roads and water crossings. Conditions on primary, branch and operational roads in relation to individual AOC prescriptions (e.g. reserves, nests, archaeological Areas) are provided in the FMP and AWSs.

During the field audit we visited two locations where roads were decommissioning by berms and ditching. Our assessment is that the work was generally effective in preventing vehicular traffic.

Aggregate Pits

During the field audit, we visited a sample of six operational aggregate pits and two pits that had been rehabilitated. The rehabilitated pits met all the required standards. Two of the operational pits did not meet the operational standards required for pits (i.e. steep sides and open test holes). As a result of this finding we enhanced our sample with the inspection of two additional operational pits. Those pits met operational standards. We

conducted additional interviews with respect to pit monitoring as well as reviewed training materials for contractors. While RYAM has a pit management program in place, and has provided training to its contractors, our sampling did reveal issues with one third of the operational pits inspected (Finding # 1).

Annual Reports (ARs)

ARs were available for each year in the audit scope except for the 2018-2019 AR, which is not required until November 15, 2019. As per IFAPP requirements a Year 10 AR was prepared for the audit in accordance with the requirements of the 2017 FMPM. The content of the reports met the requirements of the relevant FMPMs. The ARs were presented to the LCC as directed by the FMPM.

The 2012 Audit recommended that Tembec improve the quality of trends analysis in relevant annual reports. The Year 3, Year 7 and Year 10 Annual Reports were comprehensive and of high quality.

4.7 Achievement of Management Objectives & Forest Sustainability

FMP objectives are monitored annually and formally reported on in the Year Ten Annual Report. Appendix 2 provides more details on our assessment of plan objective achievement.

The following trends were identified in the Year 10 AR:

- Most of objectives have been met through the SFL holder's strategic long-term management.
- Silviculture treatments are achieving future forest units.
- Utilization was high for both conifer and hardwood species, continuing to support community stability and economic activity.
- Silviculture activities approached planned levels and are consistent with actual levels of harvest utilization.

The Report Author concludes that forest sustainability is not at risk from forest management activities and that planning objectives are meeting or are on track to maintain forest sustainability.

In our assessment 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 forest management plan. Our field site visits, document and record reviews and interviews also confirmed our sustainability conclusion. We conclude that the achievement of long-term forest sustainability as assessed by the IFAPP, is not at risk. Our conclusion is premised on the following:

- Forest management was planned and implemented in accordance with the Crown Forest Sustainability Act (CFSA) and FMP targets are consistent with the achievement of plan objectives and forest sustainability.
- Forest management modelling was sophisticated and demonstrated that the planned operations met the intent of the LTMD.
- FMP objectives and targets are being achieved or progress is being made towards their achievement.
- Silvicultural Ground Rules (SGRs) and Forest Operations Prescriptions (FOPs) were appropriate for the forest cover types and site conditions observed in the field.
- Regeneration efforts exceeded the level of harvest and an effective program is being implemented as observed during the field audit.
- FOIP records indicate a high compliance rate (98%).
- No instances of significant environmental damage attributable to forest management activities were observed during our site inspections.
- Recommendations from the previous IFA were satisfactorily actioned.

4.8 Contractual Obligations

We concluded that RYAM is substantially in compliance with the terms and conditions of the licence agreement with the exception of the requirement to meet Crown directed wood supply commitments as outlined in the SFL.

Appendix E of the RMF SFL outlines poplar veneer and non-veneer commitments to Rockshield Engineered Wood Products ULC (Rockshield) and GP Northwoods LP (GP) respectively. Poplar commitment volumes of 13,380 m³/year of veneer and 84,000 m³/year of non-veneer to Rockshield and GP respectively are outlined in Supply Agreements (SAs) between the Crown and the companies. An Overlapping Forest Resource Licence Agreement (OLA) between Tembec Industries Inc., and Little John Enterprises Ltd. outlines that all poplar veneer and non-veneer be made available to Rockshield and GP respectively. Information in the Annual Reports record that since 2014, approximately 5,000 m³/year of poplar fibre is being consumed at the Little John Enterprises Ltd. (LJE) Timmins facility. Our conclusion is that all veneer grade poplar and non-veneer grade poplar on the RMF was not made available to Rockshield and GP as directed in the OLA (Finding # 3).

The Supply Agreement between Rockshield and the MNRF outlines that an MOA be negotiated between the SFL holder and Rockshield within six months of signing the SA. No MOA is in place (Finding # 4).

During our discussion with an Overlapping Licensee and Timmins District staff, concern was expressed regarding the upcoming expiry date of the SFL (March 31, 2023). They noted that the short term remaining in the SFL may cause economic instability in the forest industry sector. Concern was also expressed that, although the three past IFAs had recommended an extension to the SFL term no action had been taken to extend the licence. We share this concern, but do not provide a finding as it is understood that the IFA recommendation on licence extension is only a component of the Minister's consideration for the extension of the SFL.

The IFAPP requires auditors to assess the effectiveness of the actions developed to address the recommendations of the previous audit. The audit team confirmed that the recommendations have been appropriately addressed.

4.9 Concluding Statement

It is our assessment that the RYAM and the MNRF have done a good job of managing the Forest. The forest management planning process for the development of the 2019 FMP met all legal and regulatory requirements which resulted in the production of a quality FMP. Our field observations and document reviews revealed the implementation of an effective silviculture program with an excellent compliance record. A high level of cooperation and good communications amongst MNRF and RYAM staff resulted in the production of a quality Forest Management Plan which meet the Terms of Reference schedule for approval and implementation.

The audit team did identify some shortcomings with respect to the delivery of the forest management program;

- The SFL holder did not consistently meet operational standards for aggregate pits (Finding # 1).
- The Regional and Timmins District Offices did not consistently meet the direction and intent of the SEM program (Finding # 2)
- There were irregularities in adherence to wood supply directives as outlined in the supporting SAs, MOAs and OLAs (Findings # 3 and # 4).

The audit team concludes that the management of the Romeo Malette 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 (SFL) # 550398 held by Rayonier Advanced Materials Canada G.P. 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 4: Plan assessment and implementation

Criterion: Verification of the actual results of operations in the field ...and compliance with laws and regulations.

Procedure(s): 4.7 Access

...aggregates and any other access activities must be conducted in compliance with all laws and regulations...

Background information and summary of evidence:

The operational standards for the extraction of aggregate resources for Forestry Aggregate Pits is documented in the Forest Management Plan and the Forest Management Planning Manual.

During the field audit we inspected six operational pits and an additional two pits which had been rehabilitated. Four of the operational pits were in compliance with the standard and two did not meet operational standards.

Discussion:

Sampling indicated that one third of the inspected operational forestry aggregate pits did not meet FMP and FMPM standards during the audit term.

Finding # 1:

Operational standards for forestry aggregate pits were not consistently met.

Independent Forest Audit – Record of Finding

Finding # 2

Principle 6: Monitoring

Criterion: 6.3 Silvicultural Standards Assessment Program

Procedure(s): Assess whether the management unit assessment program (SFL and MNR District) is sufficient and is being used to provide the required Silviculture Effectiveness Monitoring.

Background Information and Summary of Evidence:

The NE Regional Silvicultural Effectiveness Monitoring Strategy (2012) states “*it is important that the MNR as stewards of the Crown Forest corroborate SFL results*”. In reference to the SEM program Recommendation # 4 of the 2012 Auditor General Report of Ontario stated “*To ensure the SEM program adequately assesses the effectiveness of industry reported renewal efforts in regenerating Crown Forests, the MNR district offices should complete all core tasks as outlined in the program and follow-up with forest management companies on sites found not to have met the free-to-grow criteria to ensure that companies subsequently took appropriate remedial regeneration measures.*” The 2001 SEM manual states that “*foresters from industry and the MNR should examine whether certain treatments are meeting expectations and if they are not they should investigate why the treatments were not successful and make appropriate modifications in the future.*” In response to the Auditor General recommendation, MNR Regional Operations Division committed to “*take steps to improve the completion rate of the core tasks prescribed under the SEM program.*”

The Core monitoring tasks include:

Core Task 1: Verify the free-to-grow results reported in a recent SFL Annual Report.

Core Task 2: Conduct field surveys to determine if stand composition has changed since the FTG declaration and confirm blocks are tracking towards the expected future forest condition.

Core Task 3: To improve core competencies and understanding of silviculture systems and treatment packages, conduct field visits to view current or recent silviculture activities.

Core Task 4: Participate in a project to assess a forest unit or silviculture activity requiring attention or investigation.

The NER SEM strategy paper identifies the delivery of Core Task 1 as an essential component of SEM program; that Core Task 2 is secondary to the Core Task 1 objective, which needs to be done in conjunction with or by a regional monitoring program. SEM Core Task 3 (check of recent or current silvicultural operations) was identified as a best practice and was deemed to be better suited as part of the compliance monitoring program. The direction is at odds with the Provincial direction on FOIP, SEM and the Districts Annual Compliance Program. Neither the FMPMs, or the Compliance Handbook, reference FOIP inspections as a proxy for formal SEM investigations and/or analysis. District Annual Compliance Plans state “*Silviculture Effectiveness Monitoring (SEM) is recognized as an important piece of the District’s overall forest monitoring efforts but is not addressed as part of this compliance plan. SEM activities are planned separately based on regional direction which is issued annually. SEM surveys will not be recorded in the Forest Operations Information Program.*” Elements of Core Task 3 functions were not specified or described in the Strategy paper (e.g. sampling procedures, reporting specifications etc.). With respect to Core Task 4 the strategy indicates that the Districts should expend more effort on completing projects.

The Timmins District Office completed SEM for six years of the seven-year audit term but primarily limited its monitoring efforts to the delivery of Core Task 1. Some Core Task 3 work is referenced in the 2012 District SEM report but only stocking densities are reported on a limited number of plots. With that exception, there is no evidence that Core Tasks #'s 2, 3 and 4 were completed during the audit term.

The quality of District SEM reporting was variable, with several audit term reports not meeting the direction for Core Task 1 reporting. In some instances, the reports were incomplete, and in general, there was a lack of critical analysis as to emerging trends in findings over successive years, or insight as to areas requiring further investigation.

There are significant variances between SFL holder FTG survey results and MNR Core Task 1 results in the 2016 report. This is partially due to the different assessment techniques used by each party. The SFL completes aerial assessments to determine FTG status while the MNR completes ground assessments by establishing randomly selected plots. All MNR FTG surveys resulted in Not Sufficiently Regenerated (NSR) classification due to low stocking levels on harvest blocks with PO1, MW1, SB1, and SP1 Forest Units. In contrast, the SFL holder identified the blocks as either a Regeneration or Silviculture Success¹⁹ (indicating that minimum stocking standards were achieved). The NER Strategy document identifies “*opportunities for an annual SEM information exchange meeting for both MNR and SFL staff to review results and lessons learned*” as a Best Management Practice. Despite the significant variation in findings our interviews with the SFL holder and MNR staff indicated that no

¹⁹ A regeneration success is when regeneration standards in the SGR are met, a silviculture success when regeneration standards and the Forest Unit in the SGR is achieved.

discussions or efforts to reconcile data discrepancies have taken place since 2014/2015.

Discussion:

The Regional SEM strategy recognizes the necessity to collaborate SFL holder silviculture results and verify that minimum and average levels of regeneration are being achieved to meet the targeted inputs as specified in the FMP. Simply stated, the effectiveness of forest operations prescriptions in achieving the desired forest unit must be understood to provide reliable information for forest management planning (e.g. development of SGRs, SFMM inputs, FMP objectives). Information collected through the SEM Core Tasks assists in the determination/assessment of the extent to which regeneration efforts meet the regeneration standard. The information also aids in the assessment (over time) of the effectiveness of the SFL holder silviculture program, conformance of silviculture activities with the FMP and forest sustainability.

The Timmins District Office completed SEM for six years of the seven-year audit term but primarily limited its monitoring efforts to the delivery of Core Task 1. Some Core Task 3 work is referenced in the 2012 District SEM report but only stocking densities are reported on a limited number of plots. With that exception there is no evidence that Core Tasks #'s 2, 3 and 4 were completed during the audit term.

We are concerned that the assignment of Core Task 3 by the NER to a forest compliance monitoring function. The Regional SEM policy for Core Task # 3 is not supported in Provincial directions for FOIP or SEM. The FMPMs, the Compliance Handbook and District's Annual Compliance Plans do not reference FOIP inspections as a proxy for SEM investigations. Further, it is not apparent as to how the results of Forest Operations Information Program (if collected) and the Silviculture Effectiveness Monitoring Program were to be integrated or reconciled.

Sampling discrepancies can be expected and attributed to differences in the sampling methodologies, staff experience, etc. We are concerned with the magnitude of discrepancies reported in some instances and that follow-up discussions with respect to significant variances in data did not occur between the MNR and SFL holder (for a significant portion of the audit term) given the stated intent of the SEM program. Our field sampling (visual assessments) generally substantiated the stand descriptions and forest unit designations reported. The limited and extensive sampling strategy adopted for the IFA is not intended to replace or reconcile differences between the more intensive survey methodologies utilized by the MNR or SFL holder.

Finding # 2:

The Northeast Regional Office and the Timmins District Office did not fully meet Silviculture Effectiveness Monitoring program direction on the Romeo Malette Forest.

Independent Forest Audit – Record of Finding

Findings # 3 & 4

Principle 8: Contractual Obligations

Criterion: 8.1.2 Wood Supply Commitments

Procedure(s): Determine whether wood supply commitments and any special conditions have been complied with, including completing any required MOAs or sharing arrangements.

Background Information and Summary of Evidence:

Appendix E of the RMF SFL requires the SFL holder to make wood available to the Rockshield Engineered Wood Products ULC (Rockshield) Cochrane facility and the GP Northwoods LP (GP) Englehart facility through a Memorandum of Agreement (MOA) in accordance with the application of Supply Agreements (SA).

The Supply Agreements identify the following target volumes from the RMF: 13,380 m³/year of poplar veneer to Rockshield (dated December 5, 2005 and amended April 1, 2018) and 84,000 m³/year of non-veneer poplar and 58,000 m³/year of non-veneer birch to GP dated February 2, 2011.

A MOA dated June 1, 2013 was negotiated between Tembec (previous SFL holder) and GP North Woods LP. No MOA has been signed between Rockshield and the SFL holder as directed in the SA.

On September 14, 2015, an Overlapping Forest Resource Licence Agreement (OLA) was signed between Tembec Industries Inc., and Little John Enterprises Ltd. (LJE) for the right to harvest wood fibre from the RMF. Sections 15 and 16 of the OLA supported the SA commitments by stipulating the direction of wood fibre to various wood processing facilities. Sections 16.1 and 16.2 outline that all veneer grade poplar be made available to Rockshield, and that all OSB grade poplar and birch be made available to GP.

The MNR has issued Licences to Harvest Forest Resources (#553716 and #553231) to Little John Enterprises Ltd. since April 2015. Section 3 of the license states the *“disposal of forest resources harvested under this licence will be as directed by the Sustainable Forest Licence holder to meet the wood supply requirements set out in Appendix E of the Sustainable Forest Licence and other requirements of the Sustainable Forest Licence, as originally signed or amended...”*. Section 9 (3) of the Licence states that *“prior to measurement of the harvested forest resources, the licensee must identify the destination where the forest resources are to be processed.”*

Approximately 5,000 m³ of poplar has been utilized in the LJE facility in Timmins annually, starting in 2014 while poplar veneer commitments to Rockshield are not

being met. The audit team could not find any documentation supporting the direction of poplar volume for processing at the LJE facility.

Discussion:

The utilization of poplar veneer and non-veneer in the LJE facility in Timmins does not meet the intent of the Overlapping FRL Agreement (and subsequent amendments) between Tembec Industries Inc and LJE dated September 14, 2015. The review of Amendments to the Overlapping Forest Resource Agreement confirm no change to the above direction of wood fibre. Information in the Annual Reports record that since 2014, approximately 5,000 m³/year of poplar fibre is being consumed at the LJE Timmins facility.

Finding # 3:

All veneer grade poplar was not made available to Rockshield Engineered Wood Products ULC as directed by the Overlapping Forest Resource Licence Agreement between the Sustainable Forest Licence holder and Little John Enterprises Ltd.

Finding # 4:

A Memorandum of Agreement has not been signed between Rockshield Engineered Wood Products ULC and the Sustainable Forest Licence holder as required by Supply Agreement #536235 dated April 1, 2018 (as amended). The target volume of 13,380 m³/ year of poplar veneer as outlined in the Supply Agreement has not been met.

Appendix 2
Management Objectives Table

2009 FMP OBJECTIVES	ASSESSMENT OF OBJECTIVE ACHIEVEMENT (MET, PARTIALLY MET, NOT MET)	AUDITORS COMMENTS
Forest Diversity		
To develop, over time, a forest with characteristics which, to the extent possible, resemble those of a fire-driven boreal forest at both the stand and landscape level while providing for provincially and locally featured species habitat and species at risk habitat.	MET	<p>An annual average of 51,196 white pine seedlings have been planted.</p> <p>The red pine target has been exceeded with an average of 6,370 seedlings being planted each year of the audit term.</p> <p>Featured species and SAR habitats were maintained.</p>
Social and Economic		
Conduct forestry practices in a manner such that all resource users may gain benefits from forest access roads, while recognizing that compromises need to be made to ensure the viability of resource-based activities.	MET	<p>The Forest is well accessed, and resource users gain benefits from the forest access roads network. Prescriptions are in place to protect resource-based tourism operations. The LCC endorsed the FMP.</p>
To supply industrial and consumer needs while maintaining forest sustainability to realize a predictable, continuous and consistent flow of roundwood from the Romeo Malette Forest.	PARTIALLY MET	<p>Harvest volume targets were generally achieved in the modelling process for the development of the LTMD. During the audit term harvest volume (m³) targets were achieved for SPF, Poplar (Po) and fuelwood. Targets were not met for white birch (Bw) and cedar due principally to prevailing market conditions.</p> <p>Utilization forecasts were met for RYAM, EACOM, Little John Enterprises, and GP Northwoods (Po).</p>

2009 FMP OBJECTIVES	ASSESSMENT OF OBJECTIVE ACHIEVEMENT (MET, PARTIALLY MET, NOT MET)	AUDITORS COMMENTS
		Utilization forecasts were not met for Rockshield and GP Northwoods (Bw).
To ensure that the available forest is protected from sustained deforestation or conversion to other uses and to ensure that a balance is maintained between utilization and rejuvenation.	MET	The FMP provides for forest protection and ensures a balance is maintained between harvest utilization and renewal. The area renewed exceeded the area harvested during the audit term.
Social		
Maintain the participation of the Timmins Local Citizens Committee throughout the development/implementation of the 2009-2019 FMP.	MET	The LCC was actively engaged during the planning process and is involved in plan implementation. In a self-evaluation the committee scored its effectiveness as 8.4 out of 10.
Silviculture		
To provide for the long-term health and vigour of Crown forests by-using forest practices that, within the limits of silvicultural requirements, emulate natural disturbance patterns and landscape patterns.	MET	FTG information indicates that the forest is being successfully renewed. NDPEG and SSG requirements were met during harvest operations. AOCs appropriately protected identified values. There were no instances of significant environmental damage observed on the sites inspected during the field audit. Silvicultural Ground Rules and Forest Operations Prescriptions were

2009 FMP OBJECTIVES	ASSESSMENT OF OBJECTIVE ACHIEVEMENT (MET, PARTIALLY MET, NOT MET)	AUDITORS COMMENTS
		appropriate for the site conditions observed.
Provision of forest cover for those values that are dependent on the Crown forest.		
To provide for a range of quality resource-based tourism and recreation opportunities in response to demand, while maintaining forest sustainability and ensuring the protection of other values on the land base.	MET	FMP planning and AOC prescriptions adequately protected resource-based tourism values. No Not in Compliance findings were associated with resource-based tourism operations.
Minimize the impacts on water quality and aquatic habitat within areas of harvest, renewal and access operations.	MET	AOCs adequately protected water quality and aquatic habitat. During the field audit no incidents of significant environmental damage were observed.
Ensure the protection of other values on the land base.	MET	FMP planning and AOC prescriptions adequately protected other identified values. No Not in Compliance findings were reported for other values on the Forest (e.g. Aboriginal values, SAR habitat).
Qualitative Objectives		
Slash Management Strategy - IFA Tembec and MNR to work cooperatively to find cost effective methods for treating slash on lowland sites.	PARTIALLY MET	No burning of slash has occurred since 2005. Slash pile burning is not included in the 2019 FMP. Other slash management treatments have been

2009 FMP OBJECTIVES	ASSESSMENT OF OBJECTIVE ACHIEVEMENT (MET, PARTIALLY MET, NOT MET)	AUDITORS COMMENTS
		implemented including piling and making slash available as fuelwood to the general public. The area of productive forest land loss to roads and slash is currently below the FMP target benchmark.
Tembec to implement its 2007 Regional Integrated Pest Management Strategy aimed at reducing the use of pesticides through judicious planning and application techniques.	MET	A Tembec Regional Integrated Pest Management Strategy supporting Tembec's commitment to reduce its use of herbicides has been developed. Competition surveys are undertaken to direct chemical treatments to areas where herbicide treatments are most warranted and would yield the most benefit. Other alternative practices have been implemented to control competition.

Appendix 3
Compliance with Contractual Obligations

Payment of Forestry Futures and Ontario Crown charges.	Forestry Futures and Crown Charges were paid.
Wood supply commitments, MOAs, sharing arrangements, special conditions.	Wood Supply Commitments to Rockshield Engineered Wood Products ULC facility in Cochrane, Ontario were not met (Finding #3) and poplar veneer and non-veneer was not made available to Rockshield and GP Northwoods LP as directed by an Overlapping Forest Resource Licence Agreement. Also, no MOA was negotiated between the SFL holder and Rockshield as directed in Supply Agreement # 536235. (Finding # 4). It is noteworthy that during the audit term facilities were closed or idled in Timmins, Cochrane, Englehart and Rutherglen.
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. 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.	All required surveys and data collection were completed as required and in accordance with FIM requirements.
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.	Salvage harvest activities (Timmins Fire # 9) were conducted in the summer of 2012. SFL salvage conditions were met. A total of 51,165 m ³ of SPF and 6,905 m ³ of hardwood was harvested.
Protection of the licence area from pest damage, participation in pest control programs.	Pest management activities were not required during the audit term.
Withdrawals from licence area.	There were no withdrawals from the license area. There was an addition of the Grassy River Halliday Lake Forest and Lowlands reverting back to ownership (increasing

	slightly the available managed Crown Productive Forest).
Audit Action Plan and Action Plan Status Report prepared.	An Audit Action Plan and Action Plan Status Report were prepared.
Payment of forest renewal charges to Forest Renewal Trust (FRT).	There are no outstanding FRT charges.
Forest Renewal Trust eligible silviculture work.	Our field investigations verified that payments out of the Trust 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 \$2,274,400 was maintained in each year of the Audit term. As of April 2019, there was a surplus in the account.
Silviculture standards and assessment program.	Silviculture assessment work was completed annually.
First Nations and Métis opportunities.	A large number and variety of opportunities were made available.
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.
SFL forestry operations on mining claims.	SFL forestry operations on mining claims were in compliance with requirements.

Appendix 4

Audit Process

Appendix 4 Audit Process

The IFA consisted of the following elements:

Risk Assessment: A risk assessment was completed in April 2019 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 acceptance on April 9, 2019.

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 RYAM, MNRF Timmins District, Northeastern Region MNRF Office, Forestry Futures Trust Committee and the LCC Chair in April 2019.

Public Notices: Public participation in the audit was solicited through the placement of a notice in the Timmins Daily Press and on the Postmedia website. A random mailing (email and regular mail) to 100 individuals/organizations listed on the 2019 FMP mailing list was also conducted. All Indigenous and Métis communities with an interest in the Forest were contacted by mail to participate and/or express their views. Indigenous community leaders received several follow-up calls and/or e-mails.

All LCC members received emails and follow-up telephone calls with an invitation to participate in the audit process. Harvest contractors were invited by letter to participate in the field audit or provide comments to the audit firm.

Field Site Selection: Field sample sites were selected randomly by the Lead Auditor in June. 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 the RYAM. The sample site selections were reviewed by RYAM and MNRF District Staff during a teleconference on June 14, 2019.

Site Audit: The audit team spent 8 days on the RMF in July conducting the field audit, document and record reviews and interviews. The field audit was designed to achieve a minimum 10% of the forest management activities that occurred during the audit term (see the IFA Field Sampling Intensity on the RMF below). A sample of the areas invoiced in the “*Forest Renewal Trust Specified Procedures Report*” (SPR) was also inspected to verify conformity between invoiced and actual activities²⁰. The field inspection included site-specific (intensive) and landscape-scale (extensive helicopter) examinations. The Closing Meeting was held on July 29, 2019.

²⁰ Fiscal year 2017-2018.

Not every hectare of the area sampled is surveyed, as this is not feasible. Individual sites are initially 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, 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.

Table 7 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 FSC certification met IFAPP Principle 1 criterion.
2. Public Consultation and FN/Métis Community Involvement & Consultation	5	0	0	2	
3. Forest Management Planning	27	0	4	31	
4. Plan Assessment & Implementation	4	0	0	8	
5. System Support	N/A	N/A	N/A	N/A	The FSC certification met IFAPP Principle 5 criterion.
6. Monitoring	10	1	10	9	6.4 Findings support auditor conclusion.
7. Achievement of Management Objectives and Forest Sustainability	0	0	0	12	
8. Contractual Obligations	5	0	0	23	

Table 8 IFA Field Sampling Intensity on the RMF

Activity	Audit Term Total Area (Ha) / Number	Planned Sample Area (Ha)/Number	Actual Area (Ha)/Number Sampled	Number of Sites Visited	Percent Sampled
Harvest	23,146	2,314	5,335	19	23
Renewal - Planting	8,678	867	2,455	27	28
Renewal - Seeding	528	52	88	3	17
Natural Renewal	19,410	1,941	1,888	20	10
Site Preparation - Chemical	3,513	351	959	12	27
Site Preparation - Mechanical	5,716	571	1,264	15	22
Tending	11,414	1,141	2,167	27	19
FTG	26,894	2,689	3,398	10	13
Water Crossings (# of Crossings)	48	5	5	13	27
Aggregate Pits (# of Pits)	40	4	4	8	20
SPA Activities ²¹	3,802	380	864	10	23

Source: RYAM Forestry Shapefiles/Annual Reports

Summary of Consultation and Input to the Audit

Public Stakeholders

Public participation in the audit was solicited through the placement of a public notice in the Timmins Daily Press and an associated internet site. The notice directed interested individuals to contact the audit firm with comments or complete a survey questionnaire on forest management during the audit term on the Arbex website.

One hundred individuals/organizations on the FMP mailing list received a letter or an email invitation soliciting comments on the management of the RMF during the audit term. One response was received.

An additional sample of stakeholders (six) were contacted directly by telephone. Comments were received from resource-based tourism operators and anglers and hunters. All respondents indicated that they had been made aware of the FMP

²¹ 2017-2018 Annual Report

processes and opportunities to engage in the planning process were provided. Some specific concerns/comments expressed to the audit team included:

- Concern with proximity of harvest to a cottager's road.
- Desire for more consultation with cottagers with respect to maintenance of access roads.

MNRF

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

- Pleased with the working relationship with RYAM.
- Felt the LCC was a valuable addition to management on the Forest.
- The certification of staff (two) as compliance inspectors will ease workload issues across the Timmins District.
- MNRF forest management program was negatively impacted by the transformation process and budget constraints.
- Concern was expressed that three past IFAs recommended an extension to the SFL term, but the term has not been extended.

RYAM

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

- Pleased with working relationship with MNRF.
- Feel they are benefitting from having experienced overlapping licencees on the Forest.

LCC Members

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

- Content with the relationship with RYAM and MNRF.
- Concerned about the difficulties associated with attracting new members to the LCC.
- Pleased that the MNRF District Manager is engaged with the LCC.
- Sometimes feel there is not enough time to fully study amendment requests.

First Nations & Métis Communities

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:

- Desire for greater participation and sharing of forest management benefits.
- Concern with the use of herbicide.
- Concern with cumulative effects of some forest management activities on the Forest (e.g. increasing road density, slash management etc.).

Overlapping Licencees (OLs)

OLs were sent an email inviting their participation in the audit and inviting comment on forest management activities during the audit term. One response was received.

- Good working relationship with SFL holder in forest management and operations.
- Pleased with RYAM adoptions of progressive technologies which has improved harvest volume forecasts
- Concern was expressed that three past IFAs recommended an extension to the SFL term, but the term has not been extended.

Appendix 5
List of Acronyms Used

List of Acronyms Used

a.i.	Active ingredient
AHA	Available Harvest Area
AOC	Area of Concern
AR	Annual Report
AWS	Annual Work Schedule
BW	White Birch
B.Sc.F.	Bachelor of Science in Forestry
CCP	Caribou Conservation Plan
CFSA	Crown Forest Sustainability Act
CRO	Conditions on Regular Operations
DCHS	Dynamic Caribou Habitat Schedule
ESA	Endangered Species Act
FFTC	Forestry Futures Trust Committee
FN	First Nation
FOIP	Forest Operations Information Program
FOP	Forest Operations Prescription
FOSM	Forest Operations and Silviculture Manual
eFRI	Enhanced Forest Resource Inventory
FMP	Forest Management Plan
FMPM	Forest Management Planning Manual
FFTC	Forestry Futures Trust Committee
FRT	Forest Renewal Trust
FRMA	Forest Roads and Maintenance Agreement
FSC	Forest Stewardship Council

FTG	Free-to-Grow
FU	Forest Unit
Ha	Hectares
HAP	Herbicide Alternatives Program
IFA	Independent Forest Audit
IFAPP	Independent Forest Audit Process and Protocol
KM	Kilometer
LCC	Local Citizens Committee
LJE	Little John Enterprises Ltd.
LTMD	Long Term Management Direction
m ³	Cubic Metres
MNO	Métis Nation of Ontario
MNRF	Ministry of Natural Resources and Forestry
MOA	Memorandum of Agreement
NER	Northeast Region
NDPEG	Natural Disturbance Pattern Emulation Guide
NIC	Not in Compliance
PO	Poplar
OL	Overlapping Licence
OLA	Overlapping Licence Agreement
OLT	Ontario's Landscape Tool
R.P.F.	Registered Professional Forester
RMF	Romeo Malette Forest
RSA	Resource Stewardship Agreement
RYAM	Rayonier Advanced Materials Canada G.P.
SAR	Species at Risk

SEM	Silviculture Effectiveness Monitoring
SFL	Sustainable Forestry Licence
SFMM	Strategic Forest Management Model
SGR	Silvicultural Ground Rule
SIP	Site Preparation
SPF	Spruce/Pine/Fir
SPR	Specified Procedures Report
SSG	Stand and Site Guide
TLCC	Timmins Local Citizens Committee
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 & 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 42 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	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 42 IFA audits.
Riet Verheggen R.P.F. Arbex Associate	Silviculture and Contractual Compliance	Determination of the sustainability component. Review and inspect silvicultural practices and related documentation. Review and inspect documents related to contractual compliance.	B.Sc.F. 25 years of experience in natural resource management, policy development, and auditing. Previous work on 1 IFA.