



MARTEL FOREST

**Independent Forest Audit
April 1, 2012-March 31, 2017**

Final Report

**ArborVitae Environmental
Services Ltd.**

Figure 1

January 8, 2018

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1.0 EXECUTIVE SUMMARY

This Independent Forest Audit (IFA) assessed the management of the Martel Forest for the period April 1, 2012 to March 31, 2017, which encompasses years two through six of operations under the 2011-2021 FMP as well as the development of the Phase II Planned Operations that came into effect April 1, 2016. This audit reviewed the performance of the SFL-holder, Tembec¹, and the Ministry of Natural Resources and Forestry (MNRF). The audit was carried out by a team of four professionals, each with a wealth of experience in forest management.

The auditors conducted two days worth of site inspections and interviewed members of the Local Citizens Committee (LCC), Aboriginal community representatives and staff members of Tembec and the MNRF. Approximately 30% of the harvest and renewal operations were viewed, as well as 13% of the tended area and 11% of the area assessed as free-to-grow (FTG). The quality of the operations was high and the compliance system that the Company and MNRF have in place has been effective at maintaining this quality. The auditors had a concern that the management of slash and mid to low-grade hardwood on the forest allowed for significant losses of productive forest area and this resulted in two findings.

Operations on the Martel have been profoundly affected by the lack of hardwood markets, with the exception of veneer. The former Weyerhaeuser OSB mill just north of Wawa was converted to a pellet plant by Rentech during the audit period. Expectations were high that the plant would take a great deal of low grade fiber from the forest, particularly in the south end, however the plant was delayed in its start-up, was plagued by problems, and closed early in 2017. While the plant may be sold and re-started, its demise means that hardwood use is going to be a continuing challenge on the Forest, which includes the question of managing roadside slash.

Another area of concern was the management of the LCC, which is the responsibility of the District Manager. The auditors wrote a two-part finding in this regard, stemming from the very limited scope for the LCC's activities afforded by the District. Recruitment efforts have not been overly successful during the audit period and the audit team feels that the MNRF needs to make participation on the LCC more attractive to entice new membership.

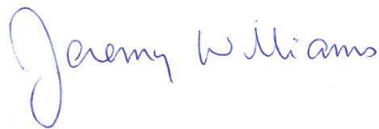
The audit resulted in 12 findings covering a variety of concerns. A number of the findings were related to challenges associated with monitoring and the availability of information. The MNRF has been changing over the past decade and a number of findings reflect situations where parts of the management system have not kept up. There has also been a great deal of change amongst the five First Nations with an interest in the Martel Forest. They have significantly increased their capacity and interest in participating in numerous ways in forest management and in the sector. MNRF and Tembec have been supportive, and a Best Practice was issued to Tembec for its comprehensive and strategic approach. The Audit Team also awarded Tembec a Best Practice for the thoughtful and effective manner in which it introduced a new technology to all of its operators – the approach taken to the introduction was successful in gaining acceptance by all operators and avoiding human resources challenges.

The overall results of this audit are favourable and the level of performance by the MNRF and the Company was high during the audit period. The Company has substantially met the

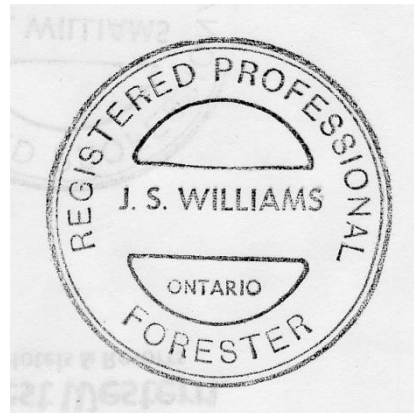
¹ As of November 20, 2017, the forest management company is known as Rayonier Advanced Materials Inc. The audit pertains to the period of time when Tembec held the SFL for the Martel Forest and managed that forest.

obligations in its SFL and is adhering to the direction in the FMPM. Management of the Martel Forest as implemented by Tembec and Chapleau District MNRF is found by this audit to be sustainable and in compliance with the Crown Forest Sustainability Act.

The audit team concludes that management of the Martel Forest was generally in compliance with the legislation, regulations and policies that were in effect during the term covered by the audit, and the Forest was managed in compliance with the terms and conditions of the Sustainable Forest Licence held by Tembec. The forest is being managed consistently with the principles of sustainable forest management, as assessed through the Independent Forest Audit Process and Protocol. The audit team recommends the Minister extend the term of Sustainable Forest Licence #550390 for a further five years.



Jeremy Williams
Lead Auditor



2.0 TABLE OF AUDIT FINDINGS

Concluding Statement on Licence Extension	
<p>The audit team concludes that management of the Martel Forest was generally in compliance with the legislation, regulations and policies that were in effect during the term covered by the audit, and the Forest was managed in compliance with the terms and conditions of the Sustainable Forest Licence held by Tembec. The forest is being managed consistently with the principles of sustainable forest management, as assessed through the Independent Forest Audit Process and Protocol. The audit team recommends the Minister extend the term of Sustainable Forest Licence #550390 for a further five years.</p>	
Findings	
1.	<p>a) More effort and a wider range of approaches are required on the part of Chapleau District MNRF to support the growth and retention of a diverse LCC.</p> <p>b) The Chapleau District MNRF has not provided sufficient opportunities to address the LCC's broader interests in forestry and forest management beyond planning and plan implementation.</p>
<p>Best Practice #1: Tembec's approach to Aboriginal engagement, the provision of support for communities, and initiatives to reduce the use of herbicide in forest management is outstanding and merits recognition as a best practice.</p>	
2.	Initiatives and activities that contribute towards achievement of the goals of Condition 56 are often undertaken in other parts of the Ministry and the accounting of them is ignored or under-represented in the Condition 56 reports.
3.	Available information on the thermal status of many streams was inadequate for sufficient AOC planning, leading to many requests to extend the timing window for water crossing installations.
4.	The Chapleau District MNRF has not maintained records of consultation with the LCC on all administrative amendments issued over the audit period, and has not formalized its approach with the LCC regarding the automatic categorization of specific types of amendments (e.g. ORB adjustments and the addition of AEAs).
5.	The Company did not monitor some winter water crossing installations and upgrade them where necessary in the following spring.
6.	<p>a) Chapleau District MNRF's approach to approving slash pile burning operations is perceived as being so restrictive that the Company did not conduct any slash pile burns on the Martel Forest during the audit period.</p> <p>b) The Company is not minimizing the amount of productive area lost to roadside slash and unused wood.</p>
7.	Basic information about the tree improvement sites on the Martel Forest is not adequately documented in the FMP.
<p>Best Practice #2: Tembec's introduction and implementation of the Opti-tracker motion capture technology for monitoring feller-buncher movement through cut blocks was very effective and sensitive to the human resource challenge of technology change.</p>	
8.	MNRF Chapleau District has not provided a comprehensive description of how it intends to implement its forest compliance monitoring efforts, as suggested in the Forest Compliance Handbook.

9. Tembec is not using FOIP properly to track operational issues.
10. MNRF NE Region is not providing the technical support to allow forest managers to complete the determination of forest disturbances required for the Year 7 annual report.
11. Tembec is not collecting the information required to enable assessment of the target of maintaining or reducing the road density on the forest.
12. The SFL Manager has experienced difficulties in conducting comprehensive and long-term assessment of forest change on the Martel Forest because there is no guidance or tools provided by Corporate MNRF to enable forest managers to deal with the challenges created by changes in factors such as landbase area and forest unit definitions that limit their ability to conduct a comprehensive and long-term assessment of forest change on their respective management units.

3.0 INTRODUCTION

3.1 AUDIT PROCESS

The Crown Forest Sustainability Act (CFSA), and one of its Regulations (160/04), directs the Minister of Natural Resources and Forestry (MNR) to conduct regular audits of each of the province's managed forests. This Independent Forest Audit (IFA) was undertaken by ArborVitae Environmental Services Ltd. using a four-person team. Profiles of the team members, their qualifications and responsibilities, are provided in Appendix 6.

The IFAs assess compliance with the CFSA, the Forest Management Planning Manual (FMPM) and the forest management plan (FMP) and consider whether the licensee has complied with the terms and conditions of its Sustainable Forest Licence (SFL), #550390. The effectiveness of operations in meeting plan objectives and improvements made as a result of prior IFA results are also to be evaluated. Consistent with the CFSA, the Independent Forest Audit Process and Protocol (IFAPP) requires the audit team to provide a conclusion regarding the sustainability of the Crown forest and a recommendation regarding extension of the term of the SFL.

This audit covers the period April 1, 2012 – March 31, 2017, which spans years two through six of the 2011-21 FMP and includes the development of the Phase II Planned Operations that came into force April 1, 2016. The audit examined all forest operations that occurred within that period as well as the process of developing Phase II of the FMP. The auditors solicited public input using newspaper advertisements and by asking the LCC members to encourage their constituencies to comment. Only one comment of a very general nature was provided.

An important characteristic of the IFAs is that they review the performance of both the MNR and the SFL-holder, which is Tembec. The MNR has many responsibilities related to forest management, including review and approval of key documents (including the FMP, annual reports, annual work schedules, etc.), overseeing management of non-timber resources, undertaking compliance inspections, etc. In other words, the activities and accomplishments of both parties with forest management responsibilities are covered by the audit.

The IFAPP document provides direction regarding the scope and process of the audit. This year the IFA process was modified to include a screening of the risk associated with approximately 75 of the 170 audit procedures. Risk is considered as a composite of the likelihood that a procedure would have a finding associated with it and the impact of a non-conformance on the sustainability of the forest. As a result of this screening, five of the optional procedures were selected to be audited. Greater detail regarding how the audit process was followed, the approach used in the risk assessment and the results, and the operational sampling intensity can be found in Appendix 4.

The auditors interviewed more than half of the LCC membership at the time of the audit, and representatives of Michipicoten First Nation, Brunswick House First Nation, the Métis Nation of Ontario (MNO) and Wabigoon. All five First Nations with an interest in the Martel Forest were contacted to invite input into the audit. Appendix 4 also provides more a detailed listing of the comments and discussion points raised by the members of the LCC and Aboriginal reps who were interviewed.

3.2 MANAGEMENT UNIT DESCRIPTION

The Martel Forest is centred on the town of Chapleau, which is located north of Sault Ste. Marie, west of Timmins and east of Wawa. Highway 101 runs east-west through Chapleau and Highway 129 runs south to Thessalon (**Figure 1**). Chapleau is heavily dependent for employment on the forest sector.

There are several First Nations communities located within the Forest – Chapleau Cree, Chapleau Ojibwe and Brunswick House First Nations. In addition, Michipicoten and Missanabie First Nation have an interest in the Forest. With the exception of Chapleau Ojibwe, these First Nations initiated the Northeast Superior Regional

Chiefs Forum which has advanced the interests of the communities in terms of tenure and benefits – the membership of the Forum has varied somewhat over the years as Brunswick House and Michipicoten have been in and out of the Forum at various times. The Métis Nation of Ontario also has asserted rights on the Forest.

There are three separate Treaty Land Entitlement (TLE) processes underway that have the potential to affect the landbase. A TLE agreement has been reached between the Missanabie Cree and the provincial and federal government that will remove approximately 950 ha from the managed landbase – the area was removed from consideration of forest operations in the 2011 FMP and has yet to be formally removed from the Forest. The Chapleau Ojibwe First Nation has settled a TLE which has resulted in no removal of land from the Forest. The Chapleau Cree First Nation has settled a TLE and as a result, the provincial government is in the process of transferring 4000 ha of the Forest to the federal government for additional reserve land for the First Nation. This area was removed from consideration of forest operations in the Phase II planning of the 2011 FMP and has yet to be formally removed from the Forest landbase.

The current Martel Forest was created in 2006 through the amalgamation of the Superior Forest and the J.E. Martel Forest. The amalgamation was enabled by the sale of the Chapleau sawmill from Weyerhaeuser to Tembec. Between 2001 and 2006, the Superior Forest was managed under a separate SFL and FMP, while the J.E. Martel portion was managed under the Pineland-Martel FMP but the SFL for the Martel portion was separate from the Pineland Forest SFL.

The Martel Forest is relatively large, with a total area of 1.19 million ha. This includes 51,900 ha of patent and federal land and 139,955 ha of unmanaged Crown land (parks, conservation reserves, etc). The unmanaged Crown land includes numerous provincial parks (Five Mile Lake, Wakami Lake, Missinaibie Lake, The Shoals, Potholes, and four river-based parks, the largest two being the Wenebagon River and Chapleau-Nemegosenda River Waterway Parks).

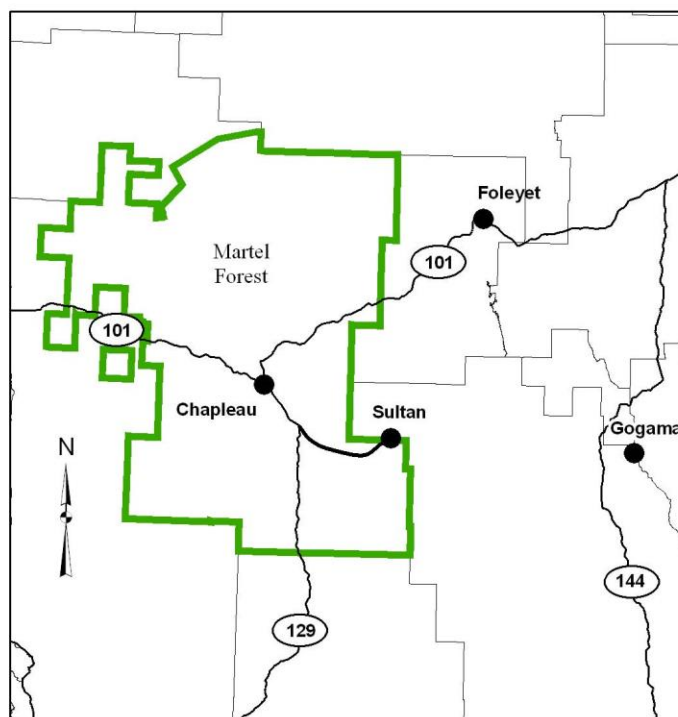


Figure 2. Map of the Martel Forest.

There are also three conservation reserves. In addition, the Martel Forest also contains more than half of the Chapleau Crown Game Preserve, which extends north from Chapleau. During the last ten years, Aboriginal hunting and trapping has been allowed in the Game Preserve. Tourism, including hunting and fishing, is a major part of the local economy.

The Crown managed forest is the area available for timber operations, and Table 1 summarizes this area by broad land class.

Table 1. Managed Crown Land in the Martel Forest (From Table FMP-1, Phase 1 2011 FMP)

Land Class	Managed Crown Land (ha)
Water	74,524
Non-forested Land	6,824
Non-productive Forest ^a	53,991
Productive Forest ^b	864,078
Total	999,417

a – areas incapable of growing commercial trees, such as muskeg, rock, etc.

b – forest areas capable of growing commercial trees.

The Forest is largely located within the Lake Abitibi Ecoregion (3A) which tends to have short warm summers and long, cold and snowy winters. The Ecoregion is located on the Precambrian shield and there are extensive sand and gravel outwash plains in the eastern part of the Forest, with more rugged and rocky terrain in the balance of the forest, especially in the northwest. The forest supports predominantly conifer and mixedwood forest, with jack pine being most prominent on the outwash plain area. The forest is quite productive, and some 12-15% of the poplar volume is veneer quality, with considerable variation among stands. Moose, marten, beaver and black bear are prominent mammals, with many other boreal species also found in the Forest (e.g. lynx, wolf and fisher).

Almost all of the spruce-pine-fir (SPF) harvested from the Forest is used by Tembec's sawmill in Chapleau. Poplar veneer is used at the Levesque plywood mill in Hearst (owned by Columbia Forest Products). Non-veneer poplar and birch is sometimes used by the Georgia Pacific Northwoods Oriented Strandboard (OSB) mill in Englehart and Domtar's pulp mill in Espanola but demand is difficult to predict and relatively low compared with the amounts present on the Martel Forest.

4.0 AUDIT FINDINGS

This audit provides a series of findings regarding issues of non-compliance and/or the need to improve the effectiveness of forest management. The findings are described in detail in Appendix 1. Best practices are identified where exemplary approaches have been observed.

4.1 COMMITMENT

The commitment principle is deemed to be met since the Martel Forest is certified under the Forest Stewardship Council's National Boreal Forest Standard. The audit team had extensive engagement with Company and MNR staff throughout the audit and found them to be highly committed and knowledgeable regarding provincial forest management requirements in general and management of the Martel Forest in particular.

4.2 PUBLIC CONSULTATION AND ABORIGINAL INVOLVEMENT

Local Citizens Committee

The LCC appears to be functioning well, despite its small size (7 members), approving required amendments, reviewing Annual Work Schedules (AWSs) and Annual Reports (ARs), and providing feedback on aspects of the implementation of the Phase I plan. However, there was no LCC representative on the planning team during the Phase II planning process, despite numerous invitations by the MNRF to join. Comments from LCC members interviewed indicated a lack of interest, primarily due to the level of effort required.

A recommendation was made in the 2012 IFA related to LCC recruitment and diversification of membership. To date, the bulk of the effort to recruit new members has been focused on word of mouth by LCC members. These efforts have not been enough to grow the overall membership of the LCC, or increase the diversity of members to include more balance in interests represented. The cause of low recruitment is likely a function of complexity of the forest management planning process (and lack of training), whether local concerns could truly be addressed through the stringency of the forest management planning process, the lack of sufficient incentives to participate, as well as time and availability to attend meetings. These issues are also concerns for some existing members on the LCC. Several LCC members interviewed found the level of MNRF support for recruitment to be lacking. **Finding # 1** reflects the audit team's opinion that the Chapleau District MNRF could do more to support the existing LCC and provide a more attractive foundation for the growth of a diverse LCC.

LCC members interviewed were satisfied with the quality of information presented by Tembec (e.g. AWS, AR updates, etc.), and Tembec was noted to be prompt in answering questions and following up where more information was required. However, several LCC members expressed concern regarding the lack of information provided by the MNRF regarding issues important to members, particularly wildlife population status and herbicide application. **Finding # 1** also addresses this point.

Engagement with Indigenous Communities

During the audit period, there have been various levels and forms of engagement on the part of MNRF and Tembec with the five First Nations that have an interest in the Forest, as well as with the MNO. There is a long history of engagement between Aboriginal people and staff of District MNRF and Tembec. There was quite a good level of involvement in Phase II planning by the communities, which is meaningful given the deep misgivings that many Aboriginal people have regarding the resource management paradigm implemented on the Martel Forest.

The social landscape has changed dramatically in Chapleau during the past ten years. Tembec now contributes a very significant amount of funding to Aboriginal communities and organizations in the Chapleau area, and the auditors were told that Goldcorp, which is developing a new mine in the area, provides significant funding. MNRF provided funding to support values collection and the establishment of a Lands and Resources position at Brunswick House First Nation, but MNRF's ability to provide funding is now quite low compared to that provided to the other two organizations. Even more significant has been the degree of institutional development within and among First Nations, and the MNO. The Northeast Superior Regional Chiefs Forum (NSRCF) has been active throughout the audit period in developing the mechanisms and relationships needed to support a greater level of participation in land and resource management, revenue sharing, and benefits from participation in the forest sector. The NSRCF membership has varied somewhat during the audit period but has generally included three to four of the area First Nations.

Tembec has developed a multi-pronged strategic engagement plan and also chosen to work with Aboriginal communities to develop a comprehensive plan to bring about major reductions in herbicide use over the long-term. Their approach to Aboriginal engagement is identified as **Best Practice # 1**. The District MNRF has also been active in engaging with the Aboriginal communities and has provided support above and beyond the traditional approach taken by MNRF. The audit team suggests that District MNRF would be able to increase the impact of its involvement and perhaps be able to access additional resources by considering what a broad engagement strategy would look like that would play to MNRF's strengths.

The audit team reviewed the Condition 56 reports prepared annually by the District MNRF². These reports are intended to describe the actions that contribute to meeting Condition 56 of the Declaration Order MNRF-75 issued by the Ontario Ministry of the Environment and Climate Change. The formatting of these reports changed throughout the audit period, growing less informative and more difficult to read, and the guidance on report content coupled with changes in how MNRF delivers initiatives meant that many activities undertaken by other levels of the Ministry that contribute to achieving the goals of Condition 56 received little or no mention. **Finding # 2** reflects this situation.

4.3 FOREST MANAGEMENT PLANNING

During the audit period, the Phase II Planned Operations were developed. The Year 3 Annual Report had concluded that the Long-Term Management Direction (LTMD) of the 2011 FMP remained substantially valid, despite the relatively low level of harvesting undertaken compared with planned (i.e. 39% on an area basis during the first three years of the FMP).

The Conditions on Regular Operations (CRO's) were reviewed and some were added, including for snowmobile trails, mapped recreational trails, blocks adjacent to hydro right-of-ways, and stands with unique or rare species (i.e., white pine). Species at risk were reviewed and no new species at risk were identified as known to occur on the Forest, however new Areas of Concern (AOCs) were added to account for species at risk that may be encountered on the Forest. There were no changes made to the Forest Operations Prescriptions (FOPs) however there were some adjustments made to two Silvicultural Ground Rules (SGRs) to manage cedar in a manner that better considered Aboriginal concerns.

When SGR's for a block are revised due to the post-harvest conditions warranting an adjustment, the changes are reported in the Silvicultural Ground Rule Update Layer, which is one of the several "information products" that are submitted along with the Annual Report. The auditors observed that the Forest Information Manual (FIM) AWS tech specs (page 63) speak to SFL holders having to maintain hard copies of changes to FOPs and suggests that electronic copies of the certification pages be included with the AWS submission. This is a rather curious requirement, since the SGR changes are recorded with the Annual Report, not in the AWS. While this requirement suggests that there should be a separate certificate page prepared and submitted with the AWS, Tembec staff no longer maintain a separate certification page and their changes are reported in the manner described above that meets FMPM requirements.

² In 2015, Declaration Order MNR-75 was passed, which meant that Condition 34 in the previous Declaration Order was amended and became Condition 56 in MNR-75. In years up to and including 2014-15, MNRF produced Condition 34 reports which described annual progress in meeting the condition; from 2015-16 onwards, these became known as Condition 56 reports.

Planned levels of renewal and tending for the Phase II term (2016-2021), and the associated renewal expenses, had to be adjusted to reflect the lower level of actual harvest during Phase I. Treatment levels were reduced to approximately 63% of what was proposed for the first five years of the FMP.

The development of the Phase II Plan went smoothly and on schedule, and there were no requests for issue resolution or individual environmental assessments. Many of the plan reviewers were also on the planning team or were advisors, however with the large number of people involved in the plan, there are few other people who are knowledgeable enough to be qualified independent reviewers.

There have been 23 amendments to the 2011 FMP since April 1, 2012. Twenty-two amendments were administrative, and one was categorized as a minor amendment. Most amendments were related to operational road and aggregate planning. In most circumstances, records were available of LCC consultation with respect to the classification of the amendments. However, some gaps exist in the MNRF's formalization of automatic administrative amendment categorization. Refer to **Finding # 4**.

All of the AWSs prepared during the audit term were done so in general accordance with the requirements of the 2009 FMPM. Descriptive text regarding the planned harvest and renewal was included and the required tables and geospatial information products were produced, however discussion comparing the actual area intended for harvest to the area allocated, by forest unit, was not provided in most of the AWSs, contrary to requirements of the 2009 FMPM. The AWSs do provide text explaining the level of slash piling that is expected to take place, since piling is limited to sites where higher levels of silviculture intensity are employed. Road construction and aggregate pit management is also discussed, however the AWS text did not identify which roads were scheduled to be subject to access controls or which pits were scheduled to undergo rehabilitation, as required by the FMPM.

A total of 37 revisions were requested, processed, and approved for the five AWSs that were in effect over the 2012-17 audit period. The most common revisions permitted changes to water crossing structures and/or their locations, and additional aggregate extraction areas, site preparation areas, and harvest blocks (to replace other blocks). There were also many requests from the Company to extend the timing window for water crossing installation because the window is narrow for cold/cool water streams. Since the thermal status of many of the streams on the Martel Forest is unclassified, the Company needs to assume they are cold/cool water. **Finding # 3** addresses this deficiency.

4.4 PLAN ASSESSMENT AND IMPLEMENTATION

As described above, the level of actual harvest is well below the planned amount. During the first five years of the plan period (including the first four years of the audit period), the actual harvest area was 38% of planned, and the 2016-17 harvest was at a similar level. Actual vs. planned harvest volume was at a like proportion. The main limitation on the harvest was the poor market for all hardwood products except veneer, which was steady throughout the audit period. However, the Company was challenged to find users for the remainder of the hardwood harvest and during much of the audit period, applied the NER Hardwood Utilization Guidelines. These guidelines outline operational standards that balance the need to continue harvesting poplar, and to a lesser extent, white birch, to provide veneer with the challenges created by the non-marketability of the remaining part of the harvested trees, and the non-veneer trees in the

stand. The Guidelines prescribe minimum characteristics of the residual stand that will enable renewal to be successful in creating the desired future forest type.

Under the Guidelines, Tembec avoided harvesting hardwood and hardwood-leading mixedwoods unless a high veneer component was present. The intention had been that the Rentech pellet facility would operate in some of these stands, taking material that had been left at roadside and removing the excess standing hardwood residual, however Rentech's activity levels were below expected levels. Its start-up was plagued with difficulties and considerably delayed. Once it started, the mill took some wood from the Martel Forest in 2014-15 and 2015-16, however the facility closed in early 2017 and its future is in question at the time of writing.

Given the hardwood situation, the harvest operations on the Forest were generally well-executed. Utilization was good, there was negligible site damage for the most part, negligible damage to residuals, and sufficient residual standing timber and patches left. Residual timber met the Regional Utilization Guidelines in blocks with a considerable amount of hardwood.

The prescriptions for Areas of Concern were implemented well in most cases. There were three crossings with problems observed during the audit. One of these was a location where work on a water crossing was done during the winter and the Company did not follow up in the spring to confirm that the installation was up to standard, leading to **Finding # 5**.

Tembec has been adhering to its slash management strategy, as set out in the FMP, and responded to the recommendation in the previous IFA by reporting on its slash management activities in the annual reports. The hardwood situation described above contributes to large amounts of mid and low-grade hardwood and slash being left at roadside on many blocks, especially those with a relatively high hardwood component. Tembec has a goal of managing the slash on approximately one-third of its harvest areas and did so on 67% of the harvest areas during the audit period, an over-achievement. During the audit period, slash management has largely meant piling, although Rentech did some roadside chipping and grinding during the 2014-16 timespan. No slash pile burning was undertaken during the audit term.

The FMP sets a target of losing no more than 3.28% of the block area to roads and landings; and describes as a best practice keeping roads and landings to less than 4% of block area. These targets include slash, according to Tembec staff. The auditors' ocular estimate is that slash piles accounted for an additional 2-3% of block area on average and, where slash was unpiled, the area of the block affected was about twice as high. The audit team concludes that Tembec's scope for managing slash is restricted by the MNRF's limited *de facto* timing window for slash pile burning, however, Tembec's approach also accepts excessive productive area losses due to slash. This resulted in **Finding # 6**.

Tembec's silvicultural program was affected by the lower than planned harvest level. During Phase I of the FMP, the amounts of area mechanically site prepared, planted and identified for natural renewal were approximately 35% of planned. The amount of artificial renewal implemented was slightly higher than the natural renewal as a proportion of planned (38% versus 35%), since the sites that were harvested were more conducive to planting or seeding. The amounts of area chemically site prepped and seeded were disproportionately higher, at 45% and 63% of planned, respectively. These results reflect the availability of area for seeding and a growing tendency to use chemical site prep on sites where the ground is less suited to mechanical site prep. Chemical site prep has the added advantages of being less costly than mechanical site prep and its use may eliminate the need for post-planting tending application.

A significant proportion of the renewal program relies on natural regeneration through the protection of advanced growth and layering, leaving seed trees, relying on natural seeding, and coppice growth. Careful Logging Around Advanced Growth and Harvesting with Advanced Regeneration Protection are two harvesting techniques that are applied on sites where natural renewal (especially lowland sites) is the objective. The auditors discovered that there are no silvicultural considerations contemplated when Tembec's operations staff deploy cut-to-length (CTL) harvest operations. The auditors believe that Tembec may be missing out on an opportunity to employ CTL operations in a more strategic fashion, e.g., taking advantage of natural renewal as a result of leaving logging slash in the cutover or avoiding sites that may be appropriate for seeding opportunities.

Section 4.4.2 (c) the 2011 FMP Phase 1 document and Section 8.4.2 of the Phase 2 document mention the existence of jack pine and black spruce seed orchards at the Island Lake Tree Improvement Area located in Dalmas Township, as well as second generation seed orchards "established at the former Chapleau Tree Nursery site and at another site in Lackner Township" but other records called these statements into question. While Tembec is a member of the Northeast Seed Management Association, local staff rely on staff in other locations to handle tree improvement matters on the Martel Forest. It is evident from the lack of clarity and uncertainty in the current FMPM regarding the current status of the tree improvement sites that local knowledge is beginning to wane, leading to **Finding # 7**.

In general, the audit team witnessed an effective renewal program, particularly with respect to conifer renewal, where sites are treated promptly in most circumstances, and with appropriate prescriptions. Renewal in the mixed wood and hardwood forest units, which relies on natural regeneration, has been predominantly effective. Successful natural regeneration was also observed on fresh to wet lowland sites where black spruce and larch predominate.

Planted stock was well-spaced; the trees were planted with consideration of existing natural regeneration, resulting in lower-than-standard planting densities but more area planted. Coverage of the treatment areas was often complete. Trees were planted on sites that were appropriate for the species. The Company's strategy of restricting seeding operations to sites with little or no competition is effective, although tending has been required on some of these sites. The Company is experimenting with approaches for reducing the amount of chemical tending required, including making adjustments to how the site prep equipment is used and planting larger and more vigorous stock.

4.5 SYSTEM SUPPORT

The human resources component of the System Support criterion is deemed to be met since the Martel Forest is certified under the Forest Stewardship Council's National Boreal Forest Standard. The audit team was impressed with the manner in which Tembec introduced its harvest operators to new real-time tracking technology that will help them perform better, and awarded the Company **Best Practice #2**. The document and record quality control component of this principle was assessed as being below the risk threshold that would lead to its inclusion in the audit.

4.6 MONITORING

Annual reports prepared over the audit period included all required elements, as well as a good level of detail regarding deviations between planned and actual activity. Instances of non-compliance and operational issues are well described. Section 4.1.4 of the Trend Analysis Report discusses harvest and regeneration trends on the Forest as presented in Table AR-10 (Summary of Harvest and Regeneration Trends) covering the period 1992 to 2016. The auditors did note that this table omitted reporting the area not available for regeneration, such as roads and landings, which is required in the FMPM. In view of the areas taken up by roads, landings, and slash piles as witnessed during the field tour, the amount of area in this category could be significant. **Finding # 6** was issued with regard to roadside slash.

The silviculture effectiveness monitoring program on the Martel Forest is essentially comprised of three components: a survival assessment, a regeneration condition survey and a free-to-grow (FTG) survey. The District MNRF performs Silvicultural Effectiveness Monitoring (SEM) to verify Company FTG assessments. During the audit period, MNRF SEM was somewhat limited, primarily due to funding and staffing constraints. However, the limited SEM survey results suggest that there is general congruence with the FTG results reported by Tembec.

Both Tembec and the Chapleau District MNRF have compliance monitoring responsibilities on the Forest. The description of the MNRF compliance program in the Phase II FMP did not meet FMPM requirements and the Ministry's Annual Compliance Operations Plans (ACOPs) were very basic throughout the audit period, leading to **Finding # 8**. District MNRF staff put a greater amount of information in the 2017-18 ACOP however the document does not discuss all of the topic areas that are required by the Compliance Handbook. There appeared to be some confusion as to whether the Chapleau District was responsible for the MNRF compliance on the relatively small part of the Martel Forest within the Wawa District – no formalized agreement was located, contributing to **Finding # 8**.

The auditors found that the MNRF conducted a suitable number of inspections during the audit period. According to the Forest Operations Inspection Program (FOIP) records, MNRF staff conducted 98 compliance inspections on the Martel Forest over the duration of the audit term. This works out to a ratio of nearly 3:1 in terms of Company:MNRF inspections, which is commendable. MNRF's level of monitoring is sufficient to provide assurance that the SFL Holder is meeting the legislative requirements and its obligations. The auditors observed that MNRF inspectors identified 26 operational issues, while only 6 were reported by Tembec inspectors. The Operational Issues involved a variety of issues and did not indicate any systemic problems. District compliance staff stated that Tembec conducts an effective compliance monitoring program and that they maintain very good communications with their Company counterparts, but they have also noticed the disparity in the reporting of operational issues and recently brought the matter to Tembec's attention. This disparity in reporting operational issues is the topic of **Finding # 9**.

The auditors also reviewed the monitoring of invasive species in the Forest, which is a growing provincial concern. The seed mix used to stabilize roadside banks was confirmed to not contain invasive species. Notably, the Company has been proactive by conducting field trials that confirmed the species do not escape from project areas in the boreal forest.

During the FMP Phase I period, which includes the first four years of the audit term, Tembec assessed 31,049 hectares of renewal area and found that 29,259 ha (94.6%) had reached free-to-grow standards and was classed as a renewal success. Of the surveyed area, 66% renewed

to the target forest unit and was considered a silvicultural success. An additional 15% of the area surveyed was assigned to a forest unit identified in the SGR as a development pathway, and the remaining 13.4% renewed to other forest units. The remaining area (1,689 ha) did not meet free-to-grow standards due to factors including insufficient stocking, insufficient height, or sites that were in need of tending.

The auditors examined the forest management activities (harvest, renewal, and SEM monitoring trends) to date for the first 5 years of the current FMP on the Martel Forest, finding that the area harvested (16,926 ha) was just 225 ha greater than the area renewed (16,701 ha). During the same period, 29,640 ha were declared FTG.

The audit team's findings confirmed that the boundaries of the sampled FTG field locations had been properly mapped and accurately recorded in the Company's reporting system. Observations in the field supported the Company's claims of free-growing status and generally agreed with the new stand descriptors (species composition, height, and stocking). Only minor caveats were found at a couple of blocks where additional stratification could have been performed based on differences in stocking levels.

4.7 ACHIEVEMENT OF MANAGEMENT OBJECTIVES & FOREST SUSTAINABILITY

The sustainability of the management of the Martel Forest is assessed based on direction given in the IFAPP. The collective achievement of objectives, a comparison of planned versus actual levels of activities, and the rationale for activities and operations that are not achieving target levels are used to assess whether management followed the principles of sustainability. The auditors have provided their assessment of the extent to which the plan objectives are being met, and the Trend Analysis offers Tembec's perspective on the matter.

The Company's actual harvest has fallen well short of planned levels, and the Trend Analysis indicates that this has been the case to varying degrees in the past 25 years. The 1997 plan period saw the highest use of the planned harvest, with 64% being cut, whereas the lowest result occurred during Phase I of the 2011 FMP, when the actual harvest area was roughly 37% of planned. The percentage of planned volume harvested has followed a similar trend but at a higher level – the actual volume harvest in the 1997 plan period was 75% of planned. This difference in the area and volume metrics can be attributed to factors ranging from the inclusion of salvage volume in the volume figures, but not the area figures, to inaccuracies in the expected yields and in the forest inventory.

This means that objectives and targets that are directly linked to the level of harvesting are unlikely to be met. For example, many of the social impacts that are positively correlated with the harvest level are not being realized to the extent anticipated in the plan. The objectives related to the conservation of biological diversity include several that concern landscape level characteristics of the forest, while others concern the anticipated levels of key variables such as habitat. Due to the relatively low level of harvest and the lack of major natural disturbances during the audit period, there has been relatively little progress toward meeting the objectives related to the creation of disturbance patches and areas of young forest. The creation of large disturbance patches has been especially limited and the audit team questions how realistic it is to expect to create very large disturbance patches (i.e. > 10,000 ha) or even large patches (> 5,000 ha) through harvesting. FMPs in the province all contain objectives regarding disturbance frequency by size class and plan authors are required to assess progress in meeting these objectives at various times in the plan cycle. MNRF is not maintaining the software that

assesses forest disturbance metrics, and some auditee staff mentioned that this problem extended to other MNRF software products. **Finding # 10** describes this in more detail.

Objectives related to changes in age class structure are also unlikely to have been met as planned. The FMP projected a reduction in mature forest in many forest units, and an increase in old forest area. While harvesting would not have reduced the mature forest area as anticipated, it also means more area than planned has likely shifted into old forest age classes.

Meanwhile, objectives whose realization is enhanced by a lower than planned harvest (e. g. area of old growth retained) are more likely to be achieved under the current harvest levels. In addition, the objectives related to habitat and values were achieved during the audit period. Many of the objectives related to values protection and respect for other forest users have indicators and targets related to the Company's compliance performance. Because the Company has a good compliance record during the audit period, these targets have all been met. The audit team notes that while such targets have the advantage of being measurable, they also reflect a narrow view of what is required to meet the objective, and so they can limit consideration of other approaches to meeting the objectives.

The audit team identified that an objective related to maintaining or reducing the amount of roads on the Forest is not being tracked, and is not being met because roads decommissioned as a result of tourism strategies and moose emphasis areas have not been updated in the roads inventory. Furthermore, no roads have been currently identified by Tembec for future transfer to the Crown. In short the Company is not meeting the FMP commitment to review the status of 20% of the road inventory each year. At the time of the audit, there was no reliable estimate of the road density on the Forest, leading to **Finding # 11**.

One of the challenges faced by the author of the Trend Analysis was to reconcile the changes in forest area and forest unit definition in order to identify trends. The current Martel Forest was formed in a 2006 amalgamation of the former Superior and J.E. Martel Forests, and prior to 2006, the Trend Analysis only provides data from the Superior Forest, since the J.E. Martel Forest had a variable previous management history. The result is a significant increase in forest area and planned harvest in 2006. Even when the area of a forest has remained constant, it has been very common for plan authors to revise the type and number of forest units from plan to plan, which makes it very difficult for someone to track trends in forest composition. In the Trend Analysis, this situation, as well as the amalgamation, led the author to conclude that no trends in forest condition were discernible. This is a widespread problem and the MNRF can assist plan authors by providing tools and guidance, as discussed in **Finding # 12**.

Another important consideration for sustainability is whether renewal is keeping up with harvesting and whether the expected renewal outcomes are being achieved. The discussion above indicates that the area of renewal matched the harvest area and the Company assessed a much larger area of forest as FTG. The quality of the renewal operations was good, with appropriate prescriptions applied; silvicultural success as defined by the FMPM averaged 67%, while 81% of renewed area returned along a planned development pathway and total renewal success was 95%. Most of the area assessed as not FTG often required more time for the new trees to reach the minimum required height, and in some cases a tending treatment was called for or occasionally a complete re-treatment. Over the longer term, the Trend Analysis corroborates the history of renewal of the harvested areas in the Forest.

Based on the factors considered above, the audit team concludes that during the audit period, the Martel Forest has been managed consistently with the principles of sustainable forest

management, as assessed through the IFAPP. The author of the Trend Analysis reached the same conclusion.

4.8 CONTRACTUAL OBLIGATIONS

The SFL imposes a number of requirements on its holder, and Tembec was found to have met all of its associated contractual obligations. Tembec's compliance is described in detail in Appendix 3.

One of the more notable aspects is the Company's compliance monitoring and reporting program. The Company's level of inspections was appropriate for the extent of operations and the Company maintained a 99% compliance rate over the audit term. Only minor compliance issues were found during the auditors' field tour and one finding was issued related to the reporting of operational issues. Otherwise, the auditors found ample evidence to conclude that Tembec maintained a satisfactory and effective oversight role on the Martel Forest.

Tembec also met its obligations found in Paragraph 16 of the SFL Agreement that required it to effectively ensure that areas harvested prior to April 1, 1994 on the former Superior Forest and areas harvested prior April 1, 1995 on the former J.E. Martel Forest were adequately renewed. The auditors compared the original obligations maps with the Tembec silviculture and FTG databases at the Tembec office. No statistical analysis was conducted, but enough samples were examined to satisfy the auditors that the obligations were met. The auditors also examined older depletions to determine if any gaps existed in the FTG layer where areas had not been yet surveyed. The gaps that were found were very small "slivers" of area that resulted from imperfectly overlaid or matched areas in the company's Geographic Information System (GIS). Slivers occur regularly and are usually cleaned up by running specific algorithms.

During the audit period, the Company kept up with all of its payments to the Crown and maintained the minimum balance in the Martel forest renewal trust account; in fact, the Company had a fairly large excess over the minimum required amount and was in the process of reducing the excess funds gradually over several years.

The Company conducted an annual assessment of the renewal rate portion of Crown dues and during the audit term made one change, which has a substantial impact on total payments. As of April 1, 2014, the renewal rate for SPF was reduced from \$4.25/m³ to \$2.50/m³, which will allow the excess in the Forest Renewal Trust (FRT) account to be drawn down. The Company also fulfilled its requirements regarding the monitoring of forest renewal. The audit is required to verify at least 10% of the activities conducted in 2015-16 and invoiced to the FRT account. This task confirmed that the activities which were invoiced were undertaken as represented.

The Company did not undertake any insect pest management nor did it salvage any wood during the audit term. There was no waste of harvested timber on the forest, in the sense of the CFSA, however the lack of steady markets for low and medium grade hardwood meant that the MNRF Northeast Region's procedure for operations under conditions of poor marketability was in effect, which relaxed utilization standards for the unmarketable components of the harvest.

The Company's approach for engaging with Indigenous communities was considered by the auditors to be exemplary and was recognized as **Best Practice #1**. The approach is discussed more fully in the write-up in Appendix 1.

4.9 CONCLUSIONS AND LICENCE EXTENSION RECOMMENDATION

This audit of the Martel Forest for the period from April 1, 2012 – March 31, 2017 period resulted in 12 findings, and two best practices were issued to the Company. Despite the number of findings, the audit result was very favourable and indicated that the Forest is being managed well and sustainably by the Company and Chapleau District MNRF.

Very few of the findings indicated issues with forest operations – issues encountered by the audit team in one block led to a finding regarding monitoring of water crossings. The audit team was also concerned that the management of slash and mid to low-quality hardwood along roadside continued to result in a substantial loss of productive area. Slash management has been a long-running concern on the forest and while Tembec has taken steps to manage slash by piling it on most locations, the audit team feels that further effort would be beneficial. On the other hand, the Audit Team also awarded Tembec a Best Practice for the manner in which it introduced a new technology to all of its harvest operators – the approach taken was successful in gaining acceptance by all operators and avoiding human resources challenges.

The audit team felt that the LCC was not being given an adequate level of support or encouragement from the District. The District has adopted a highly constrained view of the role of the LCC and as a result, it has been very difficult to attract new members. The District also offloaded much of the responsibility for recruitment to the LCC members themselves. This situation resulted in a two-part finding. Chapleau Cree, Missanabie Cree, Brunswick House and Michipicoten First Nations have been very active over the past five years, increasing their capacity and interest in participating in numerous ways in forest management and in the sector. Tembec and MNRF have been supportive, and a Best Practice was issued to Tembec for the multi-pronged strategic approach that it has taken to working with Aboriginal communities.

Many of the findings concerned issues related to monitoring, ranging from the lack of information and tools to conduct required monitoring to issues with reporting. Such findings were related to information about the thermal regime of streams, the maintenance of models for the assessment of disturbance profiles, tracking road density and keeping up with changes in the organization of the Ministry and the forest in general. The compliance system that is in place on the forest is effective at ensuring that operations are conducted appropriately and without ill effects on the forest resource or its sustainability. The good relationship between the Company and District staff is very helpful in this regard, and in all other aspects of management.

The audit team concludes that management of the Martel Forest was generally in compliance with the legislation, regulations and policies that were in effect during the term covered by the audit, and the Forest was managed in compliance with the terms and conditions of the Sustainable Forest Licence held by Tembec. The forest is being managed consistently with the principles of sustainable forest management, as assessed through the Independent Forest Audit Process and Protocol. The audit team recommends the Minister extend the term of Sustainable Forest Licence #550390 for a further five years.”

APPENDIX 1 – AUDIT FINDINGS

Independent Forest Audit – Record of Finding

Finding # 1

Principle 2: Public Consultation and Aboriginal Involvement

Procedure 2.1.2.1: LCC Purpose and Activities: Review and assess whether the LCC met the purposes and conducted its activities in accordance with the applicable FMPM. Include the following points ...

Background Information and Summary of Evidence: Over the audit period, the LCC has comprised of between 6-7 members. Since 2012, 3 members have joined, and 2 members have left the group. At the time of the audit, the LCC comprised of 7 members, most of whom have a strong link to the forest industry.

Recruitment:

A recommendation was made in the 2012 IFA related to LCC recruitment and diversification of membership. Efforts to address this recommendation included the posting of an ad in the Chapeau Express (Sept. 1st and 8th, 2012) by the MNRF, as well as discussion of LCC membership and recruitment at two LCC meetings (Nov. 19, 2014 and Feb. 27, 2017). To date, the bulk of the effort to recruit new members has been focused on word of mouth by LCC members. While this has been somewhat successful in attracting 2 new members over the audit period, these efforts have not been enough to grow the overall membership of the LCC. Currently, remote tourism, local business and snowmobile interests are identified by the auditors as lacking representation on the LCC.

LCC members interviewed revealed that the cause of low recruitment was likely a function of complexity of the forest management planning process (and lack of training), whether local concerns could truly be addressed through the stringency of the forest management planning process, the lack of sufficient incentives to participate, as well as time and availability to attend meetings. These issues are also concerns for some existing members on the LCC. Several LCC members interviewed found the level of MNRF support for recruitment to be lacking.

In the event new members do join, members stated that training is not provided, and there is no evidence of a training process or detailed training material for new members. The lack of training materials will make it difficult for new members to get up to speed on the planning process.

Overall, some LCC members indicated that the MNRF is “not taking recruitment seriously” and that there is a lack of support and resources to train new and existing members about the forest management planning process. The audit team concludes that the Chapeau District MNRF could do more to support the existing LCC and provide a more attractive foundation for the growth of a diverse LCC.

Quality/Availability of Information Provided:

LCC members interviewed were satisfied with the quality of information presented by Tembec (e.g. AWS, AR updates, etc.) as well as providing follow up when requested. Several LCC members were concerned about the lack of information provided by the MNRF regarding issues important to members, particularly wildlife and herbicide application. Over the audit period, there was only 1 external presentation made to the LCC, which was on the topic of Forest Tenure Modernization. Comments from some members indicated that they felt their role was primarily to act as a “rubber stamp” for forestry operations, and that their real concerns related to wildlife and herbicides were downplayed because they were deemed to be outside the scope of forest management planning. Some members felt they did not have the tools necessary to make decisions regarding the management of the forest because they were not provided with the appropriate information related to the impacts of management activities, specifically related to wildlife and herbicides.

One LCC member commented on the “silo” nature of discussions between the company/MNRF and LCC and First Nation communities related to shared interests and concerns (e.g. moose and herbicides), since there were no Aboriginal community members on the LCC. It was suggested that joint information sessions on values and interests shared by both LCC and First Nation communities could be beneficial as a means

to learn from each other and collectively receive updates and information regarding these important issues.

It is worth noting that these concerns (moose populations, herbicides and lack of interaction with Aboriginal communities) were identified throughout Phase I of the plan (refer to Phase 2 Activity Report for the Martel Forest LCC - Supp Doc 8.9.2).

Discussion: With 7 current members, the LCC is quite small, and any further loss of members could result in the LCC not fulfilling its mandate to provide the District Manager with insight and advice regarding the forest management plan from a range and balance of public interests. In this way, the lack of growth of LCC members, high proportion of industry-based interests represented, and lack of LCC representation on the Phase II planning team, is of concern. As confirmed by LCC members and MNRF staff, the onus of recruiting new members is primarily placed on the shoulders of LCC members, which is not specifically within their mandate (per the LCC Terms of Reference).

The Chapleau District MNRF has a very constrained perspective of what activities can be undertaken within the scope of the LCC. The LCC is interested in a greater range of educational/information opportunities regarding forest management-related issues and concerns than are discussed and only one outside speaker was brought in to speak about a current topic - tenure.

Conclusion: The LCC remains relatively small and undiversified, and recruitment (which was subject to a previous audit recommendation) has resulted in a net increase of 1 member by the end of the audit period. During the audit period, MNRF's recruitment efforts were limited. The lack of resources and support for new and existing members provides little motivation for recruiting new members and retaining existing members.

The audit team also concludes that the contribution and effectiveness of the LCC could be improved if there were greater incentives for members to participate. The LCC would like MNRF to provide educational and informational opportunities as a means to address and/or enhance their understanding of forest management-related issues and concerns. MNRF could further improve LCC member recruitment and retention by providing training materials and support for both new and existing members, as well as making other efforts to make participation attractive.

Finding:

a) More effort and a wider range of approaches are required on the part of Chapleau District MNRF to support the growth and retention of a diverse LCC.

b) The Chapleau District MNRF has not provided sufficient opportunities to address the LCC's broader interests in forestry and forest management beyond planning and plan implementation.

Independent Forest Audit – Record of Best Practice

Best Practice # 1

Principle 2: Public Consultation and Aboriginal Involvement

Procedure 2.5.2 Participation of Aboriginal Peoples in the benefits provided by forest management planning: Review whether Aboriginal peoples were provided with, and whether they availed themselves, of opportunities to achieve more equal participation in the benefits provided through forest management planning and assess the results.

Background Information and Summary of Evidence:

Tembec has demonstrated a long-standing commitment to promoting Aboriginal inclusion and the provision of benefits to Aboriginal communities. This commitment is evident in its approach to working with Aboriginal communities with an interest in the Martel Forest.

Tembec entered into a MOU regarding relationship-building with the NSRCF in 2010 and a renewal and extension of the 2010 agreement ran from October 1, 2011 to Sept 30, 2016. Since its expiry, a successor agreement has been developed. Tembec also has bi-lateral agreements with Brunswick House First Nation and Chapleau Cree First Nation, and a tri-lateral agreement with Ontario and Missanabie Cree First Nation. Tembec is also in the process of developing an agreement to work with Wahkowtwin. These agreements have included provisions for resourcing, provision of in-kind assistance, and a broader agreement to develop working relationships that will provide benefits to both parties.

Herbicide use for competition control has been a long-standing concern of Aboriginal people (and it was also mentioned as a concern by some of the LCC members). While Tembec has committed to reducing the amount of herbicide used over time as one of the requirements of FSC certification, the Company has recently decided to take a broad and inclusive approach to more actively reduce herbicide use. The result has been the Herbicide Alternatives Program (HAP) which consists of ten related goals and the strategies for achieving them. Aboriginal communities are participants in HAP, which supports a wide range of Aboriginal goals.

Discussion: Tembec's engagement was well-received by most of the Aboriginal representatives that the audit team spoke with. While some of the Aboriginal representatives that the auditors spoke with said it had been approx 8-12 months since they had news regarding HAP, all were aware of it and herbicide use was mentioned as a concern by all Aboriginal community reps when speaking with audit team members.

Conclusion: Having a staff person dedicated to Aboriginal relationships and initiatives has enabled Tembec to put its commitment to Aboriginal engagement and support into action. The Company is taking a broad and coordinated approach through a number of avenues to improve its engagement with Aboriginal communities, support capacity building and the realization of opportunities for economic benefits, and adjusting forest management so that it is more acceptable to Aboriginal people.

The breadth, depth and duration of engagement with a relatively large number of Aboriginal communities is not exhibited on most Forest Management Units in Ontario and is considered to represent a best practice..

Best Practice: Tembec's approach to Aboriginal engagement, the provision of support for communities, and initiatives to reduce the use of herbicide in forest management is outstanding and merits recognition as a best practice.

Independent Forest Audit – Record of Finding

Finding # 2

Principle 2: Public Consultation and Aboriginal Involvement

Procedure 2.5.2 Participation of Aboriginal Peoples in the benefits provided by forest management planning: Review whether Aboriginal peoples were provided with, and whether they availed themselves, of opportunities to achieve more equal participation in the benefits provided through forest management planning and assess the results.

Background Information and Summary of Evidence:

Condition 56 of the EA Declaration Order (formerly Condition 34 during much of the audit period) states that *“MNRF District Managers shall conduct negotiations at the local level with Aboriginal peoples whose communities are situated in a Management Unit, in order to identify and implement ways of achieving a more equal participation by Aboriginal peoples in the benefits provided through forest management planning.”* The wording of the condition lists a number of potential benefits that can be negotiated, including “job opportunities and income associated with forest and mill operations in the vicinity of Aboriginal communities”.

The Condition 34/56 reporting format changed every year during the audit period. The 2012-13 report was very informative and allowed considerable flexibility to the person filing the report. In 2013-14, the MNRF used Survey Monkey as the basis of the report, with many closed-end questions. Due to the format limitations, the report did not convey a particularly accurate or complete overview of the activities that were undertaken to address the goals of the Condition. For example a yes/no response to the question of whether the District Manager negotiated with a specific individual First Nation, and a multiple choice question regarding what subjects were discussed tells very little about the extent of interaction between the District Manager, other District staff, and the community rep, or the outcomes. The reports do not readily support reporting of negotiations or discussions with entities other than individual First Nations, such as the NSRCF.

The 2014-15 Condition 34/56 Report was also a Survey Monkey questionnaire with fewer questions (down to 26 from 43) and little leeway for responses. In 2015-16, the most recent year for which a Condition 34/56 report is available, the MNRF used an Excel spreadsheet as the report, and the report is virtually unreadable. In summary, the reports became less useful each year as the changes to the reporting content and format were detrimental to the quality of the reports.

Another issue is that the reports have a very limited scope. There are a number of initiatives that are contributing, or have the potential to contribute to, the achievement of the aims of Condition 56 but they are undertaken at the Regional or Corporate levels of MNRF. During the audit period, such initiatives have included:

1. The resource revenue sharing pilot project³, in which the Martel Forest was one of two pilot sites in Ontario;
2. Tenure reform, which has as one goal the inclusion of meaningful Aboriginal community representation on the Board of Directors of the forest manager, or other avenues for meaningful participation in decision-making. Another goal is development of the local economy, including promotion and development of Aboriginal business opportunities.

³ Ontario worked with First Nations to develop and implement two forest-sector resource revenue sharing pilot projects with the objective of improving relationships, supporting improved economic development opportunities and helping to create a positive climate for investment and business partnerships. The specific purpose of the pilot project was to jointly test concepts and explore best practices for resource revenue sharing. The pilot 1 agreement was signed June 1, 2015 for a two-year term and a total of \$235,000 was shared with the three participating First Nations in the Chapleau area.

3. Mill facility licences must be renewed every five years and when there is a change in ownership. The mill facility licence for the Tembec sawmill in Chapleau, was extended during the audit period and the facility licence for the Rentech mill located just north of Wawa, was put in place during the audit period. FOR 05 04 07 Business plan requirements for a mill facility licence describe section J (Native Involvement) as “Explain how the proposed facility can and will contribute toward the MNR objective of improving the benefits that aboriginal communities obtain through forest management.” In other words, FOR 05 04 07 links the renewal of the facility licence, as well as any transfer, to the creation of employment opportunities at the mill, which in turn contributes to the achievement of Condition 56.

Of these initiatives, there is a passing mention in the Condition 56 reports, but these initiatives are not fully recognized as contributing to Condition 56 because the condition states that it must be the District Manager who leads efforts that contribute to meeting Condition 56.

Discussion: The aims of Condition 56 are worthy however the manner in which the Condition focuses on actions by the District Manager is very limiting and leads to Condition 56 reports that do a poor job of accurately describing the activities taken in support of Condition 56. Within the MNRF, not only the District Manager but also other District staff as well as regional MNRF staff undertake actions and initiatives that support the aims of Condition 56. The Condition should be revised to reflect the numerous ways in which activities can be undertaken to further the goals of Condition 56, however this process is likely to take considerable time and it may have to wait until the Declaration Order is reviewed and revised.

Aboriginal representatives interviewed by the audit team pointed out that the District is often a by-stander in some of the regional initiatives, such as the resource revenue sharing pilot and the ESFL discussions. The 2013-14 Condition 34/56 report identified six potential changes to improve the implementation of Condition 34/56, and these suggestions remain valid. With some re-wording on the part of the auditor, the following improvements are most likely to address the issues identified above:

- There needs to be a broader conception of the intent of Condition 56, as MNRF and its programs have changed significantly since the original Condition was written;
- MNRF should consider more specific direction regarding identified target attainment which would contribute to Condition 56;
- Forests Division and ROD need to be involved in reporting on Condition 56.
- More resources at the District level would be helpful to more fully implement Condition 56.

Conclusion: Condition 56, as worded in the Declaration Order, expresses worthy goals but its wording is no longer suitable for the structure of the MNRF and the level and range of activities being undertaken by Aboriginal communities and entities. By stipulating that the District Manager must be the point person, Condition 56 self-limits what activities may be considered as contributing to meeting the Condition's goal. In addition, many suitable initiatives cannot be characterized as “negotiations” conducted by the District Manager.

The Condition 56 reports do a poor job of conveying the effort made at the District level and provide little scope for reporting progress and/or results. The reports also do not adequately capture the contributions of other parts of the Ministry to meetings the goals of the condition. The reporting format also limits the ability of the report to adequately describe what was done, how much progress there was, or what Aboriginal people thought of the results.

Finding: Initiatives and activities that contribute towards achievement of the goals of Condition 56 are often undertaken in other parts of the Ministry and the accounting of them is ignored or under-represented in the Condition 56 reports. .

Independent Forest Audit – Record of Finding

Finding # 3

Principle 3: Forest Management Planning

Criterion 3.9: Phase II - Prescriptions for Operations: The FMP must contain specific prescriptions for all AOCs which may be affected by planned operations within the areas of operations.

Procedure 3.9.1 Phase II planned operations AOC prescriptions

Review whether any AOC prescriptions were added, modified or deleted for the second five-year term and assess whether adequate information was available for AOC planning.

Background Information and Summary of Evidence:

Following the identification of some operational issues with water crossing installation during the audit, the team followed up on the possible root cause of these. Related to this, the auditors noted a significant number of requests for extensions of the timing window for installations of water crossings.

The Company believes that the unclassified streams for which extension requests often occur are likely warm water streams that should not require an extension. They feel that having more streams correctly classified would help to ensure that crossings on cold and cool water or sensitive streams were addressed during the appropriate window, and fewer extensions would be requested for warm water streams.

To support this assertion the Company provided two observations:

- A review of the Fisheries Act Reviews in the last two AWS's indicated that more than 80% of streams are unsurveyed;
- A sample of Fisheries Act Reviews provided by Tembec showed 23 occurrences where warm water fish species were identified but streams were classed as unsurveyed, which restricts the water crossing installation window to June 16 – Aug 31.

MNRF agrees in principle that classifying more streams would reduce extension requests.

Discussion: Improving the stream classification inventory is desirable for a number of reasons aside from reducing the number of requests for timing extensions. It would alert all forest users to an important and sensitive value. Local staff were supportive of this in principle. There are a number of reasons why stream classification does not receive priority in allocation of FMP money. Certainly the risk to the stream is minimized using the current approach, however there is an opportunity to improve stream classification information and reduce the pressure on stream installation schedules, if it is feasible.

Regional staff pointed to several initiatives that are aimed at improving the values data collection in the future and would contribute to an action plan:

- Northeast Regional Office and Districts are developing a values collection strategy;
- Placement of thermal loggers within watersheds; and
- Enhancing training and support requests.

Conclusion: The thermal status of many of the streams on the Martel Forest is unknown. This contributes to a high number of timing window extension requests for water crossing installation because the window is narrow for unclassified streams, because the Company needs to assume they are cold/cool water. Aside from timing extensions, buffer requirements are more stringent for unclassified streams. This reduces the available wood. This finding concerns the need for better stream inventory because of the effect on the timing window, as this was the issue raised for which there was direct evidence.

Finding: Available information on the thermal status of many streams was inadequate for sufficient AOC planning, leading to many requests to extend the timing window for water crossing installations.

Independent Forest Audit – Record of Finding

Finding # 4

Principle 3: Forest Management Planning**Criterion 3.13 FMP or Contingency Plan Amendments**

3.13.1 Amendment process and rationale: Review the FMP or contingency plan amendment to assess whether adequate documentation existed for all amendments consistent with the applicable FMPM ...

Background Information and Summary of Evidence: The Martel Forest had 22 amendment requests to the 2011 FMP submitted since April 1, 2012. Twenty-one amendments were administrative, and one was categorized as a minor amendment. Most amendments were related to roads and aggregate planning.

The minor amendment followed the appropriate public consultation requirements. Additional public consultation requirements were applied to other administrative amendments as recommended by LCC members, or MNRF staff.

In total, records of decisions or involvement of the LCC were available for 14 of the 22 amendments (LCC meeting minutes and MNRF files). However, for 8 of the amendments, there were no records available of LCC involvement in approving the amendment classification. The LCC Chairperson indicated that MNRF often contacted him asking for an LCC recommendation on amendment categorization, which would then require him to contact relevant stakeholders who may be impacted by the amendment.

However, the MNRF stated that any adjustments to Operational Road Boundaries (ORBs)/Aggregate Extraction Areas (AEAs) were informally recognized as automatic “Administrative” amendments, and that these would not require prior classification from the LCC. However, there were no records available where this approach was formalized by the LCC.

Discussion: One reason for the high number of amendments was that the forest inventory was very old. In addition, there were several boundary modifications for operational roads, which as of 2011 must be mapped in the AWS and FMP. Tembec had no concerns regarding the timelines for amendment approval.

Part of the LCC’s role is to advise on the appropriate categorization of amendments. Several amendments were discussed during LCC meetings and categorizations were proposed. When amendments were not discussed at LCC meetings, the Chairperson was often contacted directly to recommend categorization. However, it appears that some amendments were not categorized by the LCC or the Chair, and instead, an informal automatic categorization approach was employed by the District MNRF. This approach, if not formalized by the LCC, is not aligned with FMPM requirements (section 2.2.1).

Conclusion: Public consultation requirements have been met for the minor amendment issued over the audit period, and where the LCC has been consulted, a precautionary approach to stakeholder outreach appears to have been undertaken for several administrative amendments. However, records have not been maintained of LCC approval for all amendment classifications, and the approach to approving automatic administrative amendments for ORB/AEAs has not been formalized with the LCC.

Finding: The Chapleau District MNRF has not maintained records of consultation with the LCC on all administrative amendments issued over the audit period, and has not formalized its approach with the LCC regarding the automatic categorization of specific types of amendments (e.g. ORB adjustments and the addition of AEAs).

Independent Forest Audit – Record of Finding

Finding # 5

Principle 4: Plan Assessment and Implementation

Procedure 4.2.1 Review and assess in the field the implementation of approved AOC operational prescriptions.

Background Information and Summary of Evidence: A field visit by the audit team to a road constructed in 2016 to access blocks 406 and 407 found some operational issues with the water crossings. There were concerns regarding a temporary bridge that had an opening along the middle of the deck surface, no curbs and unstabilized banks. A culvert at another crossing was perched and possibly undersized. Scouring had occurred at a second culvert, undermining the pipe leading to perching. One of the culverts did not have an appropriate stream buffer applied. The audit team found the stream at the very edge of the buffer. There was no compliance report on these crossings. MNRF had not noted the problems on this road.

Other water crossings inspected during the audit field visits were well-installed. The difference along this road was that the winter installation was not followed up on promptly, as the Company and MNRF agreed.

Discussion: The problems on this particular road were likely caused by the winter installation. The Company intended to replace and upgrade the crossing in the spring but this was overlooked. The audit team did not consider these issues to be indicative of a systemic problem with winter installations, since other installations that were inspected were done to a good standard. Note that the audit team also has a finding about using the FOIP system to report Operational Issues and to track any necessary follow-up actions (**Finding # 9**).

Conclusion: Although the Company's installation of water crossings is usually to a high standard, the situation described above was clearly caused by not appropriately tracking known operational issues in the spring following the winter work.

Finding: The Company did not monitor some winter water crossing installations and upgrade them where necessary in the following spring.

Independent Forest Audit – Record of Finding

Finding # 6

Principle 4: Plan Assessment and Implementation

Procedure 4.3.1: Review and assess in the field the implementation of approved harvest operations.

Background Information and Summary of Evidence: The previous IFA contained a recommendation that Tembec should reduce the impact of slash on the Martel Forest, and include an assessment of its slash management efforts in the Annual Reports. The Company has added a useful discussion to its Annual Reports, thus meeting that part of the audit recommendation, however slash continues to remain an issue on the forest, in the view of the auditors and others who use the forest. In addition to creating a negative visual impression, the existence of slash and other roadside wood takes up productive land so that it is not available for timely renewal. The majority of harvest operations on the forest are full-tree harvests which entail processing at roadside. The challenges in finding a market for OSB-grade and lower quality poplar mean that on many sites there is considerable poplar volume left along the roadside as slash or non-merchantable material, although the Company also leaves much of the non-veneer poplar standing and avoids harvesting in hardwood dominated stands, or in hardwood patches within larger cutblocks.



The FMP contains an objective to avoid the loss of productive forest and sets a target of losing no more than 3.28% of the block area to roads and landings. This target is based on an analysis of harvest blocks created between 2004 and 2008. The FMP describes keeping roads and landings to less than 4% of block area as a best practice, which is consistent with the best practices listed in the MNRF Stand and Site Guide and in Tembec's own Slash Management Strategy. Tembec staff confirmed that the target and BMP included productive area lost to slash.

The audit team saw that slash had been piled on many blocks, although it was not piled on

many other blocks. Consistent with Tembec's slash management strategy, the figure to the left shows piled slash in areas that had been planted (planted area in background – not visible) and unpiled slash in areas planned for natural renewal (foreground) in Block 140. Data provided by Tembec indicated that slash management has occurred on 67% of sites, which is double the amount projected in the FMP.

During the site inspections, the auditors' ocular estimate was that slash piles by themselves accounted for 2-3% of block area on average and where slash was unpiled, the area of the block affected by slash was about twice as high. Some of the blocks seen by the auditors were due to have further management undertaken on them, including slash management, before they were renewed.

The Phase I FMP links the degree of slash management with renewal intensity. There are four levels of renewal intensity identified in the FMP – basic, extensive, intensive and elite. Slash management, which includes piling, moving slash back into the bush, and burning, is forecast to be undertaken on 80% of the basic sites and on 100% of the intensive and elite sites, however slash pile burning is intended to be limited to the latter two classes of silvicultural intensity. The FMP forecast that intensive and elite treatments would comprise 5% of renewal activities by area; however Table AR-13 in the Year 10 Trend Analysis Report reports that only 370 ha out of the 29,640 ha of treated harvest area surveyed was subjected to intensive treatment (no elite), representing slightly more than 1% of renewal area. No slash burning was undertaken during the audit period by the Company.

MNRF classes slash pile burning as a low-complexity prescribed burn and a burn plan is required. There is

a template available for burn plans. A burn plan must be submitted to MNRF and be approved at least 30 days before burning starts, and the template notes that burning will normally not occur before October 1. The template indicates that late October – November is the preferred period for burning.

Discussion: In addition to completing a burn plan, there are a number of conditions that need to be met before slash pile burning can commence some of which were put in place after slash pile burns escaped and caused widespread damage in the Dubreuilville area. For example, approval to proceed must be given by the District MNRF fire staff, and that is based on the fire indices being at acceptable levels, the availability of resources should an escape occur, and weather conditions (e.g. wind). Burning is often not allowed during moose hunting season, which has recently been modified by MNRF, including a lengthening of the moose calf season.

In the current risk-averse environment, although Tembec has planned for slash pile burning on some sites, it evidently feels that the risks outweigh the potential benefits since the Company did not submit a burn plan during any year of the audit period. The Company is concerned that MNRF's requirements often relegate slash pile burning to periods when conditions are too wet or snowy for the burn to be effective at consuming the slash piles.

Chapleau District MNRF and Tembec should discuss what a slash pile season would look like on the Martel Forest and the District should be more flexible with regard to acceptable conditions so as to facilitate Tembec's ability to conduct slash pile burns. This may encourage Tembec to expand a slash pile burning program to sites being renewed under a wider range of intensities than the FMP currently contemplates.

Slash management has been a long-running concern on the Martel Forest, as reflected in past audit reports. During the audit period, Tembec counted on the start up of the Rentech pellet mill to help reduce the amount of slash in the Martel Forest, especially in the southern part of the Forest. Rentech turned out to have issues with start-up, leading to delays and low utilization rates, and the plant has recently closed and is for sale. It is now very uncertain whether that plant will return to operation and be able to provide a market for slash and mid to low-grade hardwood on the Forest.

The Company's hesitancy to burn slash piles is based on the uncertain efficacy of burning late in the year, or burning piles created using a skidder or dozer which may have so much dirt in them that they do not burn effectively. Ineffective burns represent ineffective expenditures. The Company also cited concerns about releasing carbon. It is also noted that the Company has other options for managing slash besides piling and burning, and these could also be utilized.

Conclusion: Slash management remains a concern on the Martel Forest. The audit team concludes that part of the reason for the lack of slash pile burning is the restrictiveness resulting from MNRF's aversion to risk, and that MNRF should work with Tembec to consider how to best widen the window of opportunity for slash pile burning on the Martel Forest, since an important tool for managing slash is not being used.

The Company is, in the opinion of the auditors, on average losing considerably more than the targeted 4% of the block area to roads, landings and slash. Both the Company and the auditors agree that it would be very helpful if the Company had survey information available measuring the extent of the loss of productive area, so that if excessive productive area was being lost, the Company would be obliged to make adjustments in order to maintain consistency with plan direction.

Finding: a) Chapleau District MNRF's approach to approving slash pile burning operations is perceived as being so restrictive that the Company did not conduct any slash pile burns on the Martel Forest during the audit period.

b) The Company is not minimizing the amount of productive area lost to roadside slash and unused wood.

Independent Forest Audit – Record of Finding

Finding # 7

Principle 4: Plan assessment and implementation

Procedure 4.6.1: Renewal Support - Review and assess in the field the implementation of approved tree improvement operations.....

Background Information and Summary of Evidence: Section 4.4.2 (c) the 2011 FMP Phase 1 document and Section 8.4.2 of the Phase 2 document mention the existence of jack pine and black spruce seed orchards at the Island Lake Tree Improvement Area located in Dalmas Township, as well as second-generation seed orchards “established at the former Chapleau Tree Nursery site and at another site in Lackner Township.” A check of the values map associated with the FMP showed tree improvement sites being located in Dalmas Township, but no site located in Lackner Township. It is unknown if the second-generation orchards were comprised of jack pine or black spruce. Local staff were certain that the site in Lackner Township was, in fact, a family test site used to support the second generation seed orchard; however the FMP text is unclear on this point. Tembec is a member of the Northeast Seed Management Association, with local staff relying on the representation of a colleague who works on another Forest to liaise on matters involving tree improvement on the Martel Forest, including the collection of improved seed from the local orchards.

Discussion: Local Tembec staff tend to rely heavily on other distant staff to handle matters involving tree improvement on the Martel Forest. This moderately “hands-off” approach carries some risk: the auditors' past experience has demonstrated that local knowledge of tree improvement plantings, such as orchards and related test sites, tends to fade through the passage of time as changes occur in personnel at both the Company and MNRF, company ownership, etc., particularly if there is no basic descriptive and location information recorded somewhere locally regarding these facilities. This information is necessary to ensure the contribution of the sites to future forest management. It is evident from the lack of clarity in the 2011 FMP regarding the then-current status of the tree improvement plantations that local knowledge is beginning to wane. Considerable investment in time, money, and human resources have been expended in developing these valuable gene pools, and it would be regrettable if they were to eventually become lost.

Conclusion: Local Company staff should be more aware of interest in the tree improvement sites situated on their own forests, particularly those sites directly associated with producing improved seed for local use. Local Company staff need not be aware of the details of these tree improvement plantations, but should retain some rudimentary facts about the purpose and location of each site within the Martel Forest, which should be documented in the FMP.

Finding: Basic information about the tree improvement sites on the Martel Forest is not adequately documented in the FMP.

Independent Forest Audit – Record of Best Practice

Best Practice # 2

Principle 5: Human resources

Procedure 5.1.1: Review and assess, including through interviews, the organization's commitment to awareness, education and training programs and whether individuals involved in the SFM system are current with legislation, industry and government regulatory requirements and standards, and the organization's policies and objectives specific to their responsibilities. Include consideration of:

- adequacy and comprehensiveness of overall training program (i.e. planned training or ad hoc)

Background Information and Summary of Evidence:

Tembec keeps up with the latest operational advances as a good business practice. One of these is a system called Opti-Tracker, which allows a real time tracking of feller-bunchers as they progress through a block. Operators are able to see their location in the block and ensure that boundaries, mapped residual areas and other features are safeguarded. This is a widespread technology in the industry.

Of interest to the auditors was the implementation approach used by Tembec. Operators were required to control their equipment in a very different manner – moving from visual confirmation of location to a step which includes frequent on screen confirmation of location. The operators involved were very experienced with the conventional approach but the company needed to bring them into the new system. The potential for serious human resource problems, which often occurs with technology change, was effectively avoided.

Discussion: The new approach was rolled out in an effective way. All of the operators now fully embrace the new technology and are able to use it to prevent non compliances and be more efficient in moving through the harvest block.

Conclusion: Tembec managed the shift to motion capture technology in feller-bunchers very effectively, and brought the new system online without causing human resource issues.

Best Practice: Tembec's introduction and implementation of the Opti-tracker motion capture technology for monitoring feller-buncher movement through cut blocks was very effective and sensitive to the human resource challenge of technology change.

Independent Forest Audit – Record of Finding

Finding # 8

Principle 6: Monitoring

Procedure 6.1.1: District compliance planning and associated monitoring - Review the MNRF District Compliance Plans in place during the term of the audit to determine how forest management activities were to be monitored for compliance by MNRF and assess whether the actual level of the overall monitoring program was in accordance with the FMP/plans and whether it was appropriate based on evidence gathered through analysis of related criteria, including field audits.

Background Information and Summary of Evidence: Pages 10 and 11 of Procedure FOR 07 02 04 in the 2014 Forest Compliance Handbook describe in detail how MNRF Districts should incorporate their compliance plans into the appropriate section of the FMP. The auditors found that Section 8.7.1 of the 2011 FMP Phase 2 document briefly described the MNRF Chapleau District's proposed compliance monitoring program for the Martel Forest. On an annual basis, Chapleau MNRF forest compliance planning takes the form of a spreadsheet, listing targets for various compliance activities, which is rolled up with compliance planning of other District programs to form the District's Annual Compliance Plan. There is no descriptive text in the spreadsheets that amply address the elements suggested in the Forest Compliance Handbook, for example:

- Compliance performance review
- Risk management strategies and decisions
- Timing and frequency of monitoring activities
- Sampling intensities
- Roles and responsibilities of District Staff
- Management of operational status notifications
- Integration with other compliance monitoring activities

District staff indicated that they have begun to add more substance to their annual planning program and demonstrated how they had made efforts to prioritize planned field compliance inspections by rating the risk for blocks scheduled to be harvested or water crossings to be installed for the upcoming year. Staff explained verbally or in emails how the blocks / water crossings were prioritized. Otherwise, the process for determining compliance monitoring priorities is not well documented. The auditors noted that the MNRF Wawa District is not mentioned in any compliance documents, even though parts of the Martel Forest (two townships and part of a third) are situated within Wawa District. However, no operations occurred in the Wawa District portion of the Martel Forest during the audit period.

Discussion: MNRF Chapleau District should make a greater effort to describe how it intends to implement the forest compliance program. MNRF Wawa District should also provide input into the program. Having a more comprehensive plan provides staff with clear direction how to allocate resources for conducting its compliance program and explains the rationale to support its decision-making. Although the auditors' review of the District inspection program demonstrated that MNRF is conducting an adequate level of compliance monitoring on the Martel Forest, it was not possible to discern if the compliance effort was completed optimally (e.g., focused on highest risk operations). When interviewed, District staff explained that they have an innate awareness of their compliance priorities, risk management, etc.. Although this informal approach has been adequate, having a well-documented plan is helpful in many respects and lends continuity in the event of changes in personnel who coordinate or implement the forest compliance monitoring program, and provides a better basis for program improvement.

Conclusion: MNRF Chapleau District would be served well by taking steps to more formally document its approach toward forest compliance monitoring by following the suggested direction in the Forest Compliance Handbook. Future Annual Work Schedules and the upcoming 2021 FMP offer opportunities where appropriate text could be included that addresses the compliance planning elements as suggested in

the Forest Compliance Handbook. Wawa District's compliance role on the forest should also be clarified.

Finding: MNRF Chapleau District has not provided a comprehensive description of how it intends to implement its forest compliance monitoring efforts, as suggested in the Forest Compliance Handbook.

Independent Forest Audit – Record of Finding

Finding # 9

Principle 6: Monitoring

Procedure 6.2.1.4: SFL holder compliance planning and monitoring. Examine whether the SFL has continued to maintain its overall forest management oversight role related to development and maintenance of the compliance plan and its implementation ...

Background Information and Summary of Evidence: While compiling and analyzing the compliance monitoring statistics over the audit term on the Martel Forest, the auditors noticed a disparity in the reporting of Operational Issues during this period. Of the 32 Operational Issues identified during the term, 26 had been identified by MNRF inspectors, while 6 were reported by Tembec inspectors. An Operational Issue describes a situation that arises when operations vary from normal operating practices or from the standards and requirements in the Forest Management Plan, Annual Work Schedule or Forest Operations Prescription, or from the terms and conditions of licences, permits or other approval documents, as identified during a forest operations compliance inspection. The Operational Issues that were discovered involved a range of issues, and did not indicate any systemic problems. MNRF Chapleau District compliance inspectors have also noticed this disparity and recently brought the matter to Tembec's attention. District staff stated that other SFLs operating in the District report Operational Issues at a ratio that is similar to what MNRF inspectors report.

Discussion: Operational Issues are flagged in the compliance inspection report through MNRF's online Forest Operations Inspection Program (FOIP). MNRF is notified of the issue, and, after discussion with the Company, will subsequently determine whether the issue can be resolved or should be declared non-compliant. Most Operational Issues are resolved without the MNRF having to resort to punitive measures. Part of the purpose of flagging Operational Issues is to track them until they are resolved or otherwise actioned. FOIP acts as an effective communication tool, documenting and allowing both Tembec and the MNRF to track the progress of follow-up actions until the issue is addressed.

Tembec staff indicated that there may be a number of minor issues discovered during operations that are not reported by their compliance inspectors as Operational Issues through FOIP – many are resolved quickly. Tembec tracks issues that cannot be resolved immediately, relying on the records and diaries maintained internally by Tembec's compliance staff to follow through with the necessary corrective actions. While this internal system may work most of the time, the auditors believe it is inherently risky, given the shortcomings of human nature. Indeed, there may have been at least one instance discovered by the auditors where there was a failure by the Company to follow-up on a water crossing issue of which they were aware, but was not identified under FOIP.

The auditors believe there may be some misplaced anxiety on the part of Tembec's compliance inspectors that reporting Operational Issues will reflect badly on the Company and that there is an increased chance of Operational Issues being judged out-of-compliance. Tembec should be re-assured that there are no punitive consequences for reporting Operational Issues that can be remedied.

Tembec may be missing out on using an important utility of the FOIP system to monitor the status of Operational Issues until they are satisfactorily addressed. Relying on the memory or diary of an inspector to ensure that follow-up actions are taken is chancey, and could lead to an unfortunate outcome should delays in the follow-up action become prolonged.

Conclusion: Tembec does not make use of the intrinsic capabilities of the FOIP system to report Operational Issues, track any necessary follow-up actions, and document any associated communications until the identified issue is sufficiently addressed.

Finding: Tembec is not using FOIP properly to track operational issues.

Independent Forest Audit – Record of Finding

Finding # 10

Principle 7: Achievement of Management Objectives and Forest Sustainability

Procedure 7.1.2 Year Ten AR/ Trend Analysis Report:

Analysis of forest disturbances - examine the tables and text related to the analysis of forest disturbances to determine whether it accurately quantifies the size and frequency of disturbances and if it describes progress towards completion of planned forest disturbances, assesses the implications on the achievement of desired landscape pattern and provides any recommendations for consideration in future disturbance planning. Assess whether this analysis is reasonable.

Background Information and Summary of Evidence: There is a requirement in the Year 7 AR to report disturbance pattern achievement for the evaluation of whether pattern is achieving the FMP direction.

In preparing the trend analysis, the company attempted to calculate the actual disturbance patterns that occur on the forest as directed by the FMPM Part E, 4.2, Analysis of Forest Disturbances. To do this they contacted Regional MNRF to provide the software tool for assessing pattern (Gilligan / Arc View) but working versions were not available. There was no alternative software for this analysis. This was confirmed by the Company in several enquiries. There was no indication by Region that this technical support would be forthcoming.

Discussion: Disturbance pattern analysis is a key requirement of the Ontario forest planning system.

In the time since the 2011 Martel FMP was written, there has been a refocusing towards the Landscape guides and the calculation of pattern using that approach. The Great Lakes-St. Lawrence Landscape Guide was approved in 2010, shortly after the FMP was approved. This does not mean that previous plans do not need to be reported on.

Conclusion: Leaving disturbance pattern indicators for the 2011 FMP unassessed would be a significant omission from the reporting of forest management outcomes.

Finding: MNRF NE Region is not providing the technical support to allow forest managers to complete the determination of forest disturbances required for the Year 7 annual report.

Independent Forest Audit – Record of Finding

Finding # 11

Principle 7: Achievement of Management Objectives and Forest Sustainability

7.2. Assessment of objective achievement – Direction: An assessment of the achievement of management objectives must be made in the Year Ten AR (2004 and 2009 FMPM)/ Trend Analysis Report in text and tabular forms, comparing planned targets for each objective against the actual level of the target achieved. This assessment is to be reviewed and assessed.

The current FMP must also be reviewed for progress towards achieving management objectives.

Background Information and Summary of Evidence: During the development of the plan and confirmed in phase 2, as required by the 2009 FMP, the plan includes a road density objective. The target was set at “**maintaining or reducing road density from Plan Start Road Density - 0.48 km road/km²**” during the plan period.

In order to assess whether the target was attained, the Company must identify roads that have been rehabilitated, decommissioned or simply deteriorated to the point of being not drivable, as directed by the road use strategy for each road. No roads were identified by Tembec for future transfer to the Crown to date nor were any roads returned to MNRF during the audit period.

The Company has built a considerable length of new road. There is no current inventory of the amount of drivable road on the forest. This means that although the company maintains a good GIS layer of roads that have been constructed, it does not include the drivability status of the road, which is a key term as it is the basis of estimating the state of the indicator.

The indicator is insensitive to the demands of the public for reduced road density in certain parts of the forest because it is a FMU-wide measure.

The AR-14 of the Trend Analysis notes that: “After the first five years of the plan the road density is above the target level as per the management Objective. However, the plan start road density was based on the drivable SFL road network updated to 2007 (3 years prior to plan start), while the current measure is based on the drivable road network updated to 2016, representing 9 years of road data. At this time roads decommissioned as a result of tourism strategies and moose emphasis areas have not been updated in the roads inventory. Furthermore, no roads have been currently identified by Tembec for future transfer to the Crown.”

Discussion:

The FMP commits the Company to:

“...reviewing 20% of the existing road inventory on an annual basis and evaluate further opportunities for future ‘roadless’ areas. Recently obtained high resolution imagery will be used to update our existing roads inventory to facilitate this review. Tembec and the MNR will want to engage the LCC, CAART and other local stakeholders in the decisions around abandonment and/or transfer.”

The intent of this statement is clear, and the current situation in which no roads have been identified for return is not consistent with that original intent.

Given that a new plan will soon be under development, it would be best if a significant effort is made to identify current drivable roads and transfer back the remainder.

Conclusion: The targets to “... maintain or reduce the drivable road network during the plan ...” and to “assess 20% of the road on an annual basis” have not been achieved, and do not seem likely to be. The indicator itself does not seem sensitive to the key concern behind the development of the indicator and the auditors find it unlikely that the indicator will provide much insight to the effectiveness of the overall road

strategy in the District. Although the audit team saw good efforts at access control, the indicator will not give much credit to the management team for that effort.

Finding: Tembec is not collecting the information required to enable assessment of the target of maintaining or reducing the road density on the forest.

Independent Forest Audit – Record of Finding

Finding # 12

Principle 7: Achievement of management objectives and forest sustainability

Procedure 7.3.1: Year Ten AR/ Trend Analysis report assessment/determination of sustainability -

Review and assess the indicators, including forest condition, and the assessment/determination of sustainability ...

Background Information and Summary of Evidence: In reviewing the Trend Analysis Report, the auditors found that although the report was well-researched, informative, and thoughtful, the assessment of sustainability is somewhat wanting due to a number of inconsistencies that occur between forest management plans which hamper the report author's ability to provide a full and more meaningful analysis of forest trends on the Martel Forest. This situation is not the fault of the report author, and similar circumstances have plagued other Trend Analysis reports that have been reviewed by the auditors on other IFAs. Most significantly, it is the changes in landbase area (most often through management unit amalgamations) and forest unit definitions that create the greatest challenges in examining long-term trends on the Forest. These two factors, plus changes in applicable forest guides and policies between management plans, are cited as barriers to analyzing long-term trends in the current Trend Analysis Report for produced for the Martel Forest. The conclusions of the Trend Analysis Report underscore the deficiencies that are apparent in assessing for forest sustainability when aspects of the forest are continually changing.

Discussion: Over the years, the auditors have been witness to several Year 10 / Trend Analysis Reports where changes to the management unit landbase and/or forest unit definitions have limited the scope of the trend analysis to perhaps one decade, even though two or more decades of digital data may be available for the management unit. These obstacles hamper the ability of forest managers to provide a comprehensive and truly meaningful long-term analysis of sustainability on their respective forest management units. Absence of the capability to provide a robust analysis of forest sustainability is a disservice to the public resource and not in conformity with the principles of the Crown Forest Sustainability Act. The auditors believe it is time for the Corporate level of the Ministry of Natural Resources and Forestry to address this longstanding deficiency, as changes will continue to occur and struggling report authors (and forest auditors as well) need better tools to help them with their the forest sustainability assessments. Given today's continuing improvements in computer technologies and processing capabilities, Corporate MNRF should develop a process for surmounting the limitations to conducting a fuller forest sustainability analysis, beset by the change factors cited above.

Conclusion: Assessing forest sustainability is a primary tenet of the Crown Forest Sustainability Act and forest managers on forests with complex histories, such as the Martel Forest, are limited in their ability to conduct a comprehensive and long-term assessment of forest change. These are common situations and forest managers should be provided with appropriate tools to improve their ability to conduct a proper long-term sustainability analysis. Corporate MNRF is the logical agency to have a closer look at this issue and develop the necessary protocols and procedures to overcome the limitations introduced by common change factors that have been cited in many Year 10 / Trend Analysis Reports in the past.

Finding: The SFL Manager has experienced difficulties in conducting comprehensive and long-term assessment of forest change on the Martel Forest because there is no guidance or tools provided by Corporate MNRF to enable forest managers to deal with the challenges created by changes in factors such as landbase area and forest unit definitions that limit their ability to conduct a comprehensive and long-term assessment of forest change on their respective management units.

APPENDIX 2 – ACHIEVEMENT OF FMP MANAGEMENT OBJECTIVES

Achievement to date of 2011 Martel Forest FMP Objectives and Targets

No.	Objectives& Indicators	Auditor Assessment	Explanation/Comments
<i>Conserving Biological Diversity in Ontario's Forests</i>			
1	<p><u>Objective 1.1:</u> 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.</p> <p>Indicator 1.1: Landscape Pattern (% Frequency Distribution of Forest Disturbances)</p> <p>Indicator 1.2: Landscape Pattern (% Area Distribution of Forest Disturbances)</p>	<p>It is not possible to assess achievement of this objective without GIS analysis; the Trend Analysis did not discuss this objective since it was identified for assessment at year 2021 and is in fact a much longer term objective. Changes in the frequency of disturbances and area over time depend on extent and location of new disturbances as well as how quickly existing disturbed areas transition to “Not disturbed” status.</p>	<p>In the absence of major fires and a much lower level of harvesting than planned, it is unlikely that the forest is moving very strongly in the planned direction. For example, FMP-9 in the Phase I plan shows intention to add significant area in the two largest disturbance classes over the plan period, and for the reasons mentioned above, the 2021 forecast is unlikely to be achieved. However the audit team did notice that harvest operations were often conducted in fairly close proximity to each other which would be supportive of creating some large scale disturbance areas.</p>
2	<p><u>Objective 1.2:</u> Ensure that current biological diversity of the forest is not significantly changed and where necessary and practical, is restored.</p> <p>Indicator 1.2.1: Forest Composition – Area by Forest Unit over Time (total Crown productive forest area)</p>	<p>The objective has been met during the audit period since forest unit distributions change only very slowly unless there is a large scale natural disturbance. Especially with harvesting being below planned, there is less change than will have been anticipated.</p> <p>However, progress towards the desired forest unit frequencies has likely been made only for some. It is unlikely much progress has been made in reducing the area of BW1, since the actual harvest has been very low and some of the mixedwood renewal will be BW1. On the</p>	<p>Two of the planned trends in the FU area were counter to the trends in the natural benchmark run – BW1 and MW1 are projected to decrease under the FMP versus an increase in the benchmark run. A separate objective was set to ensure that the white and red pine forest unit was maintained (see objective 1.4).</p>

No.	Objectives& Indicators	Auditor Assessment	Explanation/Comments
		other hand, the area of PO1 may be increasing, which is in line with the plan, for these same reasons (the actual harvest was 40% of planned and some mixedwood would be renewing as PO1).	
3	<p><u>Objective 1.3:</u> Identify, consider and provide for the forest age class structure needed to maintain functional old growth ecosystem conditions in forest ecosites for all forest communities within their natural ranges as part of future forest conditions.</p> <p>Indicator 1.3.1: Amount of Mature Forest Area by Forest Unit.</p> <p>Indicator 1.3.2: Amount of Old Forest Area by Forest Unit.</p>	<p>For all FU's except PJ1 and the very small area of PRW, the plan's intention was to reduce the area of mature forest.</p> <p>The low level of harvesting relative to planned means that for most of the forest, the plan direction was not supported to the planned extent and the forest may have shifted in the opposite direction.</p> <p>In contrast, for almost all FU's the plan was to increase the amount of old forest, and the low harvest level likely meant that there was progress in achieving this part of the objective.</p> <p>The objective was therefore partially met.</p>	
4	<p><u>Objective 1.4:</u> Maintain the white and red pine forest unit area at current levels (5442 ha).</p> <p>Indicator 1.4.1: Area by forest unit over time (PRW/PW1 FU group).</p>	This objective was achieved during first six years of the FMP because no area in the two red /white pine forest units was harvested and red and white pine was planted. The 2015-16 AR reports that during the first five years of the FMP, 104,000 white pine and 117,000 red pine trees were planted.	The planting rate was sufficient to have created some new area in the PW /PRW FU.
5	<p><u>Objective 1.5:</u> Maintain habitat for the selected indicator species within acceptable bounds of the natural benchmark run.</p> <p>Indicator 1. 5.1: Area of habitat for forest-dependent provincially and locally featured species.</p>	There are no trends identified in the habitat summary table (AR 12) that indicate a long term decline in habitat for any species. Ruffed grouse is on the edge of showing a decline (24%), but the modeling is not accurate enough and the trend is not serious enough for this to require a further review. The objective has been met.	Unfortunately, the long term trend information for the selected species is not available, due to changes in the selected species and the land base.

No.	Objectives& Indicators	Auditor Assessment	Explanation/Comments
6	<p><u>Objective 1.6:</u> Provide marten core areas on the Martel Forest.</p> <p>Indicator 1.6.1 Area of Suitable Marten Habitat within Marten Cores (% of total capable habitat in suitable condition)</p>	<p>Marten core areas were placed appropriately in phase 1 of the plan. There have not been any alterations which have affected that. The objective has been met.</p>	<p>The Phase 2 FMP reviews the disturbance areas being created which may benefit marten in the future.</p>
7	<p><u>Objective 1.7:</u> Consider the provision of Moose Emphasis Areas (MEAs) on the Martel Forest.</p> <p>Indicator 1.7.1: Area of Martel Forest managed as Moose Emphasis Areas.</p>	<p>According to the FMP, habitat is not a limiting factor for moose populations on the Martel Forest (FMP phase 2 p 18). The plan identified 6 large landscape patches as good candidate areas to implement MEA's. MEA's can limit long term access and maintain the area as "functionally roadless". This is an important achievement and the objective has been met.</p>	<p>The managers take the implementation of MEA's seriously.</p> <p>It is noted that there some credence given to the view that the area of winter habitat (mature conifer) is limiting moose populations.</p>
8	<p><u>Objective 1.8:</u> Tembec to review annually (COSEWIC) and maintain a list of forest dependent species at risk that are known or believed to exist within the forest and incorporate into Tembec's High Conservation Value Forest (HCVF) report(s).</p> <p>Indicator1. 8.1: Area of habitat for forest-dependent species at risk.</p>	<p>The Company looks after the maintenance of an up to date SAR list and other sensitive species as part of their High Conservation Value assessment of the forest. The objective has been met.</p>	<p>The HCV list of species is more accessible than the MNRF list and meets the requirement of this objective.</p>
9	<p><u>Objective 1.9:</u> Ensure that high conservation value forest attributes are identified and given due consideration for their protection on the forest.</p> <p>Indicator1. 9.1: Compliance with prescriptions (Rxs) for the protection of HCVF values (% of inspections in compliance)</p>	<p>HCVs are protected through a number of mechanisms, such as CROs and AOCs. These are largely consistent with the directions in the plan (there were no apparent differences). The FOIP system is the means to track the implementation of these management prescriptions. There were no trespasses or inappropriate activity reported in HCVs. The objective has been met.</p>	<p>The HCV approach overlaps with FMP and SSG requirements for the protection of special areas.</p>

No.	Objectives& Indicators	Auditor Assessment	Explanation/Comments
<i>Maintaining and Enhancing Forest Ecosystem Condition and Productivity</i>			
10	<p><u>Objective 2.1:</u> Keep forest ecosystems productive and healthy.</p> <p>Indicator 2.1.1: Percent of harvested forest area assessed as free-growing by forest unit.</p>	<p>This objective and associated target was met during the audit period. The target is that at least 90% of the area assessed would be declared as free-to-grow.</p>	<p>Over the 2011-16 period, 31,049 hectares were assessed. Of the total area surveyed, 94.6% (29,259 hectares) was declared free-to-grow (FTG) and the remaining 5.4% (1,689 hectares) either required more time to meet FTG standards or required a subsequent tending treatment. A small area (<100 hectares) may require re-treatment. Percentage free-growing area varied somewhat by forest unit, from a low of 91.5% for OH1 to a high of 98.7% for MW1.</p>
11	<p><u>Objective 2.2:</u> Employ cost effective renewal and tending treatments that will provide a perpetual and continuous flow of quality wood fibre from the Martel Forest.</p> <p>Indicator 2.2.1: Silvicultural spending.</p> <p>Indicator 2.2.2: Percent area by forest unit and silviculture intensity - Planned silviculture levels are within the biological silviculture treatment limit targets (min/max proportions- % or ha) prescribed by the Strategic LTMD (Patchworks)</p>	<p>This objective was met during the audit period. Indicator 2.2.1 target is to have annual silviculture expenditures not exceed revenues.</p> <p>Indicator 2.2.2 targets are listed in Table FMP-9 of the 2011-2021 FMP.</p>	<p>Indicator 2.2.1: Tembec has chosen to maintain a significant buffer in its Forest Renewal Trust account and is in the process of reducing the excess funds over the next few years.</p> <p>Indicator 2.2.2: Planned silviculture levels are within limit so that the targets are being essentially maintained with only insignificant variances (1%) achieved for a few treatment regimes.</p>
12	<p>Objective 2.3: Reduce herbicide usage through timely field proven science and integrated pest management principles. Adhere to Tembec's annual herbicide limit</p>	<p>This objective was met during the audit period. The associated target, which is to apply no more than 8,973.5 Kg of active ingredient annually, was met each year of the audit period. Note that the active ingredient is the chemical that kills the competing vegetation.</p>	<p>Kg of active ingredient (kg/a.i.) of glyphosate applied annually:</p> <p>2012-13: 0.0 kg/a.i.</p> <p>2013-14: 3308.4 kg/a.i.</p> <p>2014-15: 4629.9 kg/a.i.</p> <p>2015-16: 5174.5 kg/a.i.</p>

No.	Objectives& Indicators	Auditor Assessment	Explanation/Comments
	(FSC). Indicator 2.3.1: Kg of Active Ingredient per year.		2016-17: 4190.7 kg/a.i.
<i>Providing for a Continuous and Predictable Flow of Economic and Social Benefit</i>			
13	<u>Objective 3.1:</u> Ensure the protection of natural resource features, non-timber uses, and other values dependent on forest cover on the land base. Indicator 3.1.1: Compliance with Rx's for the protection of natural resource features, land uses or values dependent forest cover (% of inspections in compliance).	Auditors reviewed a range of AOC prescriptions and CROs in the field for protection of natural resource features. Although there were some observed problems in the field (Finding # 5) these were not a systemic problem with implementation of prescriptions. Compliance with prescriptions for non timber uses are generally good and are reported in the FOIP reporting system. The objective has been met.	Finding # 5 reports some problems with implementation related to follow-up with winter water installations. This was not considered a general problem with installations on the forest.
14	<u>Objective 3.2:</u> Conduct forestry practices in a manner such that all resource users may gain benefit from the forest, while recognizing that compromises need to be made to ensure the viability of resource based activities. Indicator 3.2.1: Compliance with Rx's for the protection of resource-based tourism values (% of inspections in compliance).	Tembec had no non-compliances associated with resource-based tourism values during the audit period, and so met the desired level associated with the indicator. More broadly, tourism values are protected through the use of Area of Concern buffers or other restrictions, including restrictions on access, operations noise, and timing. While the Phase II AOC prescriptions were little changed from those in the Phase I FMP, Phase I included AOC's that were the result of discussions between a tourism outfitter and Tembec. Such an approach to designing AOC prescriptions allows them to be tailored to the specific characteristics of a specific business or location.	Tembec was generally found to readily engage with stakeholders and willing to negotiate compromises.
15	<u>Objective 3.3:</u> To minimize the impact of forest operations on known cultural heritage values.	As above, Tembec had no non-compliances associated with cultural heritage values during the audit period, and so met the desired level	

No.	Objectives& Indicators	Auditor Assessment	Explanation/Comments
	Indicator 3.3.1: Compliance with Rxs for the protection of cultural heritage values (% of inspections in compliance).	<p>associated with the indicator.</p> <p>The Phase II FMP included a variety of AOC's regarding cultural heritage values, including cultural heritage landscapes as well as specific heritage sites. Where a value is culturally sensitive, it can be hidden or camouflaged in various ways in the FMP document so as not to arouse unwarranted interest.</p>	
16	<p><u>Objective 3.4:</u> Supply industrial and consumer wood needs while maintaining forest sustainability, and to realize a predictable, continuous, and consistent flow of roundwood from the Martel Forest.</p> <p>Indicator 3.4.1: Long-term projected available harvest volume by species group</p> <p>Indicator 3.4.2: Planned harvest area (ha) by forest unit as per the Operational LTMD.</p> <p>Indicator 3.4.3: Planned harvest volume (m3) by species group.</p> <p>Indicator 3.4.4: Percent of forecast volume utilized, by mill.</p>	<p>This is essentially a planning objective as it is based on outcomes that are part of the 2011 FMP. The FMP largely meets the targets regarding planned forest area for the first 60 years, which is then followed by a transitional period. Planned volume harvest is also similar to the planned level until 2051, when the harvest volume of some species rises significantly while at the same time there is a significant decrease in other species volumes.</p> <p>This objective is largely met.</p>	<p>Since this is a planning objective, it is not surprising that it is consistent with the FMP. However, the actual harvest has fallen well short of planned levels.</p>
<i>Protecting and Conserving Ontario's Forest Soil and Water Resources</i>			
17	<p><u>Objective 4.1:</u> Conduct forestry practices in a manner which minimizes and mitigates the impacts on environmental quality.</p> <p>Indicator 4.1.1: Compliance with management practices that prevent,</p>	<p>This objective has been met, Not only were there no non-compliances related to site damage reported over the audit term, but the auditors saw no site damage on almost all sites and negligible site damage in small areas in a very small number of blocks.</p>	<p>The Company met its target during the audit period, which was that no more than 5% of inspections would have a minor non-compliance; and no inspections would have moderate or major non-compliance related to site damage.</p>

No.	Objectives& Indicators	Auditor Assessment	Explanation/Comments
	minimize or mitigate site damage (% of inspections in compliance).		
18	<p><u>Objective 4.2:</u> Minimize the impacts on water quality and aquatic habitat within areas of harvest, renewal, tending and access operations.</p> <p>Indicator 4.2.1: Compliance with prescriptions developed for the protection of water quality and fish habitat (% of inspections in compliance).</p>	This objective has been met. One non-compliance was issued related to aquatic habitat. The non-compliance rate for the Martel Forest during the audit term registered at 1%.	The Company met its target during the audit period, which was that no more than 5% of inspections would have a minor non-compliance; and no inspections would have moderate or major non-compliance related to impairment of aquatic habitat.
<i>Accepting Social Responsibilities for Social Development</i>			
19	<p><u>Objective 5.1:</u> Ensure that the available forest is protected from sustained deforestation or conversion to other uses.</p> <p>Indicator 5.1.1: Managed Crown forest available for timber production by Forest Unit.</p>	<p>The major causes of deforestation are the construction of roads and landings. Concentrations of slash also lead to areas of land being lost to productive forest development for decades so that these areas become gaps at the time of the future harvest. The loss of area to roads and landings does appear to be low and below 4% of the harvest block area, which is in line with projected levels. The area lost to mid to low quality poplar and slash that was piled was between 2-3%, in the opinion of the auditors, and double that when the slash was unpiled.</p> <p>Finding # 6 was issued as a result there being excessive slash in the opinion of the auditors. Subject to the concern regarding the loss of area due to slash, this plan objective is met.</p>	The use of the term “sustained deforestation” in the objective suggests that the loss of area to slash piles might be considered as “temporary” deforestation.
20	<u>Objective 5.2:</u> To provide opportunities to local First Nations and the public for input, consultation, participation and education during the development and implementation	The Company and MNRF met this objective and the associated desired levels for the indicators. The previous IFA report indicates that three First Nations communities participated in the development of the 2011 FMP, however they found the process challenging because it was	

No.	Objectives& Indicators	Auditor Assessment	Explanation/Comments
	<p>of the forest management plan.</p> <p>Indicator 5.2.1: Opportunities for involvement provided to, and involvement of, Aboriginal communities in plan development.</p> <p>Indicator 5.2.2: Local citizens committee's self-evaluation of its effectiveness in plan development.</p>	<p>very technical and because they felt there was little consideration given to reducing or eliminating the use of herbicide. Participation in Phase II development was less consistent but at a fairly good level nonetheless. Because the Phase II FMP is operational, there is no discussion of larger strategic issues in Phase II planning, which is why there is generally less Aboriginal involvement in these types of plans compared to Phase I FMP's.</p> <p>The LCC felt it has "functioned effectively", with good meeting attendance and participation on other related events.</p>	
<i>Maintaining and Enhancing Frameworks for Sustainable Forest Management</i>			
21	<p><u>Objective 6.1:</u> To encourage and ensure compliance with legislative and regulatory requirements, which contribute to the sustainable management of Ontario's forests.</p> <p>Indicator 6.1.1: Non-compliance in forest operations inspections (% of inspections in non-compliance, by category - minor, moderate, and significant, as determined by MNR).</p>	<p>This objective has been met, The non-compliance rate for the Martel Forest during the audit term registered at 1% (i.e., compliance rate equivalent to 99%).</p>	<p>The Company met its target associated with this objective during the audit period, which was that no more than 5% of inspections would have a minor non-compliance; and no inspections would have moderate or major non-compliance.</p>
22	<p><u>Objective 6.2:</u> To plan and manage forest access in such a manner that achieves a balance between accessed areas and remote roadless and/or functionally roadless areas for those who value this attribute of the forest.</p> <p>Indicator 6.2.1: Kilometres of road per square kilometre of Crown forest</p>	<p>This objective is not currently being met, and is not being assessed. Finding # 11 is included to address this problem.</p>	<p>The central issue is that the target for the objective is set to decrease the overall road density. Since no roads have been assessed for return to MNRF, the objective is neither assessed and it is unlikely it is being achieved, since there is an active road building program</p>

No.	Objectives& Indicators	Auditor Assessment	Explanation/Comments
	(8,641 km² of productive Crown forest as per FMP-1),		

APPENDIX 3 - COMPLIANCE WITH CONTRACTUAL OBLIGATIONS

Licence Condition	Licence Holder Performance
Payment of Forestry Futures and Ontario Crown charges	Tembec is up to date with its payments of Crown dues and the portion funds the Forestry Futures Trust and is in compliance with this contractual obligation.
Wood supply commitments, MOAs, sharing arrangements, special conditions	<p>There are two wood supply commitments listed in Appendix E of the current SFL. The first is with Levesque Plywood, which received an average of 10,400 m²/year of poplar veneer during the first four years of the audit period. Levesque essentially received all of the poplar veneer from the Martel Forest. A Memorandum of Agreement (MOA) was required by January 29, 2017.</p> <p>Niska North, the second commitment holder, did not operate during the audit period and did not receive any wood from the Martel Forest during this period.</p> <p>During the audit period, Appendix E of the SFL was amended to remove commitments to the following mills and/or companies: Longlac Wood Industries, Grant Forest Products (Timmins and Englehart mills), Birchland Veneer, Weyerhaeuser's OSB mill at Limer, and Norbord. All but one of these mills and some of the companies have closed or gone out of business. Grant's Englehart mill was sold to Georgia-Pacific and continues to operate; it purchases wood from the Martel Forest from time to time but no longer holds a commitment. The Limer OSB facility was repurposed into a pellet plant by Rentech and did obtain wood from the Martel Forest during part of the audit period. However the expected volume use did not materialize and the mill closed early in 2017 and is for sale.</p>
Preparation of FMP, AWS and reports; abiding by the FMP, and all other requirements of the FMPM and CFSA	The Company has prepared a Phase II Planned Operations document, AWS, and Annual Reports as required, and generally followed the intent of the 2011 FMP during the audit period. This condition has been upheld.
Conduct inventories, surveys, tests and studies; provision and collection of information in accordance with FIM	Tembec employs survey and data collection protocols in support of its forest management program on the Martel Forest. Mapping of operations (harvest, renewal, tending, etc.), assembly of related attribute data, and undertaking regeneration condition / free-to-grow surveys / silvicultural effectiveness monitoring is conducted annually to support production of the annual reports. Considerable volumes of data are derived from forest resource inventory datasets which have been consistently updated and are analyzed using contemporary GIS systems. Tembec's system of data collection and documentation processes meet the requirements of the FMPM and the FIM.
Wasteful practices not to be committed	The Northeast Region Operations Guide for Marketability Issues was followed during the audit term due to the poor market for mid to low grade hardwood during most of the audit period. This Guide permits some deviation from

Licence Condition	Licence Holder Performance
	normal practices. In this environment, utilization was to an acceptable standard and met requirements.
Natural disturbance and salvage SFL conditions must be followed	During the audit period, there was no salvage harvest undertaken. In 2012, the fire Wawa 12 destroyed 1626 ha of productive forest ...aspen leaf two-tier was indicated as moderate to high infestation in 2013 and in 2014 and not mentioned in 2015-16 AR.
Protection of the licence area from pest damage, participation in pest control programs	No insect pest management was undertaken or required during the 2012-2017 audit period.
Withdrawals from licence area	There were no area withdrawals from the licence area during the audit period.
Audit action plan and status report	The local action plan was signed on August 6, 2013, which was two months after the previous audit report was accepted by the Forestry Futures Committee. The status report was prepared and signed August 25, 2015, which is very close to the required time frame of two years after the action plan was accepted. The previous audit made three recommendations at the local level and none to Corporate MNRF. The actions identified in the Action Plan were appropriate to address the recommendations and the status report provides a fair assessment of the efforts made and results. MNRF made efforts to address the two recommendations directed towards it (LCC and Aboriginal consultation) however this audit identified a finding related to the LCC (Finding # 1) and one finding related to MNRF's reporting of Aboriginal engagement (Finding # 2) (This finding will likely be addressed at the Corporate level of MNRF). Tembec made efforts to improve its slash management however this audit generated a finding since the audit team felt that further management effort should be undertaken on the part of MNRF and the Company (Finding # 6).
Payment of forest renewal charges to Forest Renewal Trust (FRT)	Tembec is up to date with payments of the portion of Crown dues that go into the Forest Renewal Trust and is in compliance with this contractual obligation.
Forest Renewal Trust eligible silviculture work	Tembec has invoiced the Forest Renewal Trust per the SFL requirements for eligible silvicultural work. Areas where eligible work was undertaken have been appropriately mapped and documented.
Forest Renewal Trust forest renewal charge analysis	A review of renewal rates applicable to the Martel Forest has been undertaken every year during the 2012-17 audit term. Over the audit term there has been only one change in the renewal rates charged by forest species / product category - with the SPF rate, which was reduced from \$4.25/m ³ to \$2.50/m ³ in 2014-15 to reduce the surplus funds in the FRT account.
Forest Renewal Trust account minimum balance	Tembec has maintained the required minimum balance annually as required by the SFL agreement.
Silviculture standards and assessment program	The contractual obligations of Paragraph 16 of the SFL Agreement pertaining to areas harvested prior to April 1, 1994 on the former Superior Forest (Category 2 lands) and areas harvested prior April 1, 1995 on the former J.E. Martel Forest (XYZ Lands) have been satisfactorily met, and that future auditors need not examine these matters in

Licence Condition	Licence Holder Performance
	future audits conducted on the Martel Forest. Tembec consistently conducts regeneration and free-to-grow surveys as part of its regular silvicultural monitoring efforts and compiles the results in the Annual Reports, all of which has been undertaken and submitted in accordance with the applicable FMPM and FIM requirements.
Aboriginal Opportunities	The Company has been working very actively with interested Aboriginal communities to identify and implement activities that will improve the communities' access to forest benefits. An overview of the work that the Company has done is provided in the write-up for Best Practice #1 that was awarded to the Company for its Aboriginal engagement program. The write-up associated with Finding # 2 provides some insight into joint Company - MNRF activities.
Preparation of compliance plan	Tembec prepared a ten-year (covering the 2011-2021 period) Compliance Plan for the Martel Forest that was approved by MNRF and met all of the requirements outlined under the applicable 2009 FIM and MNRF's Forest Compliance Handbook, 2010 that were in effect when the plan was approved. While preparing the Phase 2 Planned Operations document, Tembec updated the ten-year compliance plan that met all of the requirements outlined under the applicable MNRF Forest Compliance Handbook, 2014 and the 2009 FIM that were in effect when the Phase 2 plan was approved. As well, Tembec prepared Annual Compliance Plans for each of the five years within the scope of the audit. These plans were found to comply with the requirements of MNRF's Forest Compliance Handbook (2010 and 2014 versions - whichever document was in force at the time) in all respects and were properly reviewed and approved by the MNRF.
Internal compliance prevention /education program	Tembec maintains an internal compliance prevention / education program by providing information and learning opportunities at their annual spring workshop and through training sessions sponsored by the Company. Tembec staff review the results of the compliance monitoring program at least annually. Compliance monitoring and environmental awareness training are also provided during these sessions. Operational details and compliance expectations for the upcoming season as outlined in the AWSs and FMP are reviewed at individual meetings with contractors before operations begin for each block. Many such reviews are also undertaken in a more casual environment on-site as "tailgate sessions". Company staff, including compliance inspectors, attend training and certification courses as needed or when opportunities arise. Documentation of the training sessions is maintained by the Company.
Compliance inspections and reporting; compliance with compliance plan	Tembec did manage a compliance monitoring and reporting program meeting the terms of its SFL. The company employed a complement of staff that conducted compliance inspections and filed compliance reports regularly, corresponding to the direction provided in the applicable policy guidelines and legal manuals (Forest Compliance Handbook, 2010; Forest Compliance Handbook, 2014; Forest Information Manual). Records show that the Company maintained a 99% compliance rate over the audit term. Only minor non-compliances were found during the auditors' field tour and one finding was issued related to the reporting of operational issues. Otherwise, the auditors found ample evidence to support their conclusion that Tembec maintained a satisfactory and sufficiently effective oversight role in the conduct of its compliance monitoring program on the Martel Forest.
SFL Forestry operations on	This audit procedure was determined to be low risk and was not audited.

Licence Condition	Licence Holder Performance
<p>mining claims</p> <p>Obligations on Class X,Y, and Z lands</p>	<p>The two predecessor forests to the current Martel Forest, namely the Superior Forest and the J.E. Martel & Sons Forest, each had separate obligations for meeting silvicultural standards on lands that had been harvested before and after established dates specified in Paragraph 16 of each respective licence agreement. These obligations were merged under the amalgamated Martel Forest as of 2006, but were kept separate for each former Forest as found in the definitions outlined under Paragraph 16 in the current SFL agreement.</p> <p>The audit team analyzed map-based evidence and sampled the current inventory to clarify the status of the Category 2 and XYZ Lands obligations on the Martel Forest. Based on this work, the auditors decisively conclude that the contractual obligations of Paragraph 16 of the SFL Agreement pertaining to areas harvested prior to April 1, 1994 on the former Superior Forest and areas harvested prior to April 1, 1995 on the former J.E. Martel Forest have been satisfactorily met, and that future auditors need not examine these matters in future audits conducted on the Martel Forest.</p>

APPENDIX 4 – AUDIT PROCESS

Overview

The Crown Forest Sustainability Act (CFSA) directs the Minister of Natural Resources and Forests to conduct a review of each tenure-holder every five years to ensure that the licensee has complied with the terms and conditions of its licence. The Independent Forest Audit (IFA) contributes to this mandate, as well as complying with the direction to the Ministry laid out in the 1994 Class EA decision, subsequently confirmed in the 2003 Declaration Order⁴. Regulation 160/04 under the CFSA sets out direction related to the timing and conduct of IFA's, the audit process and reporting.

The Independent Forest Audit Process and Protocol (IFAPP) sets out in detail the scope and process requirements of an IFA, and contains approximately 170 individual audit procedures. The IFAPP, which is reviewed and updated annually by the MNRF, states that the purpose of the audits is to:

- *“assess to what extent forest management planning activities comply with the CFSA [Crown Forest Sustainability Act] and the Forest Management Planning Manual;*
- *assess to what extent forest management activities comply with the CFSA and with the forest management plans, the manuals approved under the CFSA, and the applicable guides;*
- *assess, using the criteria established for the audit, the effectiveness of forest management activities in meeting the forest management objectives set out in the forest management plan;*
- *compare the planned forest management activities with the activities actually carried out;*
- *assess the effectiveness of any action plans implemented to remedy shortcomings identified in a previous audit;*
- *review and assess a licensee's compliance with the terms and conditions of the forest resources licence; and*
- *provide a conclusion stating whether or not the forest is being managed consistently with the principles of sustainable forest management.*

The audit team may develop findings and best practices. A finding may be described as the high level identification of [a] non-conformance or a situation where the auditors perceive a critical lack of effectiveness in forest management activities, even though no non-conformance with law or policy has been observed.

Findings may be directed towards the Company and/or at the appropriate administrative level of the Ministry of Natural Resources (District, Region or Corporate) or they may not be directed towards any party. Auditees must address all findings through follow-up actions.

If the Audit Team feels that an aspect of forest management is exceptional it may be identified as a best practice. The IFAPP states that *“Highly effective novel approaches to various aspects of forest management may represent best practices. Similarly,*

⁴ Declaration Order regarding MNR's Class Environmental Assessment Approval for Forest Management on Crown Lands in Ontario, approved by Order in Council 1389/03 on June 25, 2003.

applications of established management approaches which achieve remarkable success may represent best practices.” In contrast, “situations in which forest management is simply meeting a good forest management standard” do not qualify.

The IFAPP describes each of the components of the audit process and contains the audit protocol, which constitutes the main framework for the audit. The procedures, which are the basis for assessing the auditees' compliance and effectiveness, are organized according to eight principles. A positive assessment of the procedures under each principle results in the principle being achieved. A negative assessment of a procedure typically leads to a recommendation.

Risk-based Auditing Approach

In 2017, the auditing process was changed to incorporate some aspects of risk management; namely the auditors are asked to review evidence related to approx 75 of the total of 170 audit procedures to evaluate risk of negative impacts. The audit uses the widely-recognized concept that risk is a function of both the probability of an event occurring and the impact of the event should it occur. The 'event' in the analysis is that there will be a finding associated with an audit procedure.

The auditors ranked each of the optional procedures according the probability of a non-compliance occurring, and the likely impact of non-compliance should it occur. The probability of non-compliance was ranked as high, medium, or low based on preliminary review of the evidence for the Martel Forest, and the audit team's familiarity with the procedure and its general tendency to lead to non-compliance in previous IFA's. The likely impact of non-compliance for each procedure was evaluated as follows:

1. Little impact as the procedure is of insufficient gravity as to warrant a recommendation if compliance is not achieved;
2. Medium impact as the result of non-compliance could result in a recommendation that does not affect forest sustainability; and
3. Medium-high impact as the result of non-compliance, in combination with other instances of non-compliance, may have implications for forest sustainability.

High-impact procedures, for which non-compliance may raise concerns regarding sustainability, are categorized in the IFAPP as mandatory audit procedures.

Recognizing that there is some risk that any procedure will lead to an instance of non-compliance, a separate process identified the tolerance for risk for this exercise. Risk tolerance is defined as the level of risk that is acceptable for each procedure. If a procedure was considered to have an acceptable level of risk, it was not audited. The tolerance employed for this exercise is illustrated in the matrix below. Cells coloured red have a high level of risk and procedures that were graded as falling into those cells were selected to be audited. Cells coloured green have an acceptable level of risk and procedures falling into those cells were not audited.

Probability of Non-Compliance	Impact of Non-Compliance		
	Low (Category 1)	Medium (Cat 2)	Medium-High (Cat 3)
High	A	B	C
Medium	D	E	F
Low	G	H	I

Using this process, it was identified that 5 of the 76 optional procedures should be audited. The assessment of risk was reviewed and approved by the Forestry Futures Committee. The optional procedures to be included in this audit are:

- 3.10.2.2 – Phase II contributor's page
- 3.14.2.1 –Changes during AWS implementation
- 4.7.2 –Verification of road construction and maintenance activities
- 6.1.1 –MNRF District compliance plan and associated monitoring
- 6.2.2.2 – MNRF compliance oversight

Audit Implementation

The audit commenced with the preparation of a detailed audit plan⁵, which described the results of the risk assessment, set out the audit schedule, described the procedures to be used during the audit and assigned responsibilities to members of the Audit Team. A pre-audit teleconference was held with the lead auditor, the Company and the MNRF. The primary purposes of the meeting were to familiarize the auditees with the audit process, review the Audit Plan, and make a preliminary selection of sites to inspect in the field during the audit. Subsequently, the lead auditor met with Tembec and District MNRF staff on September 13 to review field sites and hold the opening meeting for the audit. There were some adjustments were made to the selected sites due to access issues, long driving times, and to improve the balance of operations and sites.

⁵ ArborVitae Environmental Services Ltd. Plan for the Independent Forest Audit of the Martel Forest, August 24, 2017.

Table 2. Audit procedures by principle and risk assessment outcome.

Principle	Optional			Mandatory	Comments
	Applicable (#)	Selected (#)	% Audited	Audited (#) (100% Audited)	
1. Commitment	2	0	0	0	The forest is certified to a third-party standard and procedures associated with the principle were determined to be low risk
2. Public Consultation and Aboriginal Involvement	5	0	0	3	Three optional procedures were determined to be low enough risk that they were not audited, and two (related to issue resolution and individual environmental assessments) were not audited as neither of these processes was engaged in during the planning process.
3. Forest Management Planning	7	2	28	13	Of the 7 applicable optional procedures (excluding those related to Phase I planning, contingency plans and plan extensions); two were audited: one because there was a relatively high number of plan revisions and one because there was considerable overlap between plan contributors and plan reviewers.
4. Plan Assessment & Implementation	2	1	50	9	The FFT expects the audit team to assess the spending under the Forest Roads Construction and Maintenance Agreement; the second optional procedure concerned bridging which was completed prior to the audit term.
5. System Support	2	0	0	0	The forest is certified to a third-party standard and procedures associated with the principle were determined to be low risk
6. Monitoring	12	2	16	6	Tembec's excellent compliance record, a positive assessment of compliance in the previous IFA and this auditor's review of Tembec's compliance plans gave the lead auditor a high level of comfort with the compliance program; the selected optional procedures related to OMNR's compliance activities.
7. Achievement of Objectives and Forest Sustainability	0	N/A	N/A	15	All procedures are mandatory and were audited.
8. Contractual Obligations	6	0	0	18	Optional procedures were related to contractual obligations that were either not applicable or for areas assessed as acceptable risk.
Totals	46	14	30	67	

The focus of the audit was an intensive five-day site visit (Sept 25-29, 2017), which included document review, interviews and inspections of a variety of sites throughout the Forest where activities had been undertaken during the audit period. The audit schedule was thrown off a bit as inclement weather delayed helicopter inspections by one day. As a result one additional auditor day was spent viewing audit sites from the ground. The formal closing meeting for the audit took place on October 5 by teleconference. At the closing meeting draft recommendations of the audits findings were provided. In the two-week period following the closing meeting the audit team received comments on the draft recommendations and those have been considered in preparing this draft final report.

Sampling and Sample Intensity

The IFAPP requires that at least 10% of each major activity be sampled. **Table 3** shows the total amount of each key activity that took place during the audit period, and the sample size and sampling intensity in the IFA. Most sites were pre-selected during the pre-audit meeting and some modifications were made to improve the balance between years and to improve the efficiency of the truck tours.

For some types of operations, only four years of data were available and some of the figures in **Table 3** represent an estimate of the level of operations in year five. The audit met or exceeded the minimum sample size specified in the IFAPP for all activities, with the overall level of sampling ranging from 11% to 39% for key activities.

The IFAPP directs the auditors to verify in the field at least 10% of the areas reviewed in a specified procedures assessment undertaken by KPMG for the 2015/16 fiscal year. Because the draft Specified Procedures report arrived two days before the site visit, the auditors were unable to revise the inspection package. Nonetheless, the auditors verified in the field 37% of the eligible silvicultural activities undertaken by Tembec and its contractors/shareholders.

Examples of operations were examined in each major forest unit present on the Forest, representing a range harvest years, season of operation, and silvicultural treatment packages. A number of sites where renewal activities had been conducted during the audit period were visited to evaluate the appropriateness and quality of these treatments and to perform an initial evaluation of their effectiveness. These included sites that were site prepared, seeded, planted, and tended, and those for which natural regeneration treatments were prescribed.

Table 3. Sampling intensity of the field operations, by key feature investigated.

Feature	Total in Audit Period	Total Sampled	Sample Intensity %
Harvest (ha) ¹	18,814	5,534	29%
Mech Site Preparation (ha)	5,394	1,811	34%
Chem Site Preparation (ha)	1,190	382	32%
Natural Regeneration (Clearcut)	9,418	2,595	28%
Planting (ha)	7,233	2,144	30%
Seeding (ha) ¹	514	199	39%
Aerial Tending (ha)	8,438	1,127	13%
Free-to-Grow Assess (ha) ¹	27,445	2,907	11%
2015/2016 FRT Areas (ha)	5,372	1,616	30%

¹ – estimates made from four years of data available from 2012-2015 and estimates for 2016/17.

The table is intended to portray an approximate level of effort only. There are several factors which preclude too-precise an interpretation of the figures presented in the table. Although we viewed many individual harvest and/or treatment blocks during the field inspection portion of the audit, more than one aspect of forest management was inspected at some sites. For example, at sites where harvesting had taken place, harvest practices, compliance issues, road construction, site preparation, and regeneration activities may all have been inspected. Finally, of the area figures shown above, it should be noted that we did not inspect every hectare of the blocks we visited – such a level of effort would be infeasible.

Input from Indigenous Communities

The audit team contacted all First Nations identified as being interested in the forest by e-mail, letter and telephone. The local representative from the Métis Nation of Ontario (MNO) was also contacted. Interviews were held with representatives of Brunswick House First Nation and Michipicoten First Nation, the MNO rep and the head of Wahkohtowin. In general, the audit team found these discussions thoughtful and thought-provoking.

During the audit period, there was a high level of engagement on the part of many of the First Nations and Wahkohtowin with Tembec and MNRF. In discussion with the auditors, a number of concerns were raised, ranging from questions regarding the health of the forest management paradigm to concerns about lack of training and employment opportunities and some very site specific issues. Capacity constraints were identified as obstacles to greater engagement.

The Company's use of herbicide was raised by all Aboriginal interviewees. There is concern about the impact of these herbicides on all aspects of the ecosystem, from water quality to wildlife to wild foods and medicines. There is a desire to see alternative approaches used and among one First Nation, there is a very strong desire to see the use of herbicides halted. Some Aboriginal reps questioned why Quebec felt it was able to ban the use of herbicide while Ontario hasn't.

There is also a great deal of concern regarding the approach taken to harvesting poplar and utilizing only the veneer (in many cases). The concerns ranged from the amount of roadside debris and unused wood left, to the general wasting of trees that take a long time to reach maturity to the impact on regeneration. Community representatives questioned how long this approach would be allowed to continue. One community expressed concern with high stumps left on winter harvested blocks near one of its reserve areas, and unfortunately this point was raised after the audit team had completed its field inspections, which did not include the blocks in question. (During the audit, the auditors noticed the occasional high stump, usually in rocky sites where the feller head could not get low enough to keep the stump height within limits.

Some of the statements from Aboriginal reps were at odds with statements from the Company and MNRF and the auditor was unable to verify a number of the claims, in part because they were often made without reference to timelines and context. For example, questions were raised about whether notifications were provided for operations on traplines or whether requests for customized consultation were not followed through.

The planning process is very technical and complex and it a challenge to understand and feel some level of confidence in engaging in the process, for anyone.

Concerns were also raised with the various processes that contribute to the goals of Condition 56 that are generally directed from the MNRF region, and that these are not well integrated with the Condition 56 reporting and monitoring framework.

Input to the Audit from LCC members

As part of the audit, auditors reached out to LCC members to obtain feedback regarding the functioning of the LCC over the audit period. Interviews were conducted with 4 of the 7 the LCC members – 2 via phone, and 2 in-person.

All LCC members generally were of the opinion that the LCC was functioning in accordance with their mandate. However, there were issues that were highlighted, including:

- Challenges with recruiting new, knowledgeable and diverse members – members related to industry constitutes the majority of interests represented on the LCC;
- Need for representation of remote tourism, local business, youth and the general public interest groups;
- Lack of incentives to recruit or maintain LCC members;
- Lack of training for members (new and existing);
- High quality of technical presentations by Tembec (e.g. AWS, ARs), as well as their promptness regarding follow up to questions;
- Need for a co-Chair to manage meetings and maintain the agenda when the Chair is not present;
- High level of effort and time commitment required to keep on top of forest management planning processes and details;
- Desire to have joint conversation with Indigenous communities related to shared values and concerns (e.g. wildlife populations, spraying, herbicides);
- Lack of information from the MNR regarding wildlife population status (e.g. moose, bear, wolves);
- Need for better approach to track the status and follow-up on action items in between meetings, given the length of time between LCC meetings;
- Discouragement to submit expenses for reimbursement;
- Better funding for LCC initiatives, recruitment and incentives;
- Need for a champion of the LCC within the MNRF for this forest

Input through Public Comment

In an attempt to solicit public input into the audit, a notice inviting comment was placed in the local newspaper (Chapleau Express). In addition, the auditors developed an on-line questionnaire and included the link in the newspaper notice. The link was also circulated to LCC members, who were asked to distribute it to their constituents. One partial response was received by the audit team, to the on-line survey, and the respondent felt that the forest was being managed sustainably.

APPENDIX 5 – LIST OF ACRONYMS

ACOP	Annual Compliance Operations Plan
AEA	Aggregate Extraction Area
AOC	Area of Concern
AR	Annual Report
AWS	Annual Work Schedule
BMP	Best Management Practice
BW1	The White Birch forest unit
CAART	Chapleau Area Aboriginal Resource Team
CFSA	Crown Forest Sustainability Act
Class EA	Class Environmental Assessment for Timber Management on Crown Lands in Ontario
CROs	Conditions on Regular Operations
CTL	Cut to Length
EA	Environmental Assessment
FIM	Forest Information Manual
FMP	Forest Management Plan
FMPM	Forest Management Planning Manual
FMU	Forest Management Unit
FOIP	Forest Operations Inspection Program
FOP	Forest Operations Prescription
FTG	Free-to-Grow
FRT	Forest Renewal Trust
FSC	Forest Stewardship Council
FU	Forest Unit
GIS	Geographic Information System
ha	hectares
HAP	Herbicide Alternatives Program
HCV	High Conservation Value
HCVF	High Conservation Value Forest
km	kilometres
IFA	Independent Forest Audit
IFAPP	Independent Forest Audit Process and Protocol
LCC	Local Citizens Committee
LTMD	Long Term Management Direction
m ³	cubic meters
MEA	Moose Emphasis Area
MNRF	Ontario Ministry of Natural Resources and Forestry
MOA	Memorandum of Agreement
MNO	Métis Nation of Ontario
MW1	Mixedwood 1 forest unit – Jack Pine leading Mixedwood
NER	(MNRF) Northeast Region
NSRCF	Northeast Superior Regional Chiefs Forum
ORB	Operational Road Boundary
OSB	Oriented Strandboard
PJ1	Jack Pine 1 forest unit – pure jack pine
PO1	Poplar 1 forest unit – pure poplar
PRW	Red and White Pine forest unit – managed using seed tree system

PW	White Pine forest unit – managed using the shelterwood system
ROD	(MNRF) Regional Operations Division
RPF	Registered Professional Forester
SAR	Species at Risk
SEM	Silvicultural Effectiveness Monitoring
SFL	Sustainable Forestry Licence
SFM	Sustainable Forest Management
SPF	Spruce-Pine-Fir
SGR	Silvicultural Ground Rules
TLE	Treaty Land Entitlement

APPENDIX 6 – AUDIT TEAM MEMBERS AND QUALIFICATIONS

Auditor	Role	Responsibilities	Credentials
Dr. Jeremy Williams, RPF	Lead Auditor, Harvest, Wood Supply and Aboriginal Engagement Auditor	<ul style="list-style-type: none"> • overall audit coordination; • oversee activities of other team members; • liaise with Company & MNRF; • review and inspect harvesting records and practices; • review aspects of forest management related to forest economics and social impacts; • reviews FMP modeling inputs and activities • Assess the Aboriginal engagement 	B.Sc.F., Ph.D. (Forest Economics), RPF. More than 22 years consulting experience in Ontario related to forest management, planning, wood supply modeling, and forest economics; participated in more than 40 previous IFA assignments; certified as an auditor by the Quality Management Institute.
Mark Leschishin, RPF.	Silvicultural Auditor	<ul style="list-style-type: none"> • Review and inspect silvicultural practices and related documentation; • Review renewal /silvicultural success and FTG assessment; • review and inspect selected environmental aspects of forest management. 	Hon. Dip. For, Tech., H.B.Sc.F., RPF. In addition, Mr. Leschishin is a certified lead forest assessor for SmartWood, and a certified EMS lead auditor (cert. # 254-213) in accordance with the ISO 14001:2004 standards. Mark has extensive planning and auditing experience focused on northwestern Ontario, and has participated in some 30 IFAs.
Mr. Tom Clark	Ecologist and Roads Auditor	<ul style="list-style-type: none"> • review and inspect Areas of Concern Documentation and Practices; • review and inspect aspects of forest management related to environmental practices and wildlife management integration; • review and inspect access and water crossings 	M.Sc. Zoology (wildlife ecology). Tom is an experienced auditor and has participated in more than 23 Independent Forest Audits from 1996 to 2012. Tom is a Board member of Westwind Stewardship and a long-serving member of the Provincial Policy Committee.
Ms. Christine Korol	Planning & LCC Auditor	<ul style="list-style-type: none"> • review FMP and related documents to ensure compliance with FMPM and other regulations; • review plan development process for conformity with FMPM; • review the performance of the LCC 	B.Sc., M.F.C. Approved lead forest management auditor under the FSC system, and has conducted over 30 FSC forest management audits and evaluations, including 20 as the lead auditor. This is her first IFA.