

Crossroute Forest
Independent Forest Audit
2012 – 2017

Arbex Forest Resource Consultants Ltd.
October, 2017

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1.0 Executive Summary

This report presents the findings of an Independent Forest Audit (IFA) of the Crossroute Forest (CF) conducted by Arbex Forest Resource Consultants Ltd. The audit utilized a risk-based approach based on the 2017 Independent Forest Audit Process and Protocol (IFAPP). The audit scope is five years. It includes the 2012 Phase II Forest Management Plan (FMP) implementation to March 31, 2017 and the development of the 2017-2020 Contingency Plan (CP). Procedures and criteria for the IFA are specified in the 2017 Independent Forest Audit Process and Protocol (IFAPP). The audit field site examinations were completed by helicopter and truck in September 2017.

The Crossroute Forest (CF) is managed by Resolute FP Canada Inc. (RFP) under Sustainable Forest License (SFL) # 542245. The CF is within the Ministry of Natural Resources and Forestry (MNRF) Northwestern Region and is administered by the MNRF Fort Frances District.

In the audit term, the delivery of forest management on the Crossroute Forest was adversely affected by;

- The continued downturn in the forest sector economy of northwestern Ontario.
- Staffing issues at the MNRF due to the “transformation process” and staff layoffs, turnovers and retirements at RFP.

Continued poor markets for some species and products resulted in harvest levels achieving approximately 60% of the planned Phase II available harvest area. The lower than planned harvest resulted in some FMP objectives and associated targets being underachieved during the audit term.

The economic downturn contributed to the shutdown of the Fort Frances pulp mill in 2014. This shut down resulted in less presence of RFP staff on the unit than in the past due to staff layoffs, retirements and turnovers. More significantly, there were forest-wide wood utilization and compliance issues during 2014-2016 related to “long-butting” and merchantable wood left in slash piles as harvest operations transitioned from tree length to cut-to-length processes to facilitate the redirection of wood from the pulp mill to sawmills in Sapawe, Ignace and Thunder Bay (Finding # 6).

As a consequence of MNRF staffing capacity (number of staff and staff capability/experience), and other work priorities arising from the “transformation process” it took public complaints and approximately a year for the MNRF to become aware of the existence and extent of the utilization issue. RFP compliance inspectors failed to identify, report and correct these utilization infractions. Resolute accepted responsibility for the issue and committed to corrective actions to clean-up identified harvest blocks by October 2016. The MNRF elected not to pursue administrative

penalties under Section 58 of the *Crown Forest Sustainability Act*. This approach to the issue was viewed as a win for all parties because wasteful practices would be cleaned up, crown stumpage would be received, and Resolute would resolve the utilization problems through voluntary remedial actions. Approximately 60% of the scheduled areas remain untreated at the end of the audit term, principally due to fluctuating markets for biomass. In Finding # 8, the audit team concludes that the original schedule was unrealistic and that the parties would benefit from another review of timelines and targets. The team also found a considerable improvement in wood utilization and the delivery of the harvest compliance inspection program in the final year of the audit term.

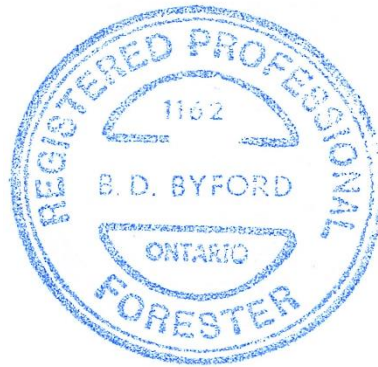
The previous audit recommended that the SFL licence be extended and provided eighteen recommendations to address identified shortcomings. This audit made eleven findings. Five findings can be characterized as administrative, and six non-conformances associated with the delivery of forest management operations are identified (See Table 1 and Appendix 1).

In spite of the wood merchandising issue and shortcomings in the delivery of the forest operations inspection program, we found that, on balance the management of the Forest was consistent with the achievement of FMP objectives and forest sustainability. The area renewed exceed the area harvested and a high level of regeneration success has been achieved. A high degree of regeneration success was achieved (91%). Silviculture success, although low at 41%, is in the opinion of the audit team, more reflective of the restrictive regeneration standards in SGRs and other issues related to the timing of the assessment vis a vis the stand's successional trajectory and a lack of historic records related to past silvicultural ground rules and/or prescriptions.

We concluded that, on balance, an effective silviculture program was delivered. Our field audit found that the efficacy of the herbicide spray program was uneven (Finding # 4). This issue was attributed to many factors such as weather, contractor issues (the seasonal late delivery of the spray program), and delays by Resolute in implementing treatments. RFP is encouraged to continue to monitor the effectiveness of chemical tending treatments and retreat areas when competition unduly impedes the growth and development of crop species.

The audit team concludes that forest management was planned and implemented in accordance with the Crown Forest Sustainability Act (CFSA) and the FMP targets are consistent with the achievement of plan objectives and forest sustainability. We concluded that Resolute FP is managing the CF in compliance with the terms and conditions of its sustainable forest licence and that forest sustainability as assessed through the 2017 Independent Forest Audit Process and Protocol is being achieved. The audit team recommends the Minister extend the term of the Sustainable Forest Licence # 542245 for a further five years.

Bruce Byford
Bruce Byford R.P.F.
Lead Auditor



2.0 Table of Findings

Table 1 Findings

Concluding Statement on Licence Extension:
<p>The audit team concludes that management of the Crossroute 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 Resolute FP. Forest sustainability is being achieved, as assessed through the Independent Forest Audit Process and Protocol. The audit team recommends the Minister extend the term of the Sustainable Forest Licence # 542245 for a further five years.</p>
Findings
<p>Finding # 1:</p> <p>Recommendation # 2 of the 2012 IFA that required that “<i>MNR shall work with the LCC to offer the Company a larger role on the LCC</i>” has not been fully addressed.</p>
<p>Finding # 2:</p> <p>The delivery of FRI products is late and out of synchrony with the forest management planning cycle. The quality of the product has resulted in operational and planning challenges and additional costs for RFP.</p>
<p>Finding # 3:</p> <p>Amendments to address 2017 Contingency Plan “<i>required alterations</i>” (#’s 68122, 68123, 68130, and 68280) have not been drafted and approved.</p>
<p>Finding # 4:</p> <p>The efficacy of the herbicide tending program was uneven across ecosites and operating years. The inability to effectively control site competition has resulted in increased hardwood densities and conifer mortality on some artificially renewed conifer sites.</p>
<p>Finding # 5:</p> <p>FMP operational standards for forestry aggregate pits were not consistently met.</p>
<p>Finding # 6:</p> <p>A wood utilization compliance issue that persisted for two years was not reported by MNR or Resolute.</p>

MNRF and Resolute failed to identify and report on operational issues that had the potential to result in non-complaint operations.

Management staff in MNRF and Resolute failed to provide an appropriate level of oversight of the staff and programs under their jurisdiction.

Finding # 7:

There is no evidence of broader MNRF District priority setting and risk assessment for the allocation of available resources in the Annual District Compliance Plan.

Finding # 8:

The schedule for the completion of the clean-up of 2014-2016 harvest blocks has proven to be unrealistic and unattainable.

Finding # 9:

A backlog in area requiring FTG survey exists.

Finding # 10:

The Action Plan Status Report was submitted three months late.

Finding # 11:

The term of Sustainable Forest Licence # 542245 has not been extended.

3.0 Introduction

This report presents the findings of an Independent Forest Audit (IFA) of the Crossroute Forest (CF or the Forest) conducted by Arbex Forest Resource Consultants Ltd. for the period of April 1, 2012 to March 31, 2017. The audit utilized a risk-based approach based on the 2017 Independent Forest Audit Process and Protocol (IFAPP). The audit scope is five years. It includes the 2012 Phase II FMP implementation to March 31, 2017 and the development of the 2017-2020 Contingency Plan.

The Crossroute Forest (CF) is managed by Resolute FP Canada Inc. (RFP) under Sustainable Forest License (SFL) # 542245. The CF is situated within the Ministry of Natural Resources and Forestry (MNRF) Northwestern Region and is administered by the MNRF Fort Frances District Office and its Atikokan Area Office.

The Forest is certified by the Sustainable Forest Initiative (SFI). RFP also holds ISO 14001 certification.

3.1. Audit Process

The Crown Forest Sustainability Act (CFSA) requires that all Sustainable Forest Licences (SFLs) and Crown Management Units (CMUs) be audited every five to seven years by an independent auditor. The Independent Forest Audit Process and Protocol (IFAPP) provides guidance in meeting the requirements of Ontario Regulation 160/04 made under the CFSA and further required in the Conditions of MNR's Class Environmental Assessment Approval for Forest Management on Crown Lands in Ontario (MNR-75). The scope of the audit is determined by the Ministry of Natural Resources and Forestry (MNRF) in specifying mandatory audit criteria (Appendix A of the IFAPP). The audit scope is finalized by the auditors in conducting a management unit risk assessment by identifying optional audit criteria from Appendix A to be included in the audit. The final audit scope is accepted by the Forestry Futures Committee (FFC) with any subsequent changes to the audit scope requiring agreement between the FFC, MNRF and the Lead Auditor.

The procedures and criteria for the delivery of the IFA are specified in the 2017 Independent Forest Audit Process and Protocol (IFAPP). The audit generally assesses licence holder and Ministry of Natural Resources and Forestry (MNRF) compliance with the Forest Management Planning Manual (FMPM) and the CFSA in conducting forest management planning, operations, monitoring and reporting activities. The audit also assesses the effectiveness of forest management activities in meeting the objectives set out in the forest management plan (FMP). The audit further reviews whether actual results in the field are comparable with planned results and determines if the results were accurately reported. The results of each audit procedure are not reported on separately but collectively provide the basis for reporting the outcome of the audit. The audit provides the opportunity to improve Crown forest management in Ontario through adaptive management. Findings of “*non-conformance*” are reported. A “*Best Practice*”

is reported when the audit team finds the forest manager has implemented a highly effective and novel approach to forest management or when established forest management practices achieve remarkable success.

Arbex Forest Resource Consultants Ltd. conducted the IFA in September 2017, utilizing a four-person team. Profiles of the audit team members, their qualifications and responsibilities are provided in Appendix 6. Details on the audit processes implemented are provided in Appendix 4.

3.2. Management Unit Description

The Crossroute Forest (CF) is an amalgamation of the former Manitou, Seine River, Fort Frances and Flanders Forests. The Forest is managed by Resolute FP Canada Inc. (RFP) under Sustainable Forest License (SFL) # 542245 and administered by the MNRF Fort Frances District. The main population centres associated with the Forest are Fort Frances, Mine Centre, Emo, Rainy River and Atikokan (Map 1).

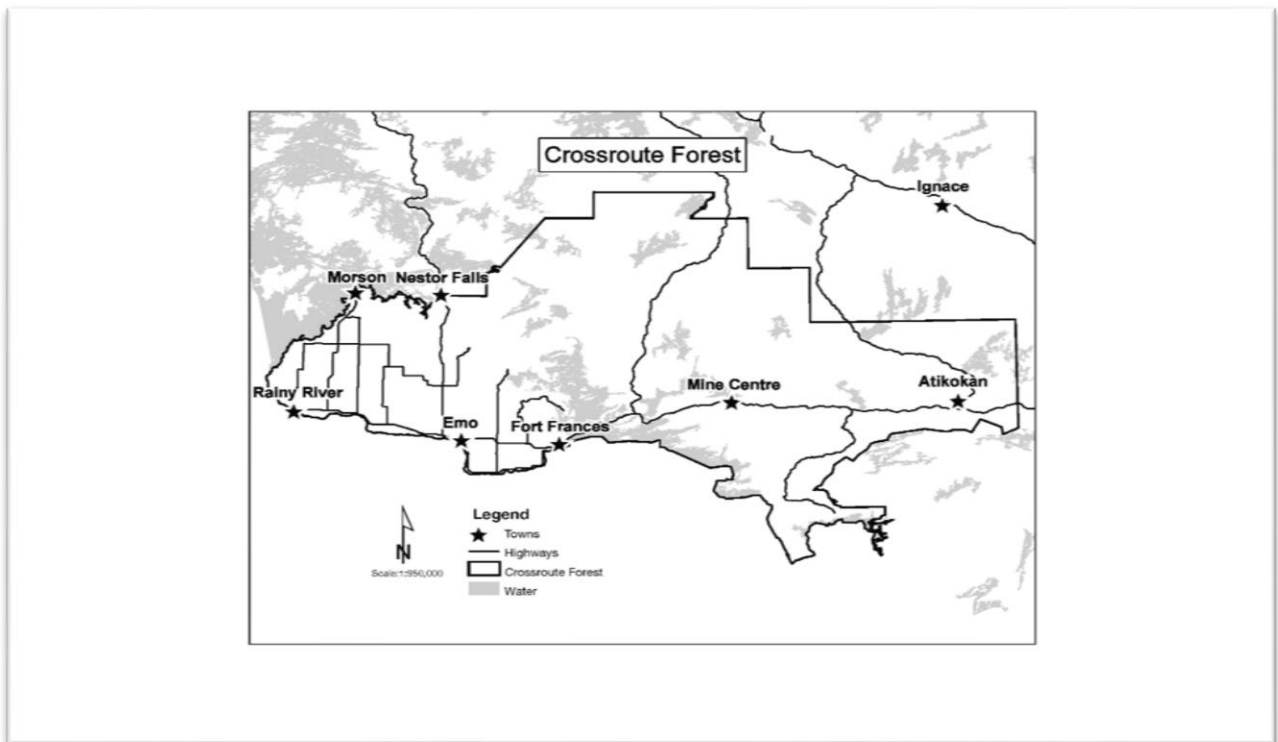


Figure 1 Location of the Crossroute Forest

There are two Local Citizens Committees (LCCs) with responsibilities on the forest, the Fort Frances Natural Resources Advisory Committee (NRAC) and the Atikokan Area Resource Management Advisory Committee (RMAC). The Forest is certified by the Sustainable Forest Initiative (SFI). RFP also holds ISO 14001 certification.

The following Indigenous communities are associated with the CF; Anishinaabeg of Naongashiing FN, Couchiching FN, Lac La Croix FN, Mishkosiimiiniiziibing FN, Mitaanjigaming FN, Naicatchewenin FN, Naotkamegwanning FN, Nigigoonsiminikaaning FN, Ojibway's of Onegaming FN, Rainy River FN, and Seine River FN. The Métis Nation of Ontario, Atikokan and Area Métis Council, Sunset Country Métis Council and Grand Council of Treaty 3 also have an identified interest in the Forest.

The Crown land area of the forest is 873,723 hectares with 838,121 hectares classified as production forest (Table 2).

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

Land Type	Managed (Ha)	Other (Ha)
Water		275,017
Non-Forested		14,459
Non-Productive Forest Land		
Non-Productive Forest	0	133,644
Protection Forest	35,602	9,791
Production Forest		
Forest Stands	693,857	30,078
Recent Disturbance	68,043	679
Below Regeneration Standards (Older Low Stocked Stands/Recent Not Yet FTG)	76,221	1,005
Subtotal Production Forest	838,121	31,762
Subtotal Forested Land	873,723	175,217
Total	873,723	464,692

Source: Table 1 2007 FMP

The CF is ecologically diverse with both the Boreal and Great Lake-St. Lawrence Forest regions represented on the landscape. Mixedwood forest types (comprised of spruce, jack pine, balsam fir, poplar and white birch associations) are most abundant, accounting for approximately 31% of the forested area. Boreal forest types, such as poplar and jack pine comprise significant proportions of the Forest (26 and 19% respectively). Although species commonly associated with the Great Lakes-St. Lawrence Forest Region do not comprise a significant portion of the forested area they contribute significantly to its character and biodiversity.

Species at Risk (SAR) associated with the CF include the grey fox and the American badger, whip-poor-will, common nighthawk and great grey owl. Many uncommon plants also occur on the CF due to the prairie influence on the western portion of the unit.

The road-based recreational and remote tourism industries associated with the CF are significant to the local and regional economy. The 2007 FMP reports that there were 146 licenced tourism operations.

Older age classes predominate (61-80 and 81-100) with 37% older than 80 years. There is under representation in the 21-40 and 41-60 year classes. The age class area imbalance has implications for the provision of a balanced wood supply (harvest level declines are projected in successive management terms) and supply of habitat for some wildlife species. Older forests are also more susceptible to natural disturbance events such as wind and fire. The Trends Report Author also indicates that *“the age class area imbalance cannot be addressed through silviculture and will continue to be a significant management consideration in the next planning cycle.”*

The downturn in the forest sector economy negatively impacted the delivery of forest management on the unit during the audit term with harvest levels only achieving 60% of the planned Phase II available harvest area (AHA). Resolute FP and Resolute Growth Canada Inc. (Thunder Bay, Ignace, Sapawe) are the major recipients of wood volume from the forest (75%). Other mills receiving wood from the CF include Nickel Lake Lumber, Norboard Inc, and Manitou Forest Products

4.0 Audit Findings

4.1 Commitment

The commitment principle is deemed to be met since the Crossroute Forest is certified under the Sustainable Forestry Initiative (SFI) certification standard.

4.2 Public Consultation and Aboriginal Involvement

Aboriginal Involvement in Forest Management Planning

Indigenous communities and Métis communities and organizations associated with the Forest are listed in Section 3.2. Our sample of documents indicated that for the development of the 2017 Contingency Plan (CP), all FMPM requirements with respect to notices and invitations to participate were met. Offers were made for information sessions and community meetings and several occurred (e.g. Lac La Croix). Aboriginal Background information and updated Values information was available for the planning process. There was Aboriginal participation on the FMP Planning team (e.g. Mitaanjigaming FN).

MNRF’s Forest Environmental Assessment Approval (Declaration Order MNRF-71) requires MNRF District Managers to conduct and report on negotiations with Aboriginal peoples to identify and implement ways of achieving a more equitable participation in the benefits provided through forest management planning. Annual Condition 34 and

56 (2014-2015) Reports were prepared and met the required FMPM schedule, format and content requirements.

All IFAPP requirements for Aboriginal participation in the forest management planning process were met.

Issue Resolution and Individual Environmental Assessment

No requests for Individual Environmental Assessments or Issue Resolution were made during the development of the Contingency Plan.

Local Citizens Advisory Committee

There are two Local Citizens Committees (LCCs) (Fort Frances Natural Resources Advisory Committee and the Atikokan Area Resource Management Advisory Committee). The Natural Resources Advisory Committee (NRAC) located in Fort Frances has the lead with the Resource Management Advisory Committee (RMAC) in Atikokan providing input on the Forest's eastern portion. Our assessment is that the both LCC's fully met FMPM requirements, were effective, well managed and productive. FMPM requirements related to the establishment and function of Local Citizens Committees were met.

The 2012 IFA provided a recommendation suggesting the Company have "...a larger role on the LCC." We concluded that the recommendation was not fully addressed (Finding 1).

4.3 Forest Management Planning

A three-year Contingency Plan (CP) was required to facilitate forest operations between March 31, 2017 and April 1, 2020 due to a delay in the production and review of a new digital Enhanced Forest Resource Inventory (eFRI) which left insufficient time to prepare, review and approve the Phase I FMP prior to April 1, 2017. The inventory product was scheduled for delivery in November 2013 and was received by RFP on May 29, 2017. Product quality issues have resulted in on-going management and operational issues as well as delays in the next planning cycle. (Finding # 2).

We found the planning for the Contingency Plan met FMPM requirements. Appropriate modifications to operational prescriptions for Areas of Concern (AOC) were made and that operational planning appropriately considered the most current values information, relevant guidelines (i.e. *Forest Management Guide for Conserving Biodiversity at the Stand and Site Scales*), the requirements of the Natural Disturbance Pattern Emulation Guideline (NDPEG) and public input.

In our review of plan required alterations, we found four required alterations (related to the frequency of forest operations inspections) which were not incorporated into the approved CP. Instead, MNR and RFP agreed that the required alterations would be

addressed through plan amendments. These amendments have not been made (Finding # 3).

We note that the 2012 IFA made four recommendations regarding the processing, frequency, and public availability of FMP amendments. At that time, there were 137 plan amendments. During this audit the number of amendments was reduced to 37 as a result of a transition from paper to digital reviews of amendments and a decision by RFP to prioritize and screen amendment requests on the basis of immediate need. The screening process had the positive effect of reducing workloads and improving processing timelines.

Species at Risk (SAR) listed under the endangered Species Act were appropriately considered during planning. Habitat descriptions, the application of guidelines and operational prescriptions were provided in the plan text and supplementary documentation.

Requirements for the protection of resource based tourism values were addressed in all plans.

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

4.4 Plan Assessment and Implementation

Harvest

During the audit term 99% of the harvest area was cut utilizing the clearcut silvicultural system. Audit term harvest levels were below planned (~60%) due principally to the economic downturn in the forestry sector which closed or idled several receiving mills. Table 3 presents the planned vs. actual harvest area by forest unit. Conifer utilization levels exceeded hardwood utilization levels.

Table 4 presents a summary of the planned vs. actual volume utilization between 2012 and 2016. The trend of increased conifer utilization over hardwood utilization reflected in the area harvested is also reflected in volume utilization with conifer volumes comprising 79% of the volume harvested. We note that the Norbord Inc. strand board mill has significantly increased the utilization of the poplar over past management terms.

Table 3 Planned vs. Actual Harvest Area by Forest Unit (2012-2016)

Forest Unit ¹	Planned 4 Year Harvest (Ha)	Actual 4 Year Harvest (Ha)	Planned Vs Actual %
Bf Dom	90	36	40
BwDom	952	624	66
OcLow	0	23	0
OthHd	0	12	0
PjMix	8,453	5,469	65
PjPur	11,586	9,142	79
PoPur	21,943	11,192	51
PrwMix	802	370	46
PwDom	71	18	25
SbLow	1,578	502	32
SbPur	2,696	1,786	66
SbMix	6,618	3,828	58
Total	54,789	33,002	60

Table 4 Planned vs. Actual Volume (000's m³) (2012-2016)

Species Group	Planned Volume (000 m ³)	Actual Volume (000 m ³)	% of Planned
Conifer	2,498	1,980	79
PwPr	236	107	45
Bw	284	132	47
Po	2,406	1,282	53
Other Conifer	43	3	7
Other Hardwood	12	6	53
	5,479	3,510	64

¹ Forest Units are as follows: BFDom=Balsam fir dominated, BWDOM=White Birch Dominated, OCLow=Other Lowland Conifer, OthHd=Other Hardwood, PjMix=Jack Pine Mixedwood, PJPur= Jack Pine, PoPur=Poplar, RRWMix= White/Red Pine Mixedwood, PWDom= White Pine, SpLow=Spruce Lowland, SbPur=Spruce, SbMix=Spruce Mixedwood.

Our site inspections indicated that, on balance, harvest operations were properly implemented. All inspected harvest blocks were approved for operations in the AWSs. Harvest prescriptions were implemented in accordance with the SGRs. There was little evidence of site or environmental damage.

Slash Management

In Finding # 6, we report that in April 2015, MNRF District staff responded to public concerns about wood utilization and slash debris by conducting field inspections of harvest blocks. Those site inspections identified forest-wide utilization issues related to “long-butting” and merchantable wood left in slash piles. This was the result of harvest operations transitioning from tree length to cut-to-length operations and the re-direction of wood to sawmills in Ignace, Sapawe and Thunder Bay due to the 2014 closure of the Fort Frances pulp mill. Resolute accepted responsibility for the issue and committed to corrective actions to clean-up identified harvest blocks by October 2016. The MNRF elected not to pursue administrative penalties under Section 58 of the *Crown Forest Sustainability Act*. At the time of the audit approximately 60% of the scheduled areas remained untreated at the end of the audit term due principally to fluctuating markets for biomass. In Finding # 8, we conclude that the initial timelines for block clean-up were unrealistic and we concluded that both parties would benefit from another review of timelines and targets. It is noteworthy that the team found a considerable improvement in wood utilization and the delivery of the harvest compliance inspection program in the final year of the audit term.

Area of Concern Management

AOC prescriptions were appropriate for the protection and/or maintenance of the identified values and were implemented in accordance with the FMPs and the AWSs. Our review of FOIP records indicated few compliance issues associated with AOCs during the audit term.

Renewal, Tending and Protection

Site Preparation (SIP)

During the audit term, SIP treatments achieved 70% of the planned FMP targets due to the lower than planned harvest level (Table 5). Mechanical site preparation treatments comprised 92% of the SIP treatments. Chemical site preparation treatments were conducted on 763 ha. The inspected areas treated by mechanical site preparation exhibited good mineral soil exposure. There was no evidence of site damage. Chemical treatments appeared to be effective in achieving early competition control.

Table 5 Area (Ha) of Planned vs. Actual Site Preparation (2012-2016)

SIP Treatments	Planned Ha	Actual Ha	Planned Vs Actual %
Mechanical SIP	16,132	12,343	77
Chemical SIP	2,748	763	28
Prescribed Burn*	500	373	75
SIP Total	19,380	13,487	70

Renewal

The 2007 FMP forecast an area of 26,272 ha of natural regeneration and 24,968 ha of artificial renewal (Table 6). FMP renewal targets were not achieved due to the lower than planned harvest. However, the area renewed exceeds the area harvested. Regeneration assessments completed by Resolute FP indicate a high level of regeneration (91%) but the silviculture success is low (41%) (See Section 4.6).

All renewal treatments observed in the field were consistent with the FMP SGRs. Approximately 37% of the harvest area was renewed by natural treatments. Our site inspections of harvest blocks managed for natural renewal found the blocks were typically well-stocked to conifer.

Artificial renewal treatments were most frequently adopted reflecting more frequent harvesting of upland conifer sites which are more conducive to planting operations. The area treated by seeding was below the FMP forecast area, achieving 71% of the FMP target. Seeding was typically used to augment natural ingress and our site inspections found these treatments were effective.

Table 6 Area (Ha) of Planned vs. Actual Renewal Treatments (2012-2016)

Renewal Treatments	Planned Ha	Actual Ha	Planned Vs Actual %
Natural Renewal	26,272	12,820	49
Artificial Renewal - Plant	12,040	12,348	103
Artificial Renewal - Seed	12,928	9,119	71
Total Renewal	51,240	34,287	67

Based on our field site inspections we concluded an effective renewal program was being implemented.

Tending

Aerial herbicide tending treatments were implemented on 63% of the planned area during the current plan term (Table 7). We found that the effectiveness of chemical treatments was less effective on the more competitive sites and varied across ecosites and operating years. Some treated areas exhibited good competition control, while in other areas (~40% of the sampled sites) the herbicide application was less effective (See Finding # 4). The unevenness of tending program results was attributed to several factors including weather, contractor issues (the seasonal late delivery of the spray program) and delays by Resolute in implementing treatments. The company is working to improve the effectiveness of the program, by conducting post spray assessments, investigating strategies to improve herbicide performance and re-treating sites on an as required basis. No compliance issues related to the chemical herbicide spray program were reported.

Table 7 Area (Ha) of Planned vs. Actual Tending Treatments (2012-2016)

Tending Treatments	Planned Ha	Actual Ha	Planned Vs Actual %
Tending	16,896	10,576	63
Pre-Commercial Thinning	10,244	3,347	33
Total Tending	27,140	13,902	51

Pre-commercial thinning achieved 33% of the plan forecast area. The lower than planned achievement was attributed to fewer than anticipated sites being suitable for the treatment.

Protection

No protection programs other than monitoring functions were implemented during the audit term.

Access Planning and Management

Access planning was in accordance with the requirements of the FMPM. During the audit term 11.4 kilometers (kms) of primary road and 162.4 kms of branch roads were constructed.

One hundred and twenty-nine water crossings were constructed. The inspected water crossings were well-constructed. No instances of environmental damage or public safety concerns related to access or water crossing installations were observed. Our review of FOIP records confirmed this finding.

During the field audit, we visited ten aggregate pits. Operational standards for forestry aggregate pits were not consistently met (Finding # 5).

The strategies adopted to decommission the roads were effective and there was no evidence of environmental degradation related to the removal of water crossings.

Activities invoiced under the “*Forest Roads and Maintenance Agreement*” were inspected and no non-conformities were observed.

Renewal Support

Renewal support activities over the audit term were sufficient to meet projected renewal program requirements. Audit term renewal support included; cone collection and inventory and site improvement work at tree improvement installations.

4.5. System Support

Resolute FP met the 2017 IFAPP Human Resources Principle criterion through its SFI and ISO 14001 certifications. This principle was not audited.

4.6. Monitoring

Our review of a sample of submitted inspection reports (OMNR and Industry) indicated conformance with the reporting schedules of the *Forest Compliance Handbook (2014.)* Resolute prepared a monitoring plan as required by the FMPM and in accordance with the Guidelines for Industry Compliance Planning. Annual inspection targets were appropriate for the extent of harvesting. Over the audit term those inspections were carried out and the in-compliance rate was approximately 97 percent.

As indicated in Finding # 6, there was a significant issue with merchantable wood being left in the bush (11,324 m³). MNRF compliance inspectors were unaware of the issue for an extended time period. Contrary to the directions in the Forest Compliance Handbook, Resolute failed to identify, report and correct these utilization infractions.

MNRF compliance planning was completed on an annual basis and included targets and identified individuals responsible for completing the work. The format and content of the plans met compliance guidelines. However, our investigations revealed that the content of the annual plans consisted primarily of individual MNRF staff listing priorities for their specific programs. While these are District wide compliance plans there was no evidence that MNRF managers reviewed the plan, overlaid district priorities, engaged in a “*risk management analysis*” and approved or adjusted individual staff priorities (Finding # 7). Our interviews also suggest that MNRF staffing capacity, both in terms of the number of staff and staff capability/experience, significantly contributed to the compliance effort shortfall.

Monitoring of Silvicultural Activities

Resolute FP undertook silviculture assessments and other monitoring functions in accordance with the direction in the FMP. Monitoring activities included; plantation survival assessments, regeneration and post-tending assessments and Free-to-Grow (FTG) surveys.

Free to Grow Survey (FTG)

FTG surveys were not undertaken during several years in the audit term (2013, 2014, 2015). The delay in the survey program was attributed to a review of sampling procedures by RFP, and an initiative to time the surveys to coincide with changes in regeneration standards in the Phase II Silviculture Ground Rules (SGRs). A backlog in the area requiring FTG survey exists (Finding # 9).

Silviculture Success

Regeneration is considered a “*silviculture success*” when all the standards contained in the SGR applied to that stand have been met and the projected forest unit is achieved. A “*regeneration success*” occurs when the regeneration meets all the standards of an SGR but the stand has regenerated to a forest unit other than the projected unit. A high level of regeneration success (91%) was achieved but the silviculture success rate is low (41%) (Table 8). The area classified as “*not successfully regenerated*” had yet to achieve the minimum height and stocking requirement or require additional tending.

Renewal to other forest units can frequently result in acceptable future forest conditions. For example, we were initially concerned with the transition from pure conifer units to PJ MXW. Our review of MNRFS Silviculture Effectiveness Monitoring (SEM) data and interviews with RFP staff indicate that in the surveyed areas the forest unit does not contain more hardwood but has more mixed conifer species components (e.g. jack pine, spruce and balsam fir) due to natural ingress. Although the SGR was not achieved the harvested area has been returned to a conifer forest condition. Issues with the herbicide tending program cited in this report may also be a factor in the transition of some pure conifer forest units to more mixedwood conditions, due to the elevated survival of hardwood species in some treated and surveyed stands.

Table 8 Silviculture and Regeneration Success by Forest Unit (2007-2013).

Forest Unit	Total Area Assessed (Ha)	Area Regenerated to the Projected Forest Unit (Ha)	Area Regenerated to Another Forest Unit (Ha)	Area Regenerated (Ha)	Area Not Successfully Regenerated (Ha)	% Area Silviculture Success
BwDom	648	157	348	541	106	24
BfDom	31	31	0	31	0	100
OCLow	101	43	47	90	11	43
OthHWD	155	51	56	108	46	33
PJMXW	9,447	4,148	4,517	8,665	782	44
PjPur	10,908	4,003	6,162	10,166	741	37
PoPur	9,765	4,996	3,872	8,968	796	51
PRWMX	649	194	422	617	31	30
PwDom	0	28	28	28	0	0
SbLow	357	108	35	143	214	30
SpPur	2,860	811	1,791	2,603	257	29
SPMix	5,741.3	2,105.7	3,276	5,382	358	37
Total:	40,693	16,544	20,660	37,204	3,131	41

We note that various documents (e.g. MNRF SEM Reports, Trends Report) all indicate problems with the reporting of silviculture success including data recording, data quality and interpretation, the timing of the assessment vis a vis the stands successional trajectory and the lack of historic records related to past silvicultural ground rules and/or prescriptions. We understand that a Provincial Silvicultural Program Initiative Committee is currently reviewing the SEM program so a finding related to silviculture success is not provided.

We further note that despite the reported low level of silvicultural success, the proportion of cover types has been relatively stable over the past several management terms.

Silvicultural Effectiveness Monitoring

MNRF implemented Silviculture Effectiveness Monitoring (SEM) during all years of the audit term, but there were issues with the delivery of the program related to the “*transformation process within MNRF*” and data loss due to field equipment malfunctions.

District SEM results are reported in a summary format which effectively describes the Core Task results, sampling procedures, summarizes the findings and identifies trends, rationalizes the findings and prescribes areas for further investigation. Despite the challenges noted, we concluded that MNRFB delivered an effective program.

Exceptions Monitoring

Exceptions monitoring is carried out to determine the effectiveness of prescriptions included in forest management plans that are “*not recommended*” in the MNRFB forest management guides. During the audit term, RFP participated in the MNRFBs regional monitoring program to assess the impacts of full tree logging on shallow soil sites (Ecosites 11 and 12).

Eagle and osprey nest monitoring was conducted in accordance with the procedures described in the 2017 FMP (Appendix H5 and H6). The FMP contained directions for commercial thinning operations, but due to a lack of suitable area no operations were undertaken.

Forest Renewal Trust Specified Procedures Report

We inspected 14% of the area invoiced in the “*Forest Renewal Trust Specified Procedures Report* (SPR) to verify conformity between invoiced and actual activities. No non-conformities were found.

Access Monitoring

Resolute FP monitors roads and water crossings through the course of normal operations and in accordance with the direction in the 2007 FMP (i.e. roads and water crossings are formally inspected every three years). Monitoring results are evaluated and considered for follow-up action on a priority basis in consideration of the risk to public safety, environmental concerns and available resources.

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

Annual Reports

ARs were available for each year in the audit scope except for the 2016-2017 AR, which is not required until November 15, 2017. Schedules for the submission and review of the ARs were generally adhered to and the content of the reports met FMPM requirements. As required, the ARs were presented to the LCCs.

4.7. Achievement of Management Objectives & Sustainability

FMP objectives are monitored annually and reported on in the year 3, 7 and 10 Annual Reports. The lower than expected level of harvest has negatively impacted the achievement of FMP objectives related to forest cover, forest diversity and those related

to the economic benefits derived from forest management. Appendix 2 provides more details on our assessment of plan objective achievement.

The Trends Analysis Report identified the following trends as significant:

- Planned harvest levels (area and volume) have not been achieved resulting in plan targets for silviculture activities linked with the harvest to be underachieved.
- Conifer utilization has been historically higher than hardwood utilization but actual harvest volumes for hardwood species have increased since 1992.
- The area renewed exceeds the harvested.
- Regeneration success is 96% for surveyed areas harvested between 1997 and 2007.
- The relative proportion of cover types has been relatively stable over several management terms.

The Report Author concludes that forest sustainability is not at risk from the implementation of forest management activities over the past three management terms. The audit team concurs with that assessment.

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

- Forest management was planned and implemented in accordance with the Crown Forest Sustainability Act (CFSA) and FMP targets are consistent with the achievement of plan objectives and forest sustainability.
- Despite the lower than planned harvest, FMP objectives and targets were mostly met, or substantial progress was being made towards their achievement. In instances where objectives were not met, we concluded that there are no significant implications on long term forest sustainability (Appendix 2).
- Resolute FP maintained SFI certification during the audit term.
- The area renewed exceeds the area harvested. A high level of regeneration success has been achieved.

- With the exception of the wood utilization issue, there was a high in-compliance rate for forest operations during the audit term.
- We did not observe any instances of environmental damage associated with forestry operations and our site inspections confirmed that AOC prescriptions were appropriately implemented.
- Silvicultural Ground Rules (SGRs), Silvicultural Treatment Packages (STPs) and Forest Operations Prescriptions (FOPs) were appropriate for the forest cover types and site conditions.
- The contractual obligations of the SFL holder are substantially met.

4.8. Contractual Obligations

We concluded that Resolute FP was substantially in compliance with the terms and conditions of the SFL (See Appendix 3).

The IFAPP requires auditors to assess the effectiveness of the actions developed to address the recommendations of the previous audit. The previous IFA resulted in 18 recommendations to address forest management concerns and a final recommendation to extend the SFL licence. We concluded that, with the exception of Recommendation # 2 the audit recommendations had been appropriately addressed (See Finding #1).

The 2012 IFA Report was received in March 2013. The Action Plan was completed on time and the Action Plan Status Report was due in March 2015 but not submitted until June 2015 (Finding # 10). We note that this delay coincided with the MNRF transformation and staffing changes at Resolute.

The previous (2012) IFA recommended that the Minister extend the term of Sustainable Forest Licence #542245 for a further five years. Contrary to the provisions of Subsection 26 (4) of the CFSA, the term of SFL has not been extended (Finding # 11).

4.9. Conclusions and Licence Extension Recommendation

Over the audit term, the delivery of forest management on the Crossroute Forest was adversely affected by;

- The continued downturn in the forest sector economy of northwestern Ontario
- Staff capacity at the MNRF due to the “transformation process” and staff layoffs, turnovers and retirements at RFP.

Continued poor markets for some species and products resulted in harvest levels achieving approximately 60% of the planned Phase II available harvest area. The lower

than planned harvest resulted in some FMP objectives and associated targets being underachieved during the audit term.

During 2014-2016 forest-wide wood utilization and compliance issues occurred as harvest operations transitioned from tree length to cut-to-length processes to facilitate the redirection of wood from the Fort Frances pulp mill to area sawmills. Evidence suggests that the MNRF was unaware of the issue for an extended time period and that RFP compliance inspectors failed to identify, report and correct these utilization infractions (Section 4.3). Resolute accepted responsibility for the issue and committed to corrective actions to clean-up identified harvest blocks by October 2016. The MNRF elected not to pursue administrative penalties under Section 58 of the *Crown Forest Sustainability Act*. At the time of the audit approximately 60% of the scheduled areas remained untreated at the end of the audit term due principally to fluctuating markets for biomass. The team found a considerable improvement in wood utilization and the delivery of the harvest compliance inspection program in the final year of the audit term.

In spite of the issue of merchantable wood being left in the bush and the identified shortcomings with the delivery of forest operations inspection program, we found that on balance the management of the Forest was consistent with the achievement of FMP objectives and forest sustainability. The area renewed is in balance with the area harvested, and a high level of regeneration success has been achieved. Silviculture success, although low at 41%, is, in the opinion of the audit team, more reflective of the restrictive regeneration standards in SGRs and other issues related to the timing of the assessment vis a vis the stand's successional trajectory and a lack of historic records related to past silvicultural ground rules and/or prescriptions.

Our assessment is that an effective forest management program is being implemented and the CF is being managed substantially in compliance with the terms and conditions of the SFL.

The audit team concludes that management of the Crossroute 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 is managed in compliance with the terms and conditions of the Sustainable Forest Licence held by Resolute FP Canada Inc. The forest is 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 the Sustainable Forest Licence # 542250 for a further five years.

Appendix 1

Findings

Independent Forest Audit – Record of Finding

Finding # 1

Principle: 2 Public Consultation and Aboriginal Involvement

Criterion 2.1.2 LCC purpose and activities

Procedure(s):

...review the applicable FMPM related to ...membership....

... review the effectiveness of LCC involvement related to FMP values maps, desired forest and benefits meeting, management objectives, management strategy/ long-term management direction, ...

Background Information and Summary of Evidence:

The 2012 IFA contained a recommendation (Recommendation 2) that “*MNR shall work with the LCC to offer the Company a larger role on the LCC.*”

The Action Plan Status Report indicates that the Fort Frances Local Citizens Committee (LCC) (Natural Resource Advisory Committee (NRAC)) discussed the participation of Resolute on the Committee and that an exchange of correspondence on the issue occurred. Our discussions with MNR staff and the NRAC Chairperson revealed that these parties view Resolute as an “*ex-officio non-voting member*” and that status is reflected in the Terms of Reference.

Minutes of NRAC meetings indicate that Resolute staff are present and listed as “guests”. Interviews revealed that the Resolute member is occasionally asked to leave the meeting while specific topics are discussed. Resolute staff informed the audit team that some of the topics discussed while they were excluded from discussions were directly related to the Company’s forest management activities or documents prepared by RFP staff. RFP staff indicated that opportunities to meaningfully contribute to the discussions and inform LCC members was being lost through this process. We were also informed that the company, although they are ex-officio members, is not provided with a copy of meeting minutes.

The Forest Management Planning Manual (2009) describes the LCC purpose as;

“*The LCC will assist the plan author, the interdisciplinary planning team and MNR in the preparation and implementation of the FMP*” ...and that “*... the main interests represented on the LCC should include;*

- (a) local business;*
- (b) tourism industry;*
- (c) anglers and hunters;*
- (d) First Nation and Métis communities;*
- (e) forest industry;*

(f) etc.”

Discussion:

The expectation in the FMPM with respect to the interests represented on an LCC is that “forest industry” will have representation on the Committee because of the significant role of the industry in the planning and delivery of forest management. Our experience has been that industry representative(s) typically function as full participants in the affairs of the Committee (although in some circumstances voting rights are withheld).

The lack of involvement by Resolute staff in the NRAC was a concern in the 2012 IFA which resulted in a recommendation. The lack of engagement of the SFL holder on the Committee remains a concern for Company staff in this audit term.

Finding # 1:

Recommendation # 2 of the 2012 IFA that required that “*MNR shall work with the LCC to offer the Company a larger role on the LCC*” has not been fully addressed.

**Independent Forest Audit – Record of Finding
Finding # 2**

Principle: 3. Forest Management Planning

Criterion: 3.3.2. Forest Resource Inventory

Procedures:

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

Background Information and Summary of Evidence

A three-year Contingency Plan (CP) was required to facilitate forest operations between March 31, 2017 and April 1, 2020 due to a delay in the production and review of a new digital Enhanced Forest Resource Inventory (eFRI) which left insufficient time to prepare the FMP. The inventory product was scheduled for delivery in November 2013 and was received by RFP on May 29, 2017.

Product quality issues have resulted in on-going management and operational issues. Quality issues include incorrect coding, inaccuracies associated forest polygon descriptors (e.g. stand ages and species composition), ecosite attribution, and cover type boundary delineations. In part, the quality issues are attributed to the use of different contractors for the delivery of the inventory.

The Trends Report indicates that “the delay in this information product and the quality of the information seen to date is putting a significant strain on personnel and budget within Resolute as well as delaying the next planning cycle.”

Conclusion:

The delivery of FRI products is late and out of synchrony with the forest management planning cycle. Data quality issues have led to on-going planning and operational challenges. This circumstance is not unique to the Crossroute Forest.

Up-to-date and accurate forest inventory information is critical for reliable inputs and informed decision-making in the forest management planning process. Erroneous stand descriptions and forest unit designations are problematic as the effectiveness of forest operations prescriptions in achieving the desired forest unit must be understood to facilitate reporting on forest sustainability and to provide reliable inputs into the forest management planning process (e.g. yield projections, determination of the available harvest area, the development of SGRs and STPs.).

Finding # 2:

The delivery of FRI products is late and out of synchrony with the forest management planning cycle. The quality of the product has resulted in operational and planning challenges and additional costs for RFP.

**Independent Forest Audit – Record of Finding
Finding # 3**

Principle: 3 Forest Management Planning

Criterion: 3.11 Contingency Plans

To review and assess contingency plan production as applied on the management unit.

Procedure(s):

- Assess whether the planning procedures used for the contingency plan followed the requirements of the applicable FMPM for what is proposed in the contingency plan, including:

1) plan submission and review requirements including addressing required alterations

Background Information and Summary of Evidence:

The FMPM requires that MNRF review a draft forest management plan for completeness and confirm that the plan meets the requirements on the manual, that relevant policies and obligations are considered, that management guides have been properly used etc. The product of this review is a list of “required alterations”. The Plan Author is required to submit to the MNRF documentation that summarizes how required requested alterations were addressed.

The required alterations must be addressed to the satisfaction of the MNRF District Manager prior to the approval of a management plan by the Regional Director. Several of the required alterations to the 2017 Contingency Plan (CP) have not been addressed. Specifically: RA 68122, 68123, 68130, 68280 all required changes to the frequency of forest operations inspections.

In all four cases, it was decided by MNRF and RFP that “wording will remain as is in the draft CP; however, an amendment will be proposed to update the entire section, to reflect changes in the compliance program.”

Discussion:

The four required alterations were related to the frequency of compliance inspections. While specific dates for the amendments to address the required alterations to the CP were not identified, we note that the CP has been in effect and operations have been ongoing for six months and the amendments have not been made.

Finding # 3:

Amendments to address 2017 Contingency Plan “required alterations” (#’s 68122, 68123, 68130, and 68280) have not been drafted and approved.

Independent Forest Audit – Record of Finding

Finding # 4

Principle: 4 Plan Assessment and Implementation

Criterion: 4.5. Renewal, Tending and Protection

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

Background Information and Summary of Evidence:

Effective tending treatments are typically required to promote the establishment and growth of desired crop tree species. Tending treatments were implemented on 62% of the planned area during the current plan term (10,555 ha over four reported years). Our site investigations found that the effectiveness of the herbicide program was variable across ecosites and operating years. Some treated areas exhibited good competition control, while in other areas (~40% of the sampled sites) the herbicide application was less effective.

The Comparison and Trends Analysis of Planned vs. Actual Forest Operations Report (Trends Analysis) supports this conclusion “...*appears to be a need for earlier and more liberal use of herbicide on artificially established conifer stands.*” The report also states that “*surveys for the necessity of herbicide be prioritized and tending treatments be carried out promptly if necessary so that the SGR and forest unit objectives will continue to be met*”. The Trends Report further states that there is an “*increase in the amount of mixedwood forest units at the loss of pure conifer forest units*” and that “*silviculture success is represented on 41% of the area assessed for regeneration success*”.

The variable effectiveness of treatments observed was attributed to several factors including weather, contractor issues (the seasonal late delivery of the spray program), delays by Resolute in implementing treatments and an issue with a particular brand herbicide product.

Discussion:

In the absence of effective tending program investments in conifer renewal are being lost. Ineffective competition control over extended periods will have negative implications for the full achievement of objectives dependent on the renewal and maintenance of conifer-dominated cover types.

Based on our site observations we concur with the conclusions of the Trends Report Author with respect to the general effectiveness of the spray program and the trend towards increased hardwood densities on sites where the treatment was less effective. This trend is partially contributing to the low level of silviculture success.

RFP staff assess the effectiveness of herbicide tending by visual inspection during the delivery of other routine forest management duties. This approach to assessing the effectiveness of treatment can potentially result in information gaps and/or challenges to

prioritizing and scheduling re-treatments, especially if other work duties not in the proximity to treated areas result in some of the treated areas not being assessed. Competition assessments implemented under a formalized sampling procedure and protocol may better address these concerns.

The company is aware of the issues associated with its herbicide tending program as evidenced in its Annual Reports and the Trends Analysis. Staff are working to improve the effectiveness of the program, conducting post spray assessments, investigating strategies to improve herbicide performance and re-treating sites on an as required basis.

Finding # 4:

The efficacy of the herbicide tending program was uneven across ecosites and operating years. The inability to effectively control site competition has resulted in increased hardwood densities and conifer mortality on some artificially renewed conifer sites.

**Independent Forest Audit – Record of Finding
Finding # 5**

Principle: 4. Plan Assessment and Implementation

Criterion: 4.7 Access

Procedures:

Review and assess in the field the implementation of approved access activities. Include the following:

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

Background Information and Summary of Evidence

Appendix VII of the FMPM (2009) details the operational standards that apply for the extraction of aggregate resources for Forestry Aggregate Pits. Included in the standards are requirements that:

- no undercutting of the working face is permitted and; the working face must be sloped at the angle of repose,
- all trees within 5 metres of the excavation face must be removed,
- when the pit is inactive, all pit faces must be sloped at the angle of repose.

The FMPM further states that final pit rehabilitation must include:

- sloping of all pit faces to a minimum of 3:1 (horizontal : vertical);
- re-spreading of any topsoil or overburden that was stripped from the site;
- mitigation measures, to the satisfaction of MNR, to prevent erosion.

The FMP outlines the direction for the management of aggregate pits on the Forest.

Discussion:

Site investigations revealed that operational standards for forestry aggregate pits were not consistently met (~ 40%). Issues observed at non-conforming pits were steeper slopes, the undercutting of the working face and trees within 5 metres of the excavation face.

Finding # 5:

FMP operational standards for forestry aggregate pits were not consistently met.

Independent Forest Audit – Record of Finding

Finding # 6

Principle: 6 Monitoring

Criterion:

6.1 District compliance ...monitoring

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

6.2.1 SFL holder compliance ...monitoring

...the actual level of the implemented overall monitoring program is appropriate and effective, and whether it is in accordance with the approved FMP and AWS.

Procedure(s):assess whether the actual level of the overall monitoring program was in accordance with the FMP/plans

Background Information and Summary of Evidence:

In April 2015, MNRF District staff responded to public concerns about wood utilization and slash debris by conducting field inspections of harvest blocks. These site inspections identified a significant number of forest-wide utilization issues related to “long-butting” and merchantable wood left in slash piles. The merchantability issues corresponded to a shift in product specifications due to the closure of the Fort Frances pulp mill and the redirection of wood to sawmills in Ignace, Sapawe and Thunder Bay that have different wood product specifications.

The existence and magnitude of the wood utilization issues had largely been unknown to both Resolute and the MNRF. A summary overview of the forest compliance process reveals:

- *The notification requirements required by the Forest Compliance Handbook (2014) including start up, suspended and release notifications are met by sending weekly updates to the MNRF in an “Operations Report”. Submissions are collected and submitted by Resolute for their contractors.*
- *The Operations Report is in the form of a spreadsheet with separate worksheet for all industry forest management activities. Each worksheet includes detailed information specific to that activity (i.e. Operator name, area treated, start date, etc.).*
- *For the MNRF the weekly Operations Report keeps District staff up to date on*

activities on the Forest. The MNRF uses these reports to complete annual aerial inspections of the identified blocks to identify any issues (e.g. wood left in bush).

- *Additionally, the MNRF District has Annual Compliance Plans that identify priority areas where MNRF Compliance Inspectors determine where inspections need to be completed. These are risk based plans that respond to the industry compliance plan (detailed in the FMP and AWS), contractor compliance history, issues identified by the public, etc. As well, industry inspectors are also required to inform the MNRF of any operational issues involving FOIP reporting. These plans and information result in MNRF inspectors visiting selected operations and conducting inspections*
- *The SFL holder and its sub-contractors are required to ensure that the compliance information submitted in the Operations Report is accurate. The industry compliance plans are risk based and outline a minimum number of inspections (1 per 500 hectares of harvest listed in the AWS) that must occur and be submitted as Forest Operation Inspection Program Reports (FOIP). Identified operational issues requiring a FOIP report are to be identified to the MNRF.*
- *The combination of MNRF and industry compliance plans, industry reporting, industry compliance inspections, MNRF compliance audits and the annual overview of operations by the MNRF (aerial survey) is intended to provide early detection, corrective actions and/or issuing of a non-compliance when required. The system is based on accurate ongoing reporting and effective communications between MNRF and industry field staff.*

The summary of audit inspections is listed in the Annual Reports (for the audit period) as follows:

Year	MNRF Inspections	Industry Inspections
2012-2013	9	48
2013-2014	3	53
2014-2015	3	39
2015-2016	6	24
Total	21	164

During the audit term, there were two not-in-compliance reports which resulted in an in-compliance rate of 99 percent. The Trends Report indicates an in-compliance achievement of 97 percent over the past seven years.

Weekly operations reports were submitted as required, and the annual aerial surveys completed. Both MNRF and Resolute completed the required compliance plans.

Resolute managers were also unaware of the issue. The audit term Annual Reports tabulate the number of harvest compliance inspections for the audit term as follows:

Year	MNRF Inspections	MNRF Harvest Inspections	Industry Inspections	Industry Harvest Inspections
2012-2013	9	7	48	23
2013-2014	3	0	53	0
2014-2015	3	2	39	19
2015-2016	6	5	24	16
Total	21	14	164	58

As the issue became known, both organizations initiated internal reviews to determine the extent of the problem. The compliance requirements for both organizations had not been met (inspecting and/or reporting) and the inspections of both organizations had failed to identify the issue. This is evidenced in an internal MNRF correspondence (April 2015) which stated *“We haven’t really put in a lot of time yet doing compliance inspections so ... we don’t yet have a full grasp how extensive the problem is ...”*. Correspondence from Resolute to the MNRF District Manager (February, 18, 2016) similarly states *“Furthermore the Company inspection reports on file do not identify any operational issues regarding wasteful practices on the Crossroute Forest for the timeframe under discussion.”*

Discussion:

Given the forgoing, it is incomprehensible that it took public complaints and approximately a year for MNRF to become aware of the utilization issues and the magnitude of the problem.

Our review of records and interviews with MNRF staff, Resolute staff and LCC members suggests the following:

MNRF:

As a consequence of its staffing capacity (number of staff and staff capability/experience) and other work priorities arising from the “transformation process” it took public complaints and approximately a year for the MNRF to become aware of the existence and extent of the utilization issue. There were two compliance-certified foresters and one certified technician working on the Forest. These staff were also required to conduct regular work and at times cover duties of vacant positions, train new staff, and, in the case of the Resource Technician, cover the technical workload associated with other program areas. As a result of the foregoing, there was a minimal field presence by MNRF.

The information provided by industry in the Operations Report was only verified during an annual aerial inspection. The adoption of this approach to compliance

auditing allowed problems to manifest for considerable periods of time without MNRF knowledge or oversight.

The MNRF risk based compliance planning/priority setting resulted in fewer targeted inspections in the field. There were no harvest inspections in 2013/14, two inspections in 2014/15 and five in 2015/16. Staff conducting those inspections, with the associated travel through the Forest, apparently failed to notice any utilization problems. The MNRF District compliance plan has been more of a tabulation of individual priorities rather than a basis for District/program priority setting.

The evidence indicates that the MNRF had a minimal compliance presence during the audit term, its compliance/audit mandate received a low priority and management staff failed to address either of those issues.

Resolute:

The development of the merchandizing issue coincided with the closure of the Fort Frances pulp mill and the opening of a sawmill in Sapawe and the increased production at sawmills in Ignace and Thunder Bay. Resolute experienced a period of vacant staff positions, new staff and new responsibilities as a result of the closure of the Fort Frances Pulp mill. During that same period contractors working for Resolute were adjusting to more stringent specifications for wood delivered to sawmills and there was a corresponding limited market for small dimension timber. Audit evidence derived during interviews, indicates that operators had difficulties adjusting to sawmill wood specifications and wood not meeting specification was culled at the mills and not paid for. The application of the saw timber specifications resulted in wood left within the harvest sites.

During this period, industry inspections exceeded the Compliance Plan minimums and the ARs indicate there were 58 specific harvest inspections. In 2013/14 no harvest compliance inspections took place.

Certified inspectors should be knowledgeable of the utilization specifications in the Provincial Scaling Manual and the CFSA. Contrary to the directions in the Forest Compliance Handbook, Resolute failed to identify and report on operational issues that had the potential to result in non-complaint operations.

Finding # 6:

A wood utilization compliance issue that persisted for two years was not reported by MNRF or Resolute.

MNRF and Resolute failed to identify and report on operational issues that had the potential to result in non-complaint operations.

Management staff in MNRF and Resolute failed to provide an appropriate level of oversight of the staff and programs under their jurisdiction.

Independent Forest Audit – Record of Finding

Finding # 7

Principle: 6 Monitoring

Criterion: 6.1 MNRD Districts should prepare District Compliance Plans that include monitoring and auditing forest operations and dealing with the results of compliance inspections conducted by

Procedure(s): ... review and assess whether an MNRD compliance program has been developed and implemented to effectively monitor program compliance in accordance with MNRD manuals, policies and procedures, assess whether the actual level of the overall monitoring program was in accordance with the FMP/plans.

Background Information and Summary of Evidence:

The MNRD District prepares an annual compliance plan in the form of an Excel spreadsheet. The spreadsheet has columns that include: description of activity, risk assessment, scheduling, strategy, action taken and follow-up. For forest operations compliance, there are separate categories for harvest blocks, water crossings, silviculture and roads.

Our investigations determined that a senior technician approaches the various program specialists (e.g. lands, forestry, wildlife, fisheries) and records the compliance work priorities for each program for the coming year. In the case of forest compliance, work priorities are primarily based on the AWS, identified issues (e.g. harvest, access), contractor work history, MNRD priorities, etc. The collected information is then amalgamated in the Excel spreadsheet. We were unable to track the compliance planning process from that point onwards. There is access to the files for all staff. Interviews with MNRD staff indicate that while they submit information to the plan, they have no knowledge of district-wide priority setting either within their particular program or across programs. No staff had been approached with respect to altering their stated priorities or had seen an “approved” plan.

Discussion:

A common theme we heard from all parties we contacted was that MNRD did not have sufficient staff to carry out their legislated mandate and/or did not have enough of a field presence during the audit term. Our understanding is that the MNRD “transformation” and move to “risk based management” was driven by the requirement to work smarter and do more with less. This understanding is based on numerous MNRD interviews in this, and previous audits we conducted during the transformation process. As well, the annual compliance plan, with direct input from field staff is meant to form the basis from which managers are able to understand

issues and risks, set compliance priorities both within and across programs, and provide clear direction to their work force. That process does not appear to have occurred. We did not encounter any evidence of broader district priority setting or distribution of resources. It appears that most MNRF staff have the same work responsibilities as prior to the “transformation” and are working on these tasks with fewer resources.

Finding # 7:

There is no evidence of broader MNRF District priority setting and risk assessment for the allocation of available resources in the Annual District Compliance Plan.

Independent Forest Audit – Record of Finding

Finding # 8

Principle: 6 Monitoring

... SFL... reporting obligations met the requirements of manuals, policies, procedures and the SFL.

Criterion: 6.2.1 SFL holder compliance planning and monitoring

... inspections and reports will be completed as required ...

Background Information and Summary of Evidence:

In April of 2015, MNRF discovered significant volumes of merchantable timber left on harvest sites in the form of long butts and unutilized tree tops. The MNRF was faced with a significant not-in-compliance issue and the possibility of issuing penalties against contractors working across the Forest. Internal MNRF documentation shows that with Resolute accepting responsibility and committing to correcting the situation, the Ministry chose not to pursue administrative penalties under Section 58 of the *Crown Forest Sustainability Act*. This was viewed as a win for all parties because wasteful practices would be cleaned up, crown stumpage would be received, and Resolute would solve the utilization problems through voluntary remedial actions.

Between May 2015 and September 2017, MNRF and Resolute engaged in a series of meetings to discuss potential solutions, information gathering initiatives to determine the scope of the problem, joint efforts to assign specific forest blocks into clean-up categories (e.g. grind, pile and burn) and established timelines for completion of the cleanup. The outcome of these efforts was that harvest blocks from 2014/15 and 2015/16 were inspected and placed in one of five categories as follows.

1. Excessive utilization issue: exceeds benchmark levels, merchantable and dry sound pieces, long butts and large diameter tops on site.
2. Medium utilization issue: exceeds benchmark levels, excessive dry sound log pieces left on site.
3. Small utilization issues: Does not exceed benchmark levels.
4. Not a utilization issue: below benchmark levels.
5. Active operation.

Each utilization category was assigned a FOIP response/direction as follows:

1. Category 1: Return to block and grind.
2. Category 2. Return to block to pile and burn remaining slash.
3. Category 3: Block designated as no issue as per joint field inspection. Slash to be treated where possible.
4. Category 4. Block designated as no issue with normal procedures applying.
5. Category 5: Active operations and a FOIP entered.

Volume estimates provided by RFP indicate volumes of 6,860 m³ and 4,464 m³ in Category 1 and Category 2 blocks respectively. The MNRF (February 18, 2016) established a schedule for cleaning up individual blocks and further required that the “clean-up” of all blocks be completed by October 1, 2016. Work has been undertaken but the established deadlines have not been met due to issues related to shutdowns at receiving facilities. Currently ground wood is transported to the Resolute mill in Thunder Bay.

At the time of the field audit, grinding operations have been completed in twenty-seven blocks (Category 1) and twenty-seven FOIP reports have been filed for Category 2 blocks. The Category 2 blocks are included in the most recent Slash Pile Burn Plan. A tender for slash piling was issued in August 2017 to address areas that have been identified as requiring slash management. RFP has accrued \$ 47,787.27 for Category 2 stumpage and is awaiting an invoice from the MNRF.

Our review of available information and interviews suggest that 30 - 40 percent of the clean-up has been achieved. All interviewed MNRF and Resolute staff as well as LCC members agree that there has been considerable improvement in wood utilization. Our review of FOIPs indicates there have been no new non-compliances, and our audit field inspections of sites did not reveal any issues.

There has been considerable resolve and effort by all parties to clean up the blocks. The initial timelines for completion have proven to be unrealistic and the continued existence of a “missed deadline” continues to cast a shadow over the ongoing efforts which will, realistically, need to continue for some time. Both parties would benefit from another review of timelines and targets.

Finding # 8:

The schedule for the completion of the clean-up of 2014-2016 harvest blocks has proven to be unrealistic and unattainable.

Independent Forest Audit – Record of Finding

Finding # 9

Principle: 6 Monitoring

Criterion: 6.3 Silvicultural Standards Assessment Program

Procedure(s): Assess whether the management unit assessment program is sufficient and is being used to appropriately update the FRI.

Background Information and Summary of Evidence:

The Trends Analysis Report indicates that *“the assessment of harvested areas is slightly off pace with the annual level of harvest over the last 16 years”* and that *“given the average overall rate of harvest and the approximate eight to twelve-year time frame between harvest and free-to-grow assessment, it can be expected that approximately 100,000 ha of forest would be “pending assessment” at any given time.”*. The Trends Report indicates that 155,076 ha are un-surveyed.

In interviews, RFP staff indicated that the area requiring FTG survey was 59,098 ha as of 31/03/2017. FTG surveys were not undertaken during several years in the audit term (2013, 2014, 2015). The delay in the survey program was attributed to a re-assessment of data sources and survey processes and procedures by RFP and an initiative to time the surveys to coincide with changes in regeneration standards in Phase II Silviculture Ground Rules (SGRs).

Discussion:

Free-to-grow assessments are generally conducted when stands reach 10-15 years old, dependent upon the renewal method employed. A key principle of Ontario’s forest sustainability framework is to ensure that regeneration efforts are achieving the standards in the forest management plan. The effectiveness of forest operations prescriptions in achieving the desired forest unit must be understood to facilitate reporting on forest sustainability and to provide reliable information for forest management planning (e.g. development of SGRs, SFMM inputs).

The Trends Report states that *“results from silvicultural treatment assessments (i.e. FTG) are insufficient to make a determination regarding the effectiveness of silvicultural ground rules (SGRs) in this planning term.”*

Finding # 9:

A backlog in area requiring FTG survey exists.

Independent Forest Audit – Record of Finding

Finding # 10

Principle: 8 Contractual Obligations

Criteria: 8.1.9 Audit Action Plan and Action Plan Status Report

An action plan responding to audit findings ...is to be completed within 2 months of receiving the final audit report...a status report is to be prepared within 2 years following approval of the action plan...

Background Information and Summary of Evidence:

The 2012 IFA Report was received in March 2013. The Action Plan was completed on time and the Action Plan Status Report was due in March 2015.

The Action Plan Status Report was submitted in June 2015. The three-month delay coincided with the MNRF transformation and staffing changes at Resolute.

Finding # 10:

The Action Plan Status Report was submitted three months late.

Independent Forest Audit – Record of Finding

Finding # 11

Principle: 8 Contractual Obligations

Criterion: 8.1.21 SFL or Agreement extension recommendation

Procedure(s):

- Based on consideration of audit results for the preceding criteria in 8.1 related to the SFL or Agreement make a concluding statement and recommendation on the extension of an individual SFL or the Agreement in accordance with the IFAPP direction for such a recommendation (Appendix D).

Background Information and Summary of Evidence:

Section 2.3 of the Sustainable Forest Licence (SFL) # 542245 states “*The term of this licence commences on the 1st day of April 2002 and expires on the 31st day of March 2022, but may be extended in accordance with section 26(4) of the Crown Forest Sustainability Act (CFSA)*”. Amendments to the SFL are listed in “Appendix G”.

The previous (2012) IFA recommended that the Minister extend the term of Sustainable Forest Licence #542245 for a further five years. Contrary to the provisions of Subsection 26 (4) of the CFSA, the term of SFL has not been extended, even though CFSA conditions (Subsection 26 (3)) for extension have been met.

Discussion:

It is understood that IFA findings are only a component of the Minister’s consideration of licence extension. The current licence expires in 2022, indicating that a 5-year extension has not taken place for three of the last five-year terms. Outlined below are relevant provisions for extension as provided in the Crown Forest Sustainability Act.

Subsection 26 (1) of the CFSA provide that:

“The Minister may, with the approval of the Lieutenant Governor in Council, grant a renewable licence to harvest forest resources in a management unit that requires the licensee to carry out renewal and maintenance activities for the benefit and on behalf of the Crown necessary to provide for the sustainability of the Crown forest in the area covered by the licence. 1998, c. 18, Sched. I, s. 15.”

Subsection 26 (3) and (4) of the CFSA provide that:

“Subject to subsection (3.1), during the term of the licence, the Minister shall conduct a review every five years to ensure that the licensee has complied with the terms and conditions of the licence.” and “If a review conducted under subsection (3) or (3.1) satisfies the Minister that the licensee has complied with the terms and conditions of a licence, the Minister shall, with the approval of the Lieutenant Governor in Council, extend the term of the licence for five years.”

Licence extensions are referenced in Appendix G of the SFL. Appendix G of the licence does not document any extensions to the licence.

Finding # 11:

The term of Sustainable Forest Licence # 542245 has not been extended.

Appendix 2

Management Objectives Table

2009 FMP OBJECTIVES	ASSESSMENT OF OBJECTIVE ACHIEVEMENT	AUDITOR COMMENTS
To create a range of disturbance patches across the landscape that is consistent with size class and frequency distribution of disturbance patches created under a natural fire regime (natural template).	MET	The 2007 FMP projected that movement towards the natural template at the end of Plan Period would be achieved. No change from that assessment can currently be projected.
To provide pine marten core habitat areas within the marten management zone on the Crossroute Forest, consistent with the requirements of the Forest Management Guidelines for the Provision of Marten Habitat, MNR 1996.	MET	The 2007 FMP projected that movement towards the desired level over the next 60 years would be achieved. Pine marten core habitat areas would be a minimum 4% of the area.
Provide deer wintering areas within the deer management zone, consistent with historical deer wintering habits on the Crossroute Forest and the requirements of the Guidelines for the Provision of White-Tailed Deer Habitat, MNR 1997.	UNCERTAIN	The 2007 FMP projected that the target of no less than 10% of deer summer range area would be achieved. However, in a 2013-2014 assessment of this objective the results were inconclusive. The 2012 IFA recommended that the MNRF and Company determine if deer habitat objectives had been achieved. In discussions between MNRF and RFP, it was agreed that because a majority of the blocks listed in the report are in different stages of completion, no adjustments were required. It was also agreed that with full implementation of both the Landscape Guide and the Stand and Site Guide planned for the upcoming 2020 FMP, deer habitat will be adequately assessed and managed moving forward.
Provide for a forest composition and age class structure that is representative of the forest condition under a natural	MET	The 2007 FMP projected that the target of the forest composition (area by forest unit) being within the target BNV levels would be achieved. Planned levels remain consistent with that target.

2009 FMP OBJECTIVES	ASSESSMENT OF OBJECTIVE ACHIEVEMENT	AUDITOR COMMENTS
disturbance regime, consistent within the bounds of natural variation (BNV).		
Maintain or enhance the amount of Red and White Pine Forest (PRWMX and PWDOM forest units) consistent with the Fort Frances District Strategies for the Management of White and Red Pine, MNR 1993.	MET	The 2007 FMP projected that the target to maintain or enhance the area (ha) of the PRWMX and PWDOM forest units compared to the 1995 benchmark level would be achieved. Red and white pine planting are more than meeting the objective of enhancing those species on the forest with the annual planting of over 500,000 red and white pine seedlings. The actual annualized level of regeneration is matching the actual annualized harvest level.
To provide for old growth Red and White Pine forests (PRWMX and PWDOM forest units) in accordance with the old growth definitions for the Crossroute Forest, with representative area equal to or greater than the base level identified in the Conservation Strategy for Old Growth Red and White Pine Forest Ecosystems for Ontario, MNR 1995	MET	The 2007 FMP projected that the target to maintain the presence of older PRWMX and PWDOM forest units at the 1995 benchmark level would be achieved. The Trends Analysis reports that forecast old growth Red and White pine continue to be above the benchmarked 1995 levels.
To provide preferred habitat for forest dependent species at risk, and provincially and locally featured (selected) wildlife species, consistent with the levels associated with a natural disturbance regime.	MET	Preferred habitat remains consistent with the 2007 Assessment. Preferred wildlife habitat is consistent with BNV levels for all selected species. Wildlife habitat forecasting remains consistent with 2007 SFMM modeling.
To implement forest operations in a manner that	MET	There were no instances of non-compliance associated with AOC

2009 FMP OBJECTIVES	ASSESSMENT OF OBJECTIVE ACHIEVEMENT	AUDITOR COMMENTS
protects the following identified species: forest dependent species at risk list for Ontario, other locally featured wildlife species, rare plant communities, and stands of infrequently occurring tree species on the Crossroute Forest.		prescriptions for the protection of identified species at risk, rare plant communities and other locally featured species.
To maintain genetic diversity through the use of natural regeneration methods for appropriate forest units and conditions.	MET	The area renewed by natural regeneration is below planned levels due to the reduced harvest area. Approximately 49% of the target was achieved (12,865 hectares).
To conserve the genetic diversity of red and white pine, through the implementation of Fort Frances District Strategies for White and Red Pine Management	MET	There were no non-compliances related to the conservation of the genetic diversity of red and white pine.
To implement forestry operations in a manner that protects parks and conservation reserves identified through government processes.	MET	Parks and Conservation Reserves were protected.
To emulate natural disturbances at the stand level during harvest operations, through the retention of uncut insular and peninsular (residual) areas and individual snag trees consistent with the Forest Management Guide for Natural Disturbance Pattern Emulation (NDPEG), MNR 2001.	MET	There was only one instance of a planned residual patch within a harvest area that was harvested. The target of no more than 2 non-compliances per year was met.

2009 FMP OBJECTIVES	ASSESSMENT OF OBJECTIVE ACHIEVEMENT	AUDITOR COMMENTS
To ensure that wood from natural disturbance areas is utilized, within operational and ecological constraints.	MET	Salvage operations occurred on 1,898 ha and met SFL salvage conditions.
To effectively regenerate backlog barren and scattered, and harvest/salvage areas, in order to reach Free Growing status in a manner that is consistent with the regeneration standards outlined in the Silvicultural Ground Rules for the Crossroute Forest.	MET	Salvage areas were effectively renewed.
Increase forest productivity through the pre-commercial thinning of PJPUR, PRMX, SBPUR, PRWMX, and POPUR forest units that are overstocked, consistent with silvicultural ground rules for the Crossroute Forest.	NOT MET	<p>The target to pre-commercially thin no less than 90% of the forecasted area was not met due to the lower than planned harvest and a lack of area suitable for the treatment.</p> <p>The 2017 Trends Report notes that, while there has been a drop in manual tending levels during this plan term, there has also been a corresponding drop in annual harvest levels both below FMP forecast and long-term average levels. The Trends also reports that the over achievement in manual tending in the 2002 FMP has contributed to difficulties in locating PCT sites that are of adequate height, density and remain economically viable to treat mechanically in the current FMP period.</p> <p>We agree that based on the above analysis, the lower than planned manual tending levels will not have a significant effect on forest productivity.</p>

2009 FMP OBJECTIVES	ASSESSMENT OF OBJECTIVE ACHIEVEMENT	AUDITOR COMMENTS
Explore the economic/operational feasibility of alternative methods for the disposal and/or utilization of logging slash	MET	A report evaluating alternative slash disposal methods was completed.
To minimize adverse effects of forest operations on soil conditions consistent with the Forest Management Guidelines for the Protection of the Physical Environment, OMNR 1997.	MET	There were no non-compliances related to the site disturbance. Our field audit confirmed this finding.
To minimize the adverse effects of forest practices on water quality consistent with the Timber Management Guidelines for the Protection of Fish Habitat, MNR 1988, Environmental Guidelines for Access Roads and Water Crossings, MNR 1990, and Code of Practice.	MET	AOC prescriptions were appropriate for the protection and/or maintenance of the identified values and were implemented in accordance with the FMPs and the AWSs. Our review of FOIP records indicated few compliance issues associated with AOCs during the audit term.
Ensure that the Crossroute Forest continues to contribute to the removal of carbon dioxide from the atmosphere, by making sure that harvest areas are promptly regenerated in accordance with the Silvicultural Ground Rules	MET	All harvested areas are renewed within 2 years of harvest.
Ensure that the Crossroute Forest remains a carbon sink, through the application of forest fire prevention measures to prevent forest fires caused by forest operations associated with	MET	The Trends Report indicates that five forest fires had been started by forest operations (as of 2016). All fires (2.3 ha) occurred while operations were in compliance with a fire plan.

2009 FMP OBJECTIVES	ASSESSMENT OF OBJECTIVE ACHIEVEMENT	AUDITOR COMMENTS
the Crossroute Forest.		
Maintain the area of Managed Crown Productive Forest available for timber production at the highest possible level by minimizing the conversion of Managed Crown Forest area to non-forested land.	MET	<p>Areas piled with slash are managed by a biofibre collection program or slash pile burning program. These areas are included in the tree planting program.</p> <p>In 2015, site inspections identified a forest-wide utilization issue related to merchantable wood left in slash piles. (Finding # 6). Resolute committed to corrective actions to clean-up identified harvest blocks by October 2016. While progress on the clean-up has been made, at the time of the audit approximately 60% of the scheduled areas remained untreated. Our review of FOIPs indicates there have been no new non-compliances, and our audit field inspections of sites did not reveal any issues.</p>
To provide a continuous, predictable and sustainable supply of wood from the Crossroute Forest over the long term based on the current Management Unit Contribution (MUC) to the Ministry Recognized Operating Level.	PARTIALLY MET	The target to maintain the long term (2007-2107) available annual harvest volume by species group will be reduced due to balancing plan objectives (primarily wildlife habitat and old growth).
Over the long term, maintain the available harvest area at a level that supports the current Management Unit Contribution (MUC) wood volumes to local wood processing facilities.	MET	The 2007 FMP Phase II assessment was that the long term (year 2107) available harvest had been maintained.
To provide a continuous, predictable and sustainable supply of wood from the Crossroute Forest over the short term, based on the current Management Unit	PARTIALLY MET	Planned harvest levels were not achieved due to the downturn in the economy. This is not expected to have a significant effect on long term sustainability unless the condition persists, resulting in the production of

2009 FMP OBJECTIVES	ASSESSMENT OF OBJECTIVE ACHIEVEMENT	AUDITOR COMMENTS
Contribution (MUC) to the Ministry Recognized Operating Level.		fewer economic benefits.
To carry out harvest operations in a manner that maximizes product from harvested timber, consistent with wood utilization standards (wasteful practices) described in the Scaling Manual, MNR 2000 (and any variations identified in the 2007- 2017 Forest Management Plan).	NOT MET	There were issues with the merchandizing of wood between 2014-2016 (Finding # 6). This issue is being rectified.
Forestry operations will be implemented in a manner that minimizes conflicts with non-timber resource users, and protects non- timber values, in order to provide all users with the opportunity to benefit from the forest.	MET	This objective was met. There were no more than two non-compliances per year related to this objective.
To continue to provide opportunities for local employment, including First Nation communities, in resource sectors that are dependent on the use of forest resources.	MET	This objective was met. Local Indigenous communities and individuals participate in woodland operations, mill operations (i.e. Atikokan Sawmill) and road construction and maintenance work.
To generate stumpage revenues for the provincial government, for the benefit of the citizen's of Ontario.	MET	This objective was met. Harvest levels were lower than planned due to the downturn in the forest sector economy.
To provide all users and citizens with the opportunity to benefit from the forest through the use of forest access roads	MET	Most roads constructed during forestry operations are open to the public.

2009 FMP OBJECTIVES	ASSESSMENT OF OBJECTIVE ACHIEVEMENT	AUDITOR COMMENTS
To provide opportunities for Aboriginal community involvement in the planning process for the 2007- 2017 Forest Management Plan for the Crossroute Forest, consistent with the requirements of the FMPM (2004).	MET	100% of the Aboriginal communities (11 communities) in or adjacent to the Crossroute Forest were contacted at least 6 months prior to the start of the formal public consultation process, and were provided opportunities for involvement in the planning processes.
Continued involvement from Aboriginal communities in the planning process for the 2007-2017 Forest Management Plan for the Crossroute Forest.	PARTIALLY MET	All Aboriginal communities were contacted at least 6 months prior to the start of the formal public consultation process, and were provided opportunities for involvement in the planning processes. Two representatives participated on the Planning Team for the preparation of the Phase II FMPP.
Continued involvement from Aboriginal communities in the update and review of the Aboriginal Background Information Report and the Report on the Protection of Identified Aboriginal Values as required in the planning process for the 2007-2017 Forest Management Plan for the Crossroute Forest.	MET	The Contingency planning process provided opportunities for Aboriginal Communities to provide input on the protection of Aboriginal forest values.
To plan and implement forestry operations in a manner that protects all known Aboriginal Values.	PARTIALLY MET	The Trends Report indicates that there were two instances of non-compliance related to high potential cultural heritage values. Discussions held with the impacted communities determined that no values were compromised.
To obtain progress checkpoint endorsements throughout the planning process, by the Ministry of	MET	Contingency plan timelines were met

2009 FMP OBJECTIVES	ASSESSMENT OF OBJECTIVE ACHIEVEMENT	AUDITOR COMMENTS
Natural Resources, Abitibi Consolidated, the Planning Team, and Local Citizen's Committees, according to the Terms of Reference for the plan.		
To obtain MNR and planning team support of the planning process.	MET	An approved Terms of Reference and an effective Public Participation Process was provided for the 2007-2017 Phase I and Phase II Sustainable Forest Management Plan and the 2007 Contingency Plan for the Crossroute Forest.
To have Local Citizen's Committees (Natural Resources Advisory Committee and Resource Management Advisory Committee) effectively participating in the development of the management plan.	PARTIALLY MET	There was a NRAC member on the Phase II planning team. RMAC did not provide a member.
To ensure that the public is provided relevant information to support their involvement in the public participation process for the Crossroute FMP.	MET	Required information and map products identified in the FMPM were provided at each designated stage of public consultation, during the development of the 2007-2017 Crossroute FMP Phase I and Phase II as well as the 2017 Contingency Plan.
To update the Forest Resource Inventory (FRI) prior to the preparation of the next Crossroute Forest Management Plan (2017-2027).	MET	The FRI was updated. As of 2015-2016 the new eFRI was not available (Finding # 2). This delayed the planning process and forced the development the Contingency Plan.
To develop road density targets for the Crossroute Forest, based on land use intent.	MET	Road density targets were established. However, the lower than planned harvest level reduced the construction of access roads.

2009 FMP OBJECTIVES	ASSESSMENT OF OBJECTIVE ACHIEVEMENT	AUDITOR COMMENTS
<p>To implement and monitor forest operations according to the Annual Compliance Action Plan, consistent with provincial legislation, MNR policy, legal commitments, regional strategic direction, local land use and resource management plans.</p>	<p>PARTIALLY MET</p>	<p>MNRF compliance planning was completed on an annual basis. However, the content of the annual plans consisted primarily of individual MNRF staff listing priorities for their specific programs (Finding # 7).</p> <p>Resolute prepared the required plan however inspectors failed to meet its requirements (Finding # 6).</p> <p>Over the audit term there was a 97% in-compliance as a result of industry and MNRF forest operations compliance inspections. This met the target of no less than 95% compliance annually. There was a significant issue with merchantable wood being left in the bush.</p>

Appendix 3

Compliance with Contractual Obligations

Licence Condition	Licence Holder Performance
Payment of Forestry Futures and Ontario Crown charges.	<p>Outstanding charges as of March 31, 2017 were as follows:</p> <p>Forest Futures – \$ 754.02 Crown Charges - \$ 8,987.19</p> <p>These charges reflect the timing of stumpage invoice submissions.</p>
Wood supply commitments, MOAs, sharing arrangements, special conditions.	<p>Resolute FP Canada Inc. has wood commitments to:</p> <ul style="list-style-type: none"> • A supply agreement with Ainsworth GP LTD was transferred to Norbord Inc. A signed business- to-business supply agreement between RFP and Norbord is in place. • There are fibre commitments to contractors on the former Fort Frances and Flanders Managements Units that remain valid. <p>License commitments were met.</p>
Preparation of FMP, AWS and reports; abiding by the FMP, and all other requirements of the FMPM and CFSA.	<p>Phase I and II FMPs were completed in accordance with the FMPM and met the requirements of the CFSA.</p> <p>The AWSs and ARs met reporting and format requirements.</p>
Conduct inventories, surveys, tests and studies; provision and collection of information in accordance with FIM.	<p>All required surveys and data collection were completed. There is a minor backlog in the area requiring FTG survey as surveys were not completed during three years of the audit term (Finding # 9).</p>
Wasteful practices not to be committed	<p>Wasteful practices were committed during 2013/14 and 2014/15 as operators transitioned from tree length to cut-to-length processing. RFP and MNRF negotiated a process and schedule to address the wood waste issue. This work is behind schedule (Finding # 8).</p>
Natural disturbance and salvage SFL conditions must be followed.	<p>Approximately 1,898 ha of blowdown was salvaged over two operating seasons. SFL conditions for salvage were met.</p>

Licence Condition	Licence Holder Performance
Protection of the licence area from pest damage, participation in pest control programs.	No pest management programs were conducted
Withdrawals from licence area	There were no withdrawals from the license.
Audit action plan and status report	The Status Report was 3 months late (Finding # 10).
Payment of forest renewal charges to Forest Renewal Trust (FRT)	All forest renewal charges were paid.
Forest Renewal Trust eligible silviculture work.	Audit site inspections determined that work was completed and appropriately invoiced in the SPA report.
Forest Renewal Trust forest renewal charge analysis.	Forest Renewal Trust renewal charge analysis work was completed annually.
Forest Renewal Trust account minimum balance.	The minimum balance of \$ 4,143,400 was maintained.
Silviculture standards and assessment program	Silviculture assessment work was completed on an annual basis.
Aboriginal opportunities.	Indigenous people are highly represented in woodlands operations working independently or for numerous contractors.
Preparation of compliance plan.	A compliance plan was prepared.
Internal compliance prevention/education program.	RFP has ISO 14001 EMS certification which documents and tracks environmental and safety training. Resolute FP maintains a comprehensive training matrix which documents the level and currency of training of all forest workers.
Compliance inspections and reporting; compliance with compliance plan.	A significant wood utilization issue occurred over a two-year span as contractors moved from tree length to cut to length processing. RFP compliance inspectors failed to report the compliance issue to MNRF (Finding # 6). Operational standards for forestry aggregate pits were not consistently met (Finding # 5).
SFL forestry operations on mining claims.	Mining companies were notified in the AWS's as to the locations of annual operations.
SFL Extension Recommendation.	The SFL has not been extended although

Licence Condition	Licence Holder Performance
	previous audits have recommended the licence extension (Finding # 11). This audit recommends that the Minister extend the SFL for a further five years.

Appendix 4
Audit Process

Audit Process

This IFA consisted of the following elements:

Audit Plan: An audit plan describing the schedule of audit activities, audit team members, audit participants and the auditing methods was prepared and submitted to the Resolute FP MNRF Fort Frances District, Northwestern Region MNRF Office, Forestry Futures Trust Committee and the LCC Chair on August 18, 2017.

Public Notices: Public participation in the audit was solicited through the placement of public notices in the Fort Frances Times (September 6, 2017) and the Atikokan Progress (September 5, 2017) and a random mailing to 100 individuals/organizations listed on the FMP mailing list. All Aboriginal and Metis communities with an interest in the Forest were contacted by mail to participate and/or express their views. Indigenous community leaders received several follow-up telephone calls and/or e-mails.

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

Field Site Selection: Field sample sites were selected randomly by the Lead Auditor in August 2017. Sites were selected in accordance with the guidance provided in the IFAPP (e.g. operating year, contractor, geography, forest management activity, species treated or renewed, and access) using GIS shapefiles provided by Resolute. The sample site selections were reviewed by Resolute and MNRF District Staff and the Lead Auditor during a conference call and a GoToMeeting session on August 30, 2017.

Site Audit: The audit team spent 7 days on the CF in September 2017 conducting the field audit, document and record reviews and interviews. The field audit was designed to achieve a minimum 10% of the forest management activities (including road construction and maintenance) that occurred during the audit term (see the IFA Field Sampling Intensity on the CF below). At the request of a member of the NRAC, two sites were added to the field tour.

Not every hectare of the area sampled is surveyed, as this is not feasible. Individual sites are initially selected to represent a primary activity (e.g. harvesting, site preparation) but all associated activities that occurred on the site are assessed and reported in the sample table. The audit team also inspected the application of Areas of Concern prescriptions, aggregate pit management and rehabilitation and water crossing installations. Areas listed in the "*Road Construction and Maintenance Agreement*" were visited to ensure conformity between invoiced and actual activities. The field inspection included site-specific (intensive) and landscape-scale (extensive helicopter) examinations. The Closing Meeting was held on September 22, 2017.

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

Procedures Audited by Risk Category

Principle	Optional – Applicable (#)	Optional Selected (#)	Optional % Audited	Mandatory Audited (#) (100% Audited)	Comments
1. Commitment	N/A	N/A	N/A	N/A	The SFI certification met IFAPP Principle 1 criterion.
2. Public Consultation and Aboriginal Involvement	5	0	0	3	
3. Forest Management Planning	45	13	29	38	
4. Plan Assessment & Implementation	3	0	0	9	
5. System Support	N/A	N/A	N/A	N/A	The SFI certification met IFAPP Principle 5 criterion
6. Monitoring	12	8	67	6	
7. Achievement of Management Objectives and Forest Sustainability	0	0	0	15	
8. Contractual Obligations	7	7	100	25	

IFA Field Sampling Intensity on the Crossroute Forest (2012-2017)

Activity	Total Area (Ha) / Number	Planned Sample Area (Ha)	Actual Area (Ha) Sampled	Number of Sites Visited	Percent Sampled
Harvest	33,770	3,377	3,739	67 ²	11
Plant	14,991	1,499	1,522	17	10
Seeding	10,929	1,092	1,368	12	13
Natural Renewal	12,303	1,230	1,253	17	10
Mechanical Site Preparation	14,806	1,480	1,614	22	11
Chemical Site Preparation	1,147	134	134	2	12
Chemical Tending	13,224	1322	1,420	35	11
Manual Tending	3,472	347	405	6	12
FTG	6,065	606	617	7	10
Water Crossings (# of Crossings)	129	12		12	10
Forest Resource Aggregate Pits (# of Pits)	99	10		10	10
SPA Activities	16,535	1,653	2,314	34	14

Summary of Consultation and Input to the Audit

Public Stakeholders

Public participation in the audit was solicited through the placement of a public notice in the Fort Frances Times and the Atikokan Progress. These notices directed interested individuals to contact the audit firm with comments or complete a survey questionnaire on forest management during the audit term on the Arbex website. No responses were received.

One hundred individuals/organizations on the FMP mailing list received a letter and the survey questionnaire. Two responses were received.

An additional sample of stakeholders was contacted directly by telephone. Comments were received from resource-based tourism operators. All respondents indicated that they had been made aware of FMP processes and opportunities to engage in the

² Harvest operations were examined during site inspections of other silvicultural activities.

planning process were provided. The comments received included a range of opinions. Some respondents were satisfied with the performance of the MNRF and Resolute FP and others were not. Some expressed concerns about specific forest management operations and land use. Specific comments included:

- There were good communications with MNRF and RFP. The working relationship with MNRF and RFP was good and both organizations were responsive to concerns.
- Sometimes MNRF and RFP actions were not consistent when dealing with tourism operators.
- There was a concern expressed for hunter safety with respect to the MNRF requirement for large setback distances from roads in bear baiting operations.
- One individual suggested that a program was required to monitor the use of the Charles Road.
- There was concern that the Fort Frances mill closure had resulted in fewer local RFP staff which in turn, resulted in less attention being paid to local tourism values and road and culvert management.
- One individual was not aware of the planning process and proposed cutting and related access near his property and Bear Management Area.
- There was a concern with wasteful practices, poor slash management and poor regeneration.
- There was a concern that RFP staff were not present enough on the Forest.
- One individual indicated a concern that AOC buffers are too large.

MNRF

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

- There is a lack of compliance inspectors and that the transformation process had severely hindered their ability to get into the field over the past 2-3 years due to vacant positions, new staff and changing staff.

- There was concern that the major utilization issue had gone undetected by MNRF for over a year. The transformation process at MNRF and resulting staff capacity issues was cited as the contributing factor.
- A concern was expressed over a perceived lack of planned mentoring programs to train individuals replacing retiring staff.
- A concern that Resolute was not moving aggressively enough to clean-up blocks identified in the utilization agreement but recognized that the clean-up was hampered by the lack of markets for the material.

Resolute FP

RFP staff were interviewed and/or participated the field audit. General comments made to the audit team included:

- Concern that the utilization issue had developed and that it was not brought to management sooner.
- Concern that MNRF did not have enough presence on the Forest.
- Concern with staffing levels and work load.
- Concern that deadlines for the wood utilization clean up blocks was not meeting the schedule and that the schedule was un-realistic and further delayed by a lack of markets.
- General satisfaction with the level of engagement by indigenous contractors and laborers in the forest management operations.
- Concern with the level of engagement of the Company in NRAC.

LCC Members (NRAC & RMAC)

Individual members of the LCCs received a letter inviting their participation in the audit. Nine members of the LCCs were interviewed. Two members attended the field audit for two days. Three members of the audit team attended a regularly scheduled RMAC meeting. General comments included:

- They were pleased with the relationship with Resolute and MNRF. They felt it was respectful and productive.

- Members were very concerned about the past and possible future downturns in the industry and the economic impacts on the local communities.
- They indicated they had opportunities for full participation in plan development and implementation.
- They were aware of the utilization issue and the requirement to cleanup merchantable timber left in harvest blocks. Generally, they thought the approach by MNRF to negotiate a solution to the problem was the best option.
- They were sensitive to the issues contractors faced when the pulp mill was closed and they had to adjust to supplying a different product to sawmills.
- Concern with slash management and the failure to effectively burn piles.
- Concern that Resolute did not have a significant presence on the Forest following the shutdown of the Fort Frances mill.

First Nations and Métis Organizations

All Aboriginal communities with an identified interest in the Forest and the Métis Nation of Ontario were contacted by mail, telephone and/or email and asked to express their views on forest management during the audit term and/or participate in the field audit. General concerns included:

- A desire for increased benefits (e.g. employment, contracting opportunities) from forest management activities on the Forest.
- A concern that social and cultural values/activities be recognized and protected.
- A requirement that Indigenous peoples be fully consulted on all aspects of forest management.
- General confusion with respect to the different types of forest management audits that they were asked to get involved with (i.e. IFA, certification audits).

Harvest Contractors

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

Appendix 5

List of Acronyms Used

List of Acronyms Used

AHA	Available Harvest Area
AOC	Area of Concern
AR	Annual Report
AWS	Annual Work Schedule
B&S	Barren and Scattered
B.Sc.F.	Bachelor of Science in Forestry
CFSA	Crown Forest Sustainability Act
CP	Contingency Plan
eFRI	Enhanced Forest Resource Inventory
EMS	Environmental Management System
FFC	Forestry Futures Committee
FIM	Forest Information Manual
FMP	Forest Management Plan
FMPM	Forest Management Planning Manual
FN	First Nation
FOIP	Forest Operation Inspection Program
FOP	Forest Operations Prescription
FRI	Forest Resource Inventory
FRT	Forest Renewal Trust
FTG	Free-to-Grow
Ha	Hectares
IEA	Individual Environmental Assessment
IFA	Independent Forest Audit
IFAPP	Independent Forest Audit Process and Protocol
KM	Kilometer

LCC	Local Citizens Committee
m ³	Cubic Metres
MNRF	Ministry of Natural Resources and Forestry
MOA	Memorandum of Agreement
NDPEG	Natural Disturbance Pattern Emulation Guideline
CF	Crossroute Forest
RFP	Resolute Forest Products
R.P.F.	Registered Professional Forester
SAR	Species at Risk
SEM	Silvicultural Effectiveness Monitoring
SFL	Sustainable Forest Licence
SGR	Silvicultural Ground Rule
SIP	Site Preparation
SPR	Specified Procedures Report
STP	Silvicultural Treatment Package
VS	Versus

Appendix 6
Audit Team Members and Qualifications

Appendix 6

Audit Team Members and Qualifications

Name	Role	Responsibilities	Credentials
<p>Mr. Bruce Byford R.P.F. President Arbex Forest Resource Consultants Ltd.</p>	<p>Lead Auditor Forest Management & Silviculture Auditor</p>	<p>Audit Management & coordination Liaison with MNRF Review documentation related to forest management planning and review and inspect silviculture practices Determination of the sustainability component.</p>	<p>B.Sc.F. ISO 14001 Lead Auditor Training. FSC Assessor Training. 38 years of consulting experience in Ontario in forest management planning, operations and resource inventory. Previous work on 33 IFA audits with lead auditor responsibility on all IFAs. 27 FSC certification assessments with lead audit responsibilities on 7.</p>
<p>Mr. Al Stewart Arbex Senior Associate</p>	<p>First Nations & LCC Participation in Forest Management Process Auditor Forest Compliance</p>	<p>Review & inspect AOC documentation & practices. Review of operational compliance. First Nations consultation.</p>	<p>B.Sc. (Agr) ISO 14001 Lead Auditor Training. FSC assessor training. 47 years of experience in natural resource management planning, field operations, policy development, auditing and working with First Nation communities. Previous work experience on 33 IFA audits.</p>
<p>Mr. David Watton Arbex Senior Associate</p>	<p>Forest Management Planning & Public Participation Auditor</p>	<p>Review documentation and practices related to forest management planning & public participation. Determination of the sustainability component.</p>	<p>B.Sc., M.Sc. (Zoology) ISO 14001 Lead Auditor Training. 47 years of experience in natural resource management planning, land use planning, field operations, and policy development. Previous work experience on 32 IFA audits.</p>

<p>Mr. Trevor Isherwood R.P.F. Arbex Senior Associate</p>	<p>Silviculture, Forest Operations and Contractual Compliance Auditor</p>	<p>Review and inspect silvicultural practices and related documentation. Review and inspect documents related to contractual compliance.</p>	<p>B.Sc.F. Former General Manager of an SFL. 47 years of experience in forest management and operations. Previous work experience on 29 IFA audits.</p>
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