ALGONQUIN FORESTRY AUTHORITY
SUSTAINABLE FOREST MANAGEMENT
2016-2017
ANNUAL REPORT

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CAN/CSA Z809-08 CERTIFICATION
FOR SUSTAINABLE FOREST MANAGEMENT

ALGONQUIN
FORESTRY AUTHORITY

Canadian Sustainable Forest Management
PEFC
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Supporting CSA Z809 – Canada's SFM Standard

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Executive Summary

This 2016-2017 Annual Sustainable Forest Management (SFM) report is the ninth SFM report to be produced by the Algonquin Forestry Authority (AFA) under CSA certification, and the fifth annual report of the 2012 SFM Plan prepared under the Z809-08 standard. The SFM system was originally registered to the CSA Z809-02 standard on February 4, 2008, and re-registered to the CSA Z809-08 standard on February 17, 2013. This report is based on the AFA fiscal year **April 1, 2016 to March 31, 2017**.

The prime objective of the report is to report on progress that has been made to fulfill commitments identified in the CSA SFM plan. Secondary objectives of the report are to demonstrate that the AFA and their partners are living up to the SFM requirements and commitments outlined in the SFM Plan, and to demonstrate a commitment to continual improvement. Included in the report are inserted segments from the original SFM plan that are intended to help refresh the reader on components of the SFM Plan.

The report provides updates on targets for individual Values, Objectives, Indicators and Targets (VOIT) and from the results of these updates; progress, successes, and shortcomings may be measured.

There are 65 indicators within the 2012 SFM Plan that have associated targets, not all of which are reported on an annual basis. There are 23 long term indicators that are not updated on an annual basis; these will either be reported with the production of the 2020 Forest Management Plan or reported on a 5 year basis (in 2015 or 2017) - there are 10 of these 5-year VOITs that have been additionally reported in this 2016-17 Annual Report. There is one indicator to be determined by the Algonquin Treaty Chief negotiator that cannot be evaluated annually. There is one indicator and associated target that was completed in 2011-12. The remaining 40 indicators have an annual target. In addition, there is one indicator (5.2.1.1.1) that was evaluated last year (2013/14) as a result of the completed LTF Park Management Plan Amendment and is now reported annually, and one indicator (3.2.1.1.4) that was evaluated this year as it had a 2015 interim target associated with it (use of salted sand for road maintenance). This brings the total number of annual targets evaluated this year to 52.

Of these 52 indicators, 46 have had their targets achieved (88%). There are 6 indicators reported where the target has not been achieved, all of which are in criterion 5 Economic and Social Benefits.

The 6 indicators where targets have not been achieved are:

5.1.1.1.1 Quantity and quality of timber benefits, products, and services produced in the DFA: Long-term projected available harvest volume by product.

5.2.1.1.1 Managed Crown Forest area available for timber production.

5.2.2.1.1 Level of investment in training and skills development.

5.2.3.1.1 Level of Aboriginal participation in the forest economy: Percentage of total volume harvested by Algonquins of Ontario communities/organizations/people.

5.2.3.1.2 Level of Aboriginal participation in the forest economy: Percentage of silviculture completed by Algonquins of Ontario communities/organizations/people.

5.2.3.1.3 Level of Aboriginal participation in the forest economy: Percentage of total direct program costs paid to Algonquins of Ontario communities/organizations/people.

Refer to the individual VOIT discussion in section 5 for complete details on target achievement.

This is the fifth Annual Report for the 2012 SFM Plan. A slight reduction in target achievement (88%) has been realized in this report over last year, where 93% of targets were achieved.

For those indicators that are assessed in this Annual Report it is concluded that, on balance, the majority of targets are being met and progress has been made to fulfill the commitments identified in the CSA SFM Plan. AFA and their partners are living up to the SFM requirements and commitments outlined in the SFM Plan and a commitment to continual improvement is being demonstrated.

A summary of the results from the 2016 re-registration audit complete the monitoring and measurement component of this report (Appendix 2).

The final component of the report describes future plans and initiatives directed at the achievement of continual improvement on the Algonquin Park Forest.

1.0 INTRODUCTION

1.1 Purpose of AFA SFM Plan

The Algonquin Forestry Authority Sustainable Forest Management Plan (SFM Plan) is required as part of the definition and implementation of a Sustainable Forest Management System under the CAN/CSA-Z809-08 standard. The SFM Plan describes the SFM System and includes specific Values, Objectives, Indicators and Targets (VOITs) for Algonquin Park which constitutes the defined forest area (DFA). The SFM plan is a framework document that summarizes the key components of the management system used by AFA to manage the DFA.

Sustainable Forest Management certification is a voluntary tool available to forestry organizations that wish to demonstrate corporate responsibility by having their forest management planning and practices independently certified to a sustainable forest management standard. Sustainable Forest Management refers to maintaining and enhancing the long-term health of forest ecosystems for current and future generations. Certification goes beyond regulatory requirements and takes environmental, economic and social values into consideration.

The Algonquin Forestry Authority chose to seek registration to the CAN/CSA-Z809 sustainable forest management standard to demonstrate to the public and its customers that the Algonquin Park Forest is being managed on a sustainable basis. The SFM standard gives AFA the opportunity to continually improve forest management performance while engaging interested parties in a focused public participation process. Third party certification was also sought by AFA to augment the Ontario Crown Forest Sustainability Act requirements, the Ontario forest management planning process and the Ontario Independent Forest Audit program. Public participation is also a fundamental element of these processes and there are many common elements between these processes.

As the Crown Agency responsible for sustainable forest management in Algonquin Provincial Park, AFA assumed lead responsibility for developing and implementing the SFM system for the DFA. Algonquin Forestry Authority has an Environmental Management System (EMS) which provides a framework for planning, implementing and monitoring sustainable forestry operations in the forest. Algonquin Forestry Authority has appointed an SFM/EMS Coordinator who, irrespective of other responsibilities, has defined roles, authority and responsibilities for:

- Ensuring that SFM requirements are established and maintained in accordance with this standard
- Reporting on SFM requirements to top management for review and as a basis for continual improvement

In developing the SFM Plan, AFA has endeavored to ensure that all parties necessary to address the CSA SFM elements for the DFA were involved in the process. This was accomplished by conducting broad public consultation, consulting with Algonquin aboriginal communities and forming a forest certification advisory group.

To ensure that all necessary stakeholders were involved, AFA selected 19 representatives from a comprehensive list of potential stakeholders to serve as the Forest Certification Advisory Group (herein referred to as the Advisory Group) and liaise on a continuing basis with AFA. The list of potential stakeholders was developed through a review of values, issues and interest groups and a stakeholder analysis.

The Advisory Group consultation process included introductory training and facilitated workshops dealing with the identification and selection of VOITs for the SFM plan. Subsequent meetings involved the identification of values of specific importance to environmental, social and economic concerns and needs of members and stakeholder groups including the development of suitable objectives, indicators and targets for each.

In 2012 a new SFM Plan was prepared in consultation with the Algonquin Park Forest Certification Advisory Group, and uploaded to the AFA internet site (October 2012). This plan resulted in changes to VOITs, primarily to address changes in the new 2010-2020 Algonquin Park Forest Management Plan (FMP), and changes to the requirements of the CSA Z809-08 standard, which was officially released by the Canadian Standards Association in April 2010. This is the fifth Annual Report against the 2012 SFM Plan.

2.0 GUIDING PRINCIPLES

2.1 AFA's Sustainable Forest Management Principles

As noted previously, the AFA is the Ontario Crown Agency responsible for sustainable forest management in Algonquin Provincial Park. Algonquin Forestry Authority's responsibilities also include the harvesting and distribution of wood products to mills in communities within the region. The AFA's vision is to achieve the highest standards of sustainable forest management practices, in order to maintain Park values for future generations, with the mission to ensure the long-term health of Algonquin's forests while producing a sustainable supply of forest products for the forest industry of the region.

The AFA is also guided by 6 commitments and strategies:

1. Sustainable Forest Management:
The AFA is committed to conform with the requirements for sustainable forest management (CAN/CSA-Z809), and to managing Algonquin's forests in a sustainable manner consistent with requirements of the SFM plan. This includes:
    - Conserving biological diversity
    - Conserving forest ecosystem condition and productivity by maintaining the health, vitality and rates of biological production
    - Conserving soil and water resources
    - Maintaining forest conditions and management activities that contribute to the health of global ecological cycles
    - Providing multiple benefits to society
    - Accepting society's responsibility for sustainable development

2. Compliance with Laws:
The AFA will meet or exceed all applicable laws, regulations, policies, standards and other requirements to which AFA subscribes. In addition, the AFA will prevent pollution using processes, practices, materials or products that avoid, reduce, or control pollution and will continuously evaluate compliance with current laws and regulations and the prevention of pollution. Periodic independent audits shall ensure that operations are consistent with established policies and objectives.

3. Public Participation:
The AFA will provide opportunities for public consultation on sustainable forest management practices in Algonquin Park, including a public advisory committee to provide input on the Sustainable Forest Management plan. The AFA will also facilitate public review and input on the FMP and work schedules and will respond to comments in a timely fashion. These strategies and others will help to effectively communicate forest management practices in the Park to the public. Finally, the AFA will make public the results of independent audits and ongoing assessments in Annual Reports.

4. Aboriginal Rights and Participation:
The AFA will respect Aboriginal and Treaty rights, provide participation opportunities for Aboriginal peoples with respect to their rights and interests in sustainable forest management and will work cooperatively with local Aboriginal communities to identify and implement ways of achieving a more equal participation by Aboriginal communities in the benefits provided through forest management planning in Algonquin Park.

5. Health and Safety:
The AFA will provide conditions and safeguards for the health and safety of workers and the public. In order to achieve this, the AFA will establish and communicate safe working habits to employees of the AFA and its contractors; organize training programs for AFA employees and assist contractors in their training programs; and maintain and communicate emergency response plans and procedures.

6. Continual Improvement:
The AFA will work towards improving knowledge about the forest and about sustainable forest management; monitor advances in sustainable forest management science and technology; and incorporate these advances where applicable. In addition, the AFA will participate in research projects that contribute to the health of the forest ecosystem and productivity of the forest.

3.0 PLAN AREA AND OWNERSHIP RIGHTS AND RESPONSIBILITIES

3.1 Defined Forest Area

Algonquin Park constitutes the Defined Forest Area (DFA). Forest management activities occur only within the Recreation/Utilization zone (RU zone) of the Park.

The Algonquin Provincial Park Management Plan (1998) establishes the framework for all activities within the Park. This SFM plan is written in accordance with said plan and other relevant provincial guidelines and manuals.

Algonquin is designated a natural environment park under the Ontario Provincial Park System. As such, it will be planned, zoned, and managed in accordance with policies for this classification. A major mechanism to control land use is the zoning of the Park into land use categories: categories are Access, Development, Historic, Nature Reserve, Natural Environment, Wilderness, and Recreation/Utilization. A description of the purpose for each zone is found in the Algonquin Park Management Plan.

While the RU zone is the only zone of the Park where forest management operations are permitted, the other zones of the Park fall within the management unit boundary and contribute to non-timber objectives identified in this SFM plan (i.e. wildlife, forest diversity and old growth). As a result, these other zones are included in the DFA. This approach to planning is consistent with the approved 2010-2020 FMP (CFSA) for the Algonquin Park Forest.

3.1.1 2013 Park Management Plan Amendment - LTF

In June 2013, an Algonquin Park Management Plan amendment was approved resulting in 96,089 hectares of zoning changes. This area was removed from the Recreation-Utilization zone and brings the total area where forestry is not permitted by zoning from 168,450 hectares (22.1% of the total park area) to 264,674 (34.7% of the total park area). This amendment was referred to as “Lightening the Ecological Footprint of Logging in Algonquin Provincial Park” (LTF).

Refer to Figure 1 below for a map of the updated Park zoning after the completion of the 2103 Park Management Plan amendment for LTF. This map is an updated version of Figure 2: Algonquin Park Management Zones and Defined Forest Area in the 2012 CSA SFM Plan.

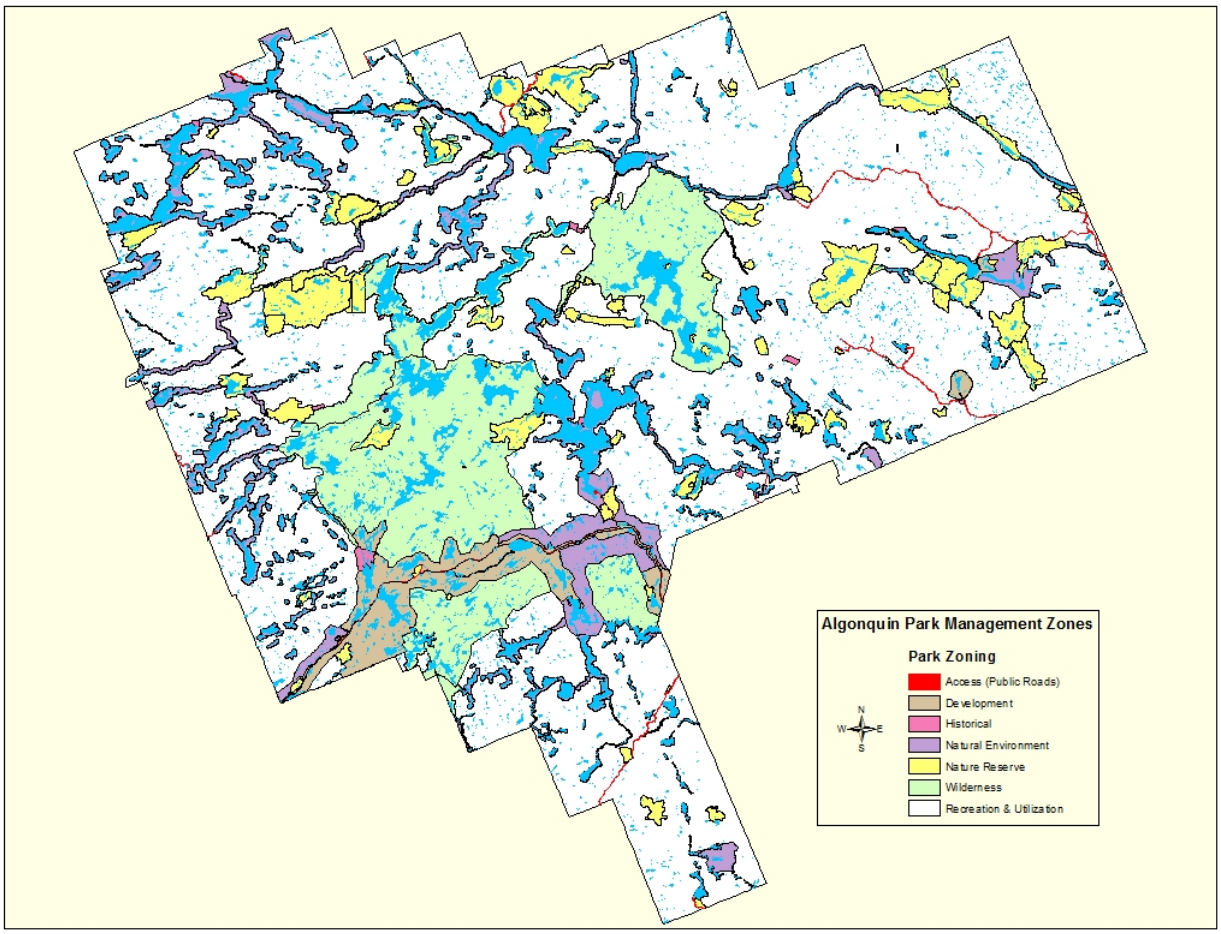

Figure 1: Updated Park Zoning Map

In addition to this zoning change, 107,648 ha within the recreation/utilization zone is currently unavailable for forest management. These areas are identified in the park management plan through areas of concern (AOCs) prescriptions in the forest management plan, or are areas unsuitable for forest operations (e.g. water, swamp, rock). Therefore, the area that is now unavailable for forest management is approximately 372,322 ha, or 48.8% of the park area.

A complete assessment of the impact of these changes to the DFA was conducted as part of the 2012-13 Year 3 MNRF Annual Report which is available on the MNRF's eFMP website here. During this amendment process, the total production forest area available for forest management was reduced by 44,214 ha (9.2%). Based on the assessment of forest operations that occurred over the first 3 years of the 2010 FMP, and the re-assessment management objective achievement after the 2013 LTF Algonquin Park Management Plan amendment, the long-term management direction (LTMD) in the 2010-2020 FMP for the Algonquin Park Forest remains valid. The 2012 SFM Plan prepared under the Z809-08 standard is consistent with the LTMD in the 2010-2020 FMP for the Algonquin Park Forest and also remains valid.

3.2 Rights and Obligations

3.2.1 Legislation and Regulatory Requirements

A list of all relevant legislation and regulatory requirements that relate to the DFA is maintained within section 4.3.2 of the AFA's EMS.

AFA's SFM policy lists 4 commitments or strategies for compliance with laws:

1. Meet or exceed all applicable laws, regulations, policies, standards and other requirements to which AFA subscribes
2. Prevent pollution using processes, practices, materials or products that avoid, reduce or control pollution
3. Continuously evaluate compliance with current laws and regulations, and the prevention of pollution
4. Periodic independent audits shall ensure that operations are consistent with established policies and objectives

3.2.2 Aboriginal and Treaty Rights

As stated in the SFM policy, AFA is committed to:

- Respecting Aboriginal and Treaty rights
- Providing participation opportunities for Aboriginal people with respect to their rights and interests in sustainable forest management
- Working cooperatively with local Aboriginal communities to identify and implement ways of achieving a more equal participation by Aboriginal communities in the benefits provided through forest management planning in Algonquin Park

Negotiations are ongoing with respect to an Aboriginal land claim that affects a portion of the DFA. AFA is committed to monitoring the progress of the land claim and recognizing associated Treaty rights once finalized. It is understood by AFA and Aboriginal community members that participation in the CSA consultation process will not prejudice those rights.

3.2.3 DFA Workers

Algonquin Forestry Authority promotes the legal, constitutional rights, and health and safety within the DFA of AFA employees and contractors to AFA. The Ministry of Natural Resources and Forestry (Ontario Parks) has this responsibility for their employees and contractors within the DFA.

AFA's commitment to health and safety includes:

- Providing conditions and safeguards for the health and safety of workers and the public
- Establishing and communicating safe working habits to employees of the AFA and its contractors
- Organizing training programs for AFA employees and assist contractors in their training programs
- Maintaining and communicating emergency response plans and procedures

DFA workers contributions to SFM are encouraged through training and SFM awareness programs.

3.3 Legal Requirements

The Management System Procedure (MSP) 4.3.2 (Legal and Other Requirements) of the Authority's EMS includes methodologies and responsibilities for identifying, accessing, reviewing, monitoring and maintaining documentation on legal and other requirements.

4.0 PLANNING AND PUBLIC PARTICIPATION PROCESSES

4.1 Continuing Role of Advisory Group

Public participation through the Advisory Committee is an ongoing process of providing input into the continual improvement of the AFA's SFM system and performance. Advisory Group input will continue during the monitoring and follow-up phases of implementation of the CSA SFM system.

The Advisory Group will continue to meet annually and members will be asked to:

- Identify opportunities for improvement
- Discuss and provide input into issues relevant to SFM on the DFA
- Provide input during reviews of VOITs
- Provide input on monitoring programs
- Review Annual Reports
- Provide input on new components of the SFM Plan
- Participate in an external certification audit, if required.

Membership of the Advisory Group includes representatives from the following groups or organizations:

- Algonquin Nation Kijicho-Manito Madaouskarini (Bancroft)
- Bonnechere Algonquin First Nation
- Whitney and Area Algonquins
- Algonquins of Pikwakanagan First Nation
- Algonquins of Greater Golden Lake First Nation
- Snimikobi Algonquin First Nation
- Shabot Obaadjiwan First Nation
- Mattawa/North Bay Algonquin First Nation
- Algonquins of Ontario Consultation Office
- Municipality – County of Renfrew
- Local Citizens Committee
- Government (Ontario Parks)
- Forest industry and forestry contractors
- Leaseholders
- Recreationalists
- General public
- Friends of Algonquin
- Environmental Protection Group
- Anglers/hunters and groups (OFAH)
- Research
- Archaeologist/cultural heritage
- AFA Board of Directors

5.0 Values, Objectives and Performance Indicators

5.1 Development of the Values, Objectives and Performance Indicators

The CSA Standard provides the following definitions for VOITs which form the basis of the SFM plan:

Value: A DFA characteristic, component, or quality considered by an interested party to be important in relation to a CSA SFM element or other locally identified element.

Objective: A broad statement describing a desired future state or condition of a value.

Indicator: A variable that measures or describes the state or condition of a value.

Target: A specific statement describing a desired future state or condition of an indicator. Targets should be clearly defined, time-limited, and quantified, if possible.

Values, objectives and performance indicators included in this SFM plan were developed through the public consultation process associated with the 2010-2020 Algonquin Park FMP and the consultation process for the SFM plan. At least one DFA specific VOIT has been created for each Canadian Council of Forest Ministers (CCFM) SFM criterion and CSA SFM element associated with the CAN/CSA-Z809-08 Standard.

5.2 Detailed Values, Objectives, Indicators and Targets

CRITERION 1: BIOLOGICAL DIVERSITY

ELEMENT: **1.1 Ecosystem Diversity**
Conserve ecosystem diversity at the stand and landscape levels by maintaining the variety of communities and ecosystems that naturally occur on the DFA.

VALUE: **1.1.1 Forested Ecosystems**

OBJECTIVE: 1.1.1.1 To maintain a mosaic of constantly changing yet ever-present forest types within the Bounds of Natural Variation (BNV).

Indicator 1.1.1.1.1	Target	Variance
Ecosystem area by type	Maintain >= 75% of the natural benchmark value by each term of ecosite areas for the 100 year planning horizon within the DFA for all ecosites except ES15. For ES15 maintain >= 70% of the natural benchmark value by each term for the 100 year planning horizon within the DFA.	As stated in target

What is this indicator and why is it important?
There is a diverse population of tree species within the Algonquin Park Forest. These species tend to be associated in stands with similar physical and ecological features. Ecosites are developed to allow managers and planners to describe the Algonquin Park Forest types in detail. Based on the classification used in the 2010 Forest Management Plan, there are 25 ecosites in Algonquin Park. These are described in Chambers *et. al*. 1997[1] and McCarthy *et. al.*1994[2]. The proportion will vary from time to time due to ecological factors and Sustainable Forest Management (SFM) activities.

Status at SFM Plan Development
All 25 ecosites are currently within the target range. Refer to Appendix J of the SFM Plan for ecosite area projection graphs.

Forecast
All ecosites are forecast to maintain >= 75% of the natural benchmark value by each term of ecosite areas for the 100 year planning horizon within the DFA with the exception of ecosite 15, which is forecast to maintain >= 70% of the natural benchmark value. Current analysis shows that the lack of ability to manage stand conditions in the unmanaged portion of the forest (nature reserve and wilderness) will result in a loss of jack pine area over time (ecosite 15) due to natural succession. An effort is being made to counter the loss of jack pine in the unmanaged areas by ensuring the maintenance of jack pine area in the managed portion of the Forest.

Ecosite 15 is a very small ecosite and represents 0.3% of the total productive forest area. The level of ES15 area remains within 25% of the natural benchmark level for the next 90 years, and then falls 4% below the target in 100years. This target is set for the entire productive forest area – which includes the managed and the unmanaged forest. The decline of ES 15 is in the unmanaged forest and is a reflection of the current age class structure succeeding on the forest. In the absence of fire, natural succession moves area out of ES15 in the reserved portion of the forest. The managed or “available” ES15 area remains stable for the next 90 years. Implementation of a fire management plan, currently under development, will reintroduce this important ecological process to the Algonquin landscape, while recognizing and protecting important timber and social values.

2013-2014 Status
This VOIT was re-calculated with the 2012 SFM Plan. No annual update. All 25 ecosites were maintained within the target range over the 100 year modeling term. This VOIT will be re-assessed during the development of the 2020 FMP. Targets were confirmed and are still valid after 2013 LTF Park Management Plan amendment.

Management Strategies and Implementation
Harvest areas will be allocated carefully and appropriate silviculture systems will be utilized in order to maintain ecosite representation within the BNV. Harvest constraints will maintain minimum ecosite area thresholds and areas will be regenerated to their planned forest unit according to the preferred or alternative Silviculture Ground Rule (Table FMP-10, 2005), as specified in the Forest Operations Prescription.

Research and Monitoring Plan
The use and monitoring of ecosites is no longer part of the provincial forest management planning process. However, ecosites are still tracked in the SFMM model, allowing this analysis of long term ecosite trends to be completed from the 2010 FMP Selected Management Alternative. The province of Ontario is also in the process of implementing a new forest ecosystem classification system that will apply

[1] Chambers, B.A., B. J. Naylor, J. Nieppola, B. Merchant and P. Uhlig. 1997. Field guide to forest ecosystems of central Ontario. Ontario Ministry of Natural Resources, Southcentral Sciences Section, North Bay. SCSS Field Guide FG-01.
[2] McCarthy, T.G., R.W. Arnup, J. Nieppola, B.G. Merchant, K.C. Taylor and W.J. Parton. 1994. Field guide to forest ecosystems of northeastern Ontario. Ontario Ministry of Natural Resources, North East Science and Technology, Timmins. Field Guide FG-001.

to the whole province. A new approach of using “Landscape Classes” from the new *Forest Management Guide for Great lakes St. Lawrence Landscapes (OMNR, 2010)* was incorporated into the 2010 FMP to assess landscape structure and composition and it is expected that this approach will be used in the 2020 FMP also.

Regardless of which indicator is used for this value, a current Forest Resources Inventory is critical to tracking this element over time. The Algonquin Park Forest Resource Inventory is updated for depletions prior to each FMP. An entire new Forest Resource Inventory for the Park has also recently been completed and received in March 2016. Annual monitoring of depletion and renewal activities will allow the inventory to be updated at regular intervals. Based upon new inventory data and updates from depletion and renewal activities, a new status report and future projection of ecosystem diversity will be produced for the 2020 Forest Management Plan. Subsequent forest management plans are scheduled to be produced every ten years afterward.

Comparative Assessment of Planned versus Actual Levels
The assessments are scheduled for 2020 and 2030. At these times, an assessment of the previous term’s performance will be conducted.

CRITERION: 1. BIOLOGICAL DIVERSITY

ELEMENT: **1.1 Ecosystem Diversity**
Conserve ecosystem diversity at the stand and landscape levels by maintaining the variety of communities and ecosystems that naturally occur in the DFA.

VALUE: **1.1.1 Forested Ecosystems**

OBJECTIVE: 1.1.1.1 To maintain a mosaic of constantly changing, yet ever-present, forest types within the Bounds of Natural Variation.

Indicator 1.1.1.1.2	Target	Variance
Forest area by type	Maintain >= 75% of the natural benchmark value by each term of forest unit area for the 100 year planning horizon within the DFA for all forest units except PjCC. For PjCC maintain >= 70% of the natural benchmark value by each term of forest unit area for the 100 year planning horizon within the DFA.	As stated in target
	Maintain non-forest ecosystems (muskeg, brush and alder, rock) > 57,575 ha over time (2000 FMP benchmark)	+/- 5%

What is this indicator and why is it important?
There is a diverse population of tree species within the Algonquin Park Forest. These species tend to be associated in stands with similar physical and ecological features. Forest units are developed to allow managers and planners to describe the Algonquin Park Forest types in detail. Based on the classification used in the 2010 Forest Management Plan, there are 12 forest units in the Algonquin Park Forest. A

forest unit is defined as *a classification system that aggregates forest stands for management purposes that will normally have similar species composition, will develop in a similar manner (both naturally and in response to silvicultural treatments), and will be managed under the same silvicultural system*.
Refer to section 3.2.1 and table FMP-3 of the 2010-2020 FMP for the Algonquin Park Forest for complete details of the forest units in the Algonquin Park Forest.

Status at SFM Plan Development
All 12 forest units are currently within the target range. Refer to SFM Plan Appendix K for forest unit projection graphs.

Non-forest ecosystem area is outlined in table FMP-1 in the 2010-2020 FMP, and consists of open/treed muskeg, brush and alder and rock areas. Non-forest ecosystem area is currently above the 57,575 hectare target, which was the level from the 2000 FMP for the Algonquin Park Forest.

2013-2014 Status
This is a new VOIT with the 2012 SFM Plan. No annual update. This VOIT will be re-assessed during the development of the 2020 FMP. Targets were confirmed and are still valid after 2013 LTF Park Management Plan amendment.

Forecast
Forest unit stability and transition was addressed during the development of the long term management direction (LTMD) in the FMP. In some cases constraints were added to the SFMM model to ensure the stability of forest unit area over time for the available forest. It is not possible to apply these constraints for the reserved portion of the forest, as this area is completely controlled by natural forest successional patterns. Refer to the Development of the Proposed LTMD in Appendix G of the analysis package in supplementary documentation section 6.1.6 of the FMP for details. A complete set of forest unit transition graphs are presented in section 15 of this Appendix. Also, refer to the SFM Plan for more forecast detail.

Management Strategies and Implementation
Harvest areas will be allocated carefully and appropriate silviculture systems will be utilized in order to maintain forest unit representation within these target levels. Harvest constraints will maintain minimum forest unit area thresholds and areas will be regenerated to their planned forest unit according to the preferred or alternative Silviculture Ground Rule (Table FMP-5, 2010), as specified in the Forest Operations Prescription.

No specific management strategies are necessary for the non-forest ecosystem area target.

Research and Monitoring Plan
A current Forest Resources Inventory is critical to tracking this element over time. The Algonquin Park Forest Resource Inventory is updated for depletions prior to each FMP. An entire new Forest Resource Inventory for the Park has also recently been completed and received in March 2016. Annual monitoring of depletion and renewal activities will allow the inventory to be updated at regular intervals. Based upon new inventory data and updates from depletion and renewal activities, a new status report and future projection of ecosystem diversity will be produced for the 2020 Forest Management Plan. Subsequent forest management plans are scheduled to be produced every ten years afterward.

Comparative Assessment of Planned versus Actual Levels
The assessments are scheduled for 2020 and 2030. At these times, an assessment of the previous term's performance will be conducted.

CRITERION: 1. BIOLOGICAL DIVERSITY

ELEMENT: 1.1 Ecosystem Diversity
Conserve ecosystem diversity at the stand and landscape levels by maintaining the variety of communities and ecosystems that naturally occur on the DFA.

VALUE: 1.1.1 Forested Ecosystems

OBJECTIVE: 1.1.1.1 To maintain a mosaic of constantly changing yet ever-present forest types within the Bounds of Natural Variation.

Indicator 1.1.1.1.3	Target	Variance
Forest area by seral stage	Maintain >= 75% of the natural benchmark value by each term of the Pre-sapling, Sapling, T-Stage young forest condition for the 100 year planning horizon within the DFA	As stated in target

What is this indicator and why is it important?
In the 2010-2020 FMP for the Algonquin Park Forest, Landscape Classes have been introduced as a new measure for assessing forest structure, composition and abundance. Landscapes provide habitat for many wildlife species, each with its own preferences for combinations of vegetation types, development stages, patch sizes and configurations. Landscape classes are the new fundamental coarse filter assessment units used for forest management planning in Ontario. Landscape classes are essentially groupings of forest units by development stage. They were developed based on cluster analyses of used and preferred habitat types depicted in OMNR's habitat matrices (e.g., Holloway et al. 2004). The habitat matrices summarize habitat affinities of selected vertebrate species based on forest type and development stage. The landscape classes express meaningful differences in wildlife use.

The landscape pattern of the Algonquin Park Forest is one in which the forested landscape is heavily dominated by mature, old, two-aged and uneven-aged stands with some immature stands and very few presapling stage stands that are representative of a forest disturbance. This forest condition is not unique to Algonquin Park and is common throughout the forests of the southern region.

The Advisory Group concluded that using all of the landscape classes from the FMP is unnecessary for this process. As a result, two indicators were identified for seral stages – young and old forest. The group felt that there was no need to include indicators for immature/mature forest which contains most of area and will continue to do so as a result of the partial cutting forest management practices used. For the young forest component, a "pre-sapling/sapling/T-stage" forest group target has been set. For the old forest component, a target of >=75% natural benchmark levels of old growth for each even-aged forest unit has been used (VOIT 1.1.1.1.4).

T-stage stands for "two-story condition". This represents young forest developing under the shelterwood harvest system, which commonly has 2 stories – an understory and an overstory. There are wildlife habitat benefits to both of these conditions which are recognized in the SFMM wildlife habitat matrix.

Status at SFM Plan Development
The pre-sapling/sapling/T-stage landscape class is currently within the target range. Refer to Appendix L of the SFM Plan for the pre-sapling/sapling/T-stage area projection graphs.

There is not enough clearcut silviculture being represented in the SFMM model to generate natural benchmark levels of the presapling forest condition by itself. Due to the tolerant/mid-tolerant nature of the Algonquin Park Forest, most harvesting is shelterwood or selection, which maintains continuous forest

cover and does not create a presapling forest condition in the model. There is also significant area prescribed as 'modified' area of concern (AOC) in Algonquin Park that requires partial cutting, which limits options for clearcutting.

2013-2014 Status
This is a new VOIT with the 2012 SFM Plan. No annual update. This VOIT will be re-assessed during the development of the 2020 FMP. Targets were confirmed and are still valid after 2013 LTF Park Management Plan amendment.

Forecast
The pre-sapling/sapling/T-stage area is forecast to maintain >= 75% of the natural benchmark value by each term for the 100 year planning horizon within the DFA.

Management Strategies and Implementation
The group shelterwood system is used where appropriate to create openings to facilitate the regeneration of patches of shade intolerant tree species in selection and shelterwood managed areas. Unfortunately these conditions are not represented in the SFMM model and as a result, the pre-sapling condition is underestimated during forest management planning. Mapping and tracking of these individual groups is unrealistic, however the inclusion of these areas would result in movement towards the pre-sapling forest condition desirable level. Tree markers will be encouraged to actively identify group shelterwood opportunities in mixedwood conditions and mark these accordingly. Other forest management practices that create presapling forest conditions include hardwood group selection and group shelterwood for the establishment of mid-tolerant regeneration. In addition, modeling approaches that provide more realistic projections of presapling habitat will be investigated in future plans.

It is hoped that the introduction of fire to the non-managed forests of Algonquin Park (the wilderness and nature reserve zones) through the development and implementation of a Fire Management Plan will provide additional pre-sapling habitat. Fire has also been identified as a potential silvicultural tool in the silvicultural ground rules (FMP-5).

Research and Monitoring Plan
A current Forest Resources Inventory is critical to tracking this element over time. The Algonquin Park Forest Resource Inventory is updated for depletions prior to each FMP. An entire new Forest Resource Inventory for the Park has also recently been completed and received in March 2016. Annual monitoring of depletion and renewal activities will allow the inventory to be updated at regular intervals. Based upon new inventory data and updates from depletion and renewal activities, a new status report and future projection of ecosystem diversity will be produced for the 2020 Forest Management Plan. Subsequent forest management plans are scheduled to be produced every ten years afterward.

Comparative Assessment of Planned versus Actual Levels
The assessments are scheduled for 2020 and 2030. At these times, an assessment of the previous term's performance will be conducted.

CRITERION: 1. BIOLOGICAL DIVERSITY

ELEMENT: **1.1 Ecosystem Diversity**
Conserve ecosystem diversity at the stand and landscape levels by maintaining the variety of communities and ecosystems that naturally occur on the DFA.

VALUE: **1.1.1 Forested Ecosystems**

OBJECTIVE: 1.1.1.1 To maintain a mosaic of constantly changing yet ever-present forest types within acceptable levels of the Bounds of Natural Variation.

Indicator 1.1.1.1.4	Target	Variance
Total area (ha) by even-aged forest unit in the old growth development stage by the start of each planning term.	Maintain >=75% of the natural benchmark value of old growth for each even-aged forest unit by each term for the 100 year planning horizon within the DFA	As stated in target

What is this indicator and why is it important?
Globally, old growth forests have been the focus of public concerns about maintaining ecological processes, conserving biological diversity, ensuring development is sustainable, and slowing climate change. Old growth forests are linked to all these issues. They are diverse biological communities that are affected by human activity, which tend to change ecosystems from their natural state.

The 2010 Forest Management Plan was prepared using the *Old Growth Policy for Ontario's Crown Forests* (OMNR, 2003). Implementation of this policy broadened the scope of old growth planning in the Algonquin Park Forest. The 2003 MNR Old Growth Policy states "old growth forest in parks and conservation reserves (that are situated within a management unit) can contribute to meeting objectives for maintaining old growth conditions and values for the forest management unit". The approach used in the 2010 FMP for the Algonquin Park Forest is consistent with this old growth policy direction. Old growth levels have been calculated and projected across the entire forest, including the managed forest (R/U zone) and the unmanaged forest (wilderness zones, nature reserves, and AOC reserves within the R/U zone).

Old growth definitions for even-aged forest units are a combination of age of onset and silvicultural intensity (stage of management) for uniform shelterwood forest units. The age of onset is calculated for each forest unit using an Excel tool referred to as the Old Growth Calculator Tool. This tool applies the ecosite proportions from SFMM for each forest unit to the ages of onset for each ecosite as defined in MNR's Old Growth Forest Definitions for Ontario (2003). An ecosite weighted average age of onset is calculated for each forest unit (forest units may contain multiple ecosites) along with end ages, which correspond to the duration period defined in the MNR Old Growth Definitions paper.

Status at SFM Plan Development
The landscape pattern of the Algonquin Park Forest is one in which the forested landscape is heavily dominated by mature, old, two-aged and uneven-aged stands with some immature stands and very few presapling stage stands that are representative of a forest disturbance.

Old growth area for all 10 even-aged forest units is currently within the target range. Refer to Appendix M of the SFM Plan for the even-aged old growth area projection graphs.

2013-2014 Status
This VOIT was expanded and re-calculated with the 2012 SFM Plan. No annual update. This VOIT will be re-assessed during the development of the 2020 FMP. Targets were confirmed and are still valid after 2013 LTF Park Management Plan amendment.

Forecast
Old growth area for all 10 even-aged forest units is forecast to maintain >= 75% of the natural benchmark value by each term for the 100 year planning horizon within the DFA.

Refer to section 3.10.2 of the 2010-2020 FMP for complete details of old growth projections. The total amount of old growth across the Algonquin Park Forest is projected to increase by 30% over the duration of the plan. This is mainly a result of natural aging of the forest in both the available and unavailable

forest. Total even-aged old growth area is projected to increase from a plan start level of 23.2% to a high of 39.8% of the total even-aged productive forest area in an old growth stage in term 4.

Management Strategies and Implementation
Harvest areas will be allocated carefully to avoid unnecessary loss of old growth and appropriate silviculture systems will be utilized in order to maintain old growth representation. Areas will be regenerated to their planned forest unit according to the preferred or alternative Silviculture Ground Rule (Table FMP-5, 2010), as specified in the Forest Operations Prescription. This will allow new stands of old growth to replace those lost to natural causes and harvesting. These strategies are reflected in the 2010 Forest Management Plan currently being implemented.

Research and Monitoring Plan
Similar to the previous indicator, it is the responsibility of the Algonquin Forestry Authority to report on the area of old growth ecosystems. A current Forest Resources Inventory is critical to this plan. Annual monitoring of depletion and renewal activities will allow the inventory to be updated at regular intervals. Based upon new inventory data and updates from depletion and renewal activities, a new status report and future projection of old growth red and white pine will be produced for the 2020 Forest Management Plan. Subsequent forest management plans are scheduled to be produced every ten years afterward.

Comparative Assessment of Planned versus Actual Levels
The assessments are scheduled for 2020 and 2030. At these times, an assessment of the previous term's performance will be conducted.

CRITERION: 1. BIOLOGICAL DIVERSITY

ELEMENT: **1.1 Ecosystem Diversity**
Conserve ecosystem diversity at the stand and landscape levels by maintaining the variety of communities and ecosystems that naturally occur on the DFA.

VALUE: **1.1.1 Forested Ecosystems**

OBJECTIVE: 1.1.1.2 To maintain landscape diversity by minimizing landscape fragmentation.

Indicator 1.1.1.2.1	Target	Variance
Range of disturbance patch sizes within the Bounds of Natural Variation (BNV)	A distribution of disturbance areas that will result in a patch size pattern over the long term that shows movement towards natural disturbance frequency by size class.	Within the bounds of natural variation

What is this indicator and why is it important?
This indicator relates to Ontario's direction to emulate natural disturbance patterns through forest management. At the landscape (or DFA) level, this is accomplished by maintaining a range of disturbance patch sizes that emulates (as closely as possible) the patterns that would be created naturally by fire, blow-down, insect outbreaks, and gap-phase dynamics. It is assumed that by maintaining a landscape pattern that emulates natural disturbances, a variety of habitats and ecosystems will be maintained, consistent with the bounds of natural variation.

Status at SFM Plan Development
The analysis of forest disturbances (both natural and depletions from harvest) starts at the beginning of the planning period (2010). This resultant information is compared to a "template" of what is believed to be the frequency of disturbances (by specified size classes) that would occur naturally for the same area (Figure 9). Adjustments to the template are made where required by the Planning Team based on local

information. Efforts are then made to plan harvest allocations in such a manner that will move the current landscape pattern of disturbances at plan start towards the template pattern of landscape disturbances by plan end.

SFM Plan Appendix K of the Analysis Package (supplementary documentation 6.1.6) of the 2010-2020 FMP outlines the current and forecasted disturbance frequency distribution by size class. As discussed in section 2.2.6.1 of the FMP, movement towards the regional template has been accomplished as five of the six size (0 to 10 ha, 11 to 70 ha, 131-260 ha, 261-520 ha and 521+ ha) classes are showing movement towards the regional median disturbance frequency from 2010 to 2020.

2013-2014 Status
This VOIT was re-calculated with the 2012 SFM Plan. No annual update. This VOIT will be re-assessed during the development of the 2020 FMP.

2016-2017 Status
The 2010 FMP projected movement towards the regional disturbance template in 5 of the 6 size classes. Using the actual disturbances so far for the 2010-2017 term (including 2013 blowdown areas), only 3 of the 6 size classes have moved towards the template; 11 to 70 ha, 71 to 130 ha and 131 to 260 ha. The smallest size class (0 to 10 ha) contains 59% of the total disturbances from 2010-2017 which results in an increase in this class where the regional template directs a decrease. There were no disturbances in the two largest size classes. Refer to the Year 7 FMP Annual Report available here for further detail.

Forecast
At ten year intervals the planned forest management activities and projected natural disturbance and succession events will be forecast for subsequent years and reported in Table FMP-12. An analysis of forest disturbances will be completed with the year 7 and year 10 FMP annual reports.

Management Strategies and Implementation
N/A

Research and Monitoring Plan
Similar to the previous indicator, it is the responsibility of the Algonquin Forestry Authority to monitor the sizes of disturbances (harvest and natural disturbance). A current Forest Resources Inventory is critical to this plan. Annual monitoring of depletion and renewal activities will allow the inventory to be updated at regular intervals.

Comparative Assessment of Planned versus Actual Levels
The assessments are scheduled for 2020 and 2030. At these times, an assessment of the previous term's performance will be conducted.

CRITERION: 1. BIOLOGICAL DIVERSITY

ELEMENT: **1.1 Ecosystem Diversity**
Conserve ecosystem diversity at the stand and landscape levels by maintaining the variety of communities and ecosystems that naturally occur on the DFA.

VALUE: **1.1.1 Forested Ecosystems**

OBJECTIVE: 1.1.1.2 To maintain landscape diversity by minimizing landscape fragmentation.

Indicator 1.1.1.2.2	Target	Variance

Degree of within stand structural retention	All tree marking inspections will meet the residual stocking and wildlife tree retention criteria (if available) at final inspection stage.	-5%

What is this indicator and why is it important?
This indicator relates to Ontario's direction to emulate natural disturbance patterns through forest management. At the stand level, this is accomplished by implementing the requirements of the Natural Disturbance Pattern Emulation Guide (2001), the Ontario Tree Marking Guide (2004) and the AFA Tree Marking Prescriptions (Appendix 6.2.5 of the 2010-2020 FMP).

The landscape pattern of Algonquin Park is one in which the forested landscape is heavily dominated by mature, old, two-aged and uneven-aged stands with some immature stands and very few presapling stage stands that are representative of a forest disturbance. Forest management is dominated by partial cutting systems; namely the selection and uniform shelterwood system which comprise approximately 95% of all harvest operations. As a result, there is usually a very high degree of within-stand structural retention.

Status at SFM Plan Development
A summary of residual stand structure for each planned forest disturbance is presented in supplementary documentation 6.1.4. of the 2010-2020 FMP. For planned clearcuts within a planned forest disturbance, areas will be retained as residual stand structure (i.e., insular and peninsular residual) according to this table. This total residual consists of target, mapped and projected insular and peninsular area. The target area is the total area of insular and/or peninsular area required to be left as residual area upon completion of harvesting within that disturbance patch (NDPEG, 2001). The mapped area is the area of insular or peninsular that has already been identified during forest management planning. If this area falls short of the target area, a projected area has been identified for that disturbance patch. This projected area is the amount of additional residual area that is required to be left. This area has not been mapped and will be identified at the forest operations prescriptions (FOP) stage as required.

During the FOP process it may be determined that the FMP planned residual area should be revised based on field conditions encountered. This revision of planned insular and peninsular area will be permitted provided that the total residual area identified for that disturbance patch is consistent with the residual area targets identified in supplementary documentation 6.1.4. Residual targets are based on a weighted average of forest types within that disturbance patch. Any recalculation of residual targets during plan implementation will be consistent with the direction provided in the NDPE Guide. The AFA Tree Marking Prescriptions in FMP Appendix 6.2.5 provide specific direction with respect to residual requirements as per the NDPE Guide.

The stand level requirements of the NDPE Guide will apply to all stands with clearcut prescriptions and to stands with shelterwood final removal prescriptions where the regenerated new stand is < 6 m height. These requirements include the retention of internal and peninsular patches, individual living trees, snags and downed woody debris. For final removal shelterwood cuts where the regenerated new stand is > 6 m height, there will be no requirement for the maintenance of internal and peninsular patches.

As per subsequent direction from MNR following the release of the NDPE Guide, clearcuts less than 100 hectares in size do not require the prescribed residual patches to be retained. The requirement to leave an average of 25 trees per hectare will always be met.

The calculation of insular and peninsular patches in final removal shelterwood areas will be conducted at the forest operations prescriptions stage. In addition, for shelterwood harvest areas where the final harvest cut will result in a young forest that is less than the required height for an acceptable break (see table 2 in the NDPE Guide) the landscape level requirements of the NDPE Guide will apply. This

includes the application of the spacing rules outlined in Table 2 of the NDPE Guide. It is anticipated that this will only occur in the red oak forest unit, and this has been represented in NDPE modeling.

The NDPE Guide generally does not affect selection stands. Tree markers may sometimes encounter situations where small portions of selection harvest managed stands are more suitable to be managed as a clearcut. In these cases, the single tree residual targets in the guide will be followed. If it is felt that leaving one or two insular patches would best meet the intent of the guide, then this may be done as well. In most cases, the area of clearcut operations will be small with surrounding selection and/or shelterwood harvest operations and area of concern reserves providing necessary residual patch requirements.

2012-2013 = 100%
2013-2014 = 100%
2014-2015 = 100%
2015-2016 = 100%

2016-2017 Status Update
Target met
2016-2017 = 100%
No tree marking inspections failed as a result of residual stocking or wildlife tree retention infractions. Any infractions identified during tree marking inspections were rectified prior to harvesting.

Forecast
Forest management is dominated by partial cutting systems; namely the selection and uniform shelterwood system which comprise approximately 95% of all harvest operations. As a result, there is usually a very high degree of within stand structural retention.

Management Strategies and Implementation
As discussed in the Status of SFM Plan Development section above.

Research and Monitoring Plan
All tree marking inspections will meet the residual stocking and wildlife tree retention criteria (if available) at final inspection stage. This will be recorded on the AFA Tree Marking Inspection Form which is completed by AFA Tree Marking Supervisors prior to harvest.

Comparative Assessment of Planned versus Actual Levels
An assessment of tree marking inspections for within-stand structural retention will be conducted annually and reported in annual reports.

CRITERION: 1. BIOLOGICAL DIVERSITY

ELEMENT: **1.2 Species Diversity**
Conserve species diversity by ensuring that habitats for the native species found on the Defined Forest Area are maintained through time, including habitats for known occurrences of species at risk.

VALUE: **1.2.1 Wildlife Species Habitat**

OBJECTIVE: 1.2.1.1 To maintain wildlife habitat - coarse filter/long term.

Indicator 1.2.1.1.1	Target	Variance

Degree of suitable habitat in the long term for selected focal species, including species at risk.	To achieve levels of preferred wildlife habitat for selected species greater than or equal to 75% of the natural benchmark SFMM run (NB level) by term, except for black bear summer and moose foraging habitat. Maintain >=4,000 ha by term for black bear summer habitat. Maintain >=97,000 ha of moose foraging habitat.	As stated in target All values > natural benchmark levels are acceptable

What is this indicator and why is it important?
Forest management activities can impact wildlife species through the maintenance or alteration of their habitat. Many species of wildlife can be found within the Algonquin Park Forest. During preparation of the 2010 Forest Management Plan, 17 wildlife species (mammals, birds and amphibians) representing 19 different habitats (black bear and moose each have two habitat types) were analyzed to ensure that habitat availability was not deviating below the threshold limits. The species and habitat types are listed in Table FMP-8 (2010).

Status at SFM Plan Development
Of the 19 habitat types, all currently meet the target. Refer to SFM Plan Appendix N for the wildlife habitat area projection graphs.

Algonquin Park supports fewer designated Species at Risk than its neighbouring districts of Parry Sound, Bancroft and Pembroke. This is likely because the park is slightly higher in elevation and cooler in temperature then the surrounding districts, and many Species at Risk are more associated with warmer, southern Ontario climes than those in the north. Nonetheless, the Algonquin Park Forest provides critical habitat to many Species at Risk (SAR), and plays an important role in the conserving these species at a provincial, national and global level. These species are protected through legislation such as the Ontario Endangered Species Act, Crown Forest Sustainability Act, Park Policy and other legislation. In addition, all Species at Risk within a Provincial Park must be managed as if they are endangered (PM 11.03.02). Thus species protection measures within a Provincial Park or Conservation Reserve may exceed those prescribed for Crown Land.

Many of the Species at Risk within Algonquin Park are not directly affected by forest management activities. However, as new species are evaluated by scientists there is the potential for new species to be added to the Species at Risk in Ontario (SARO) list that may be impacted by Forest Management. In order to address this gap all rare species known to occur in Algonquin Park have been examined in the 2010-2020 FMP. Refer to section 2.2.5.1 of the 2010-2020 FMP for a complete list of these Species at Risk.

2013-2014 Status
This VOIT was re-calculated with the 2012 SFM Plan. No annual update. This VOIT will be re-assessed during the development of the 2020 FMP. Targets were confirmed and are still valid after 2013 LTF Park Management Plan amendment.

Forecast
Refer to the SFM Plan for complete details. At ten year intervals, the planned forest management activities and projected wildlife habitat will be forecast for subsequent years and reported in Table FMP-8.

Management Strategies and Implementation
Forestry practices will continue to be modified to account for habitat needs of the native fauna as new scientific information becomes available and is accepted by the Ministry of Natural Resources. Specific

types of wildlife trees will be maintained as per Ministry of Natural Resources guidelines, and provincial wildlife guidelines will continue to be implemented. The 2010 Forest Management Plan will guide the creation of a diversity of habitat conditions within the natural benchmark target levels and special provisions will also be made for protecting the habitat requirements of sensitive species. Dialogue with forest industry and logging contractors on the intent and practice of maintaining forest cover for other forest values, will be continued. These strategies are reflected in the forest management plan currently being implemented.

Research and Monitoring Plan
The Algonquin Forestry Authority will monitor the status of habitat for selected focal species, including species at risk. The analysis requires a current Forest Resources Inventory to determine habitat types based on forest cover. The habitat matrix is developed by government researchers and scientists[3]. It helps determine the significance of each particular forest stand as preferred and/or used habitat. This assignment of habitat value will change over time as stands age and develop. Based upon actual forest management activities, an updated status report and future projection of wildlife habitat will be produced for the 2020 Forest Management Plan and subsequent forest management plans, scheduled to be produced every ten years afterward.

Comparative Assessment of Planned versus Actual Levels
The calculation of new habitat levels is scheduled for 2020 and 2030.

CRITERION: 1. BIOLOGICAL DIVERSITY

ELEMENT: **1.2 Species Diversity**
Conserve species diversity by ensuring that habitats for the native species found on the Defined Forest Area are maintained through time, including habitats for known occurrences of species at risk.

VALUE: **1.2.1 Wildlife Species Habitat**

OBJECTIVE: 1.2.1.2 To maintain wildlife habitat – fine filter/short term.

Indicator 1.2.1.2.1	Target	Variance
Degree of habitat protection for selected focal species, including species at risk	100% compliance with Area of Concern prescriptions for the protection of forest-dependent wildlife species, including SAR (for OPU's with those values only) as assessed in FOIP. For 2010 FMP includes: SAR, OS, HN, RSH, NGH, OH1, OH2, OH3, RAV, GHO, BAR, CAV1, BARCAV, GHOCAV, NHOCAV, CSCAV, MAFA, MCS, BBD	-5%

[3] As of 2004, the matrix is based upon Holloway, G.L., B. J. Naylor, and W. R. Watt, Editors. 2004. *Habitat relationships of wildlife in Ontario. Revised habitat suitability models for the Great Lakes-St. Lawrence and Boreal East forests*. Ontario Ministry of Natural Resources, Science and Information Branch, Southern Science and Information and Northeast Science and Information Joint Technical Report #1. 110p.

	For 2015 Phase II FMP includes: SAR, OS, HN, RSH, NGH, OH1, OH2, OH3, RAV, GHO, BAR, CAV1, BARCAV, GHOCAV, NHOCAV, CSCAV, BBD, WSARB, SN, RHWO, BS	

What is this indicator and why is it important?
In 1983, the United Nations identified the need for sustainable development, and a cornerstone of this intention was the maintenance of biological diversity. The loss of species was immediately acknowledged as an issue requiring intense conservation and protection measures, as extinct species cannot be replaced. The *Endangered Species Act* (Ontario) and *Species at Risk Act* (Canada) require the identification, protection and monitoring of species at risk.

Refer to section 2.2.5.1 of the 2010-2020 FMP for a complete list of these Species at Risk in Algonquin Park.

Applicable species at risk under the Endangered Species Act (ESA) have been identified in FMP-14, FMP-23 and the associated supplementary documentation of the 2010-2020 FMP as confidential values. These AOC's have not been portrayed on the public FMP maps in order to maintain the confidentiality of these values. Confidential maps that depict these AOCs will be used during operations in order to protect these values. When new Endangered Species Act habitat regulations are filed and/or new species are added to the species at risk list, appropriate amendments will be made to the FMP to address any new requirements.

Status at SFM Plan Development
This VOIT has been expanded from the previous SFM Plan to include all wildlife species that have an Area of Concern (AOC) prescription identified in the 2010-2020 FMP. Compliance with AOC prescriptions is evaluated regularly as part of the FMP Monitoring Plan. Results of this monitoring are documented in the MNR's Forest Operations Information Program (FOIP). The information within FOIP will be assessed each year to calculate compliance with this VOIT.

Specifically for species at risk, in 2010-2011 there was 100% compliance with this target. There were no reports of non-compliance from 18 reports where AOC protection was applied for species at risk.

2012-2013 = 100%
2013-2014 = 100%
2014-2015 = 100%
2015-2016 = 99%

2016-2017 Status Update
Target met.
2016-2017 = 100%
There were no reports of non-compliance from 75 FOIP reports where AOC protection was applied for selected focal species, including species at risk. Note – the species was updated for this VOIT in 2015/16 which was the first Annual Report under the 2015 Phase II FMP.

Forecast
Monitoring indicator - no forecast required.

Management Strategies and Implementation
Forest management activities will be monitored to avoid infringing on selected focal species and species at risk populations and habitat.

Research and Monitoring Plan
Monitoring of this indicator for the purpose of the forest management plan, will be conducted concurrent with the Forest Operations Information Program. Compliance percentages are calculated only on OPUs that contain the applicable AOC types. Both AFA and MNR compliance reports are summarized.

For complete details of AOC prescriptions, refer to tables FMP-14 and FMP-23 of the 2010-2020 FMP.

Comparative Assessment of Planned versus Actual Levels
Compliance with Area of Concern prescriptions will be measured annually to ensure the target is being met. Reports will be presented in MNR Annual Report Tables AR-6.

CRITERION: 1. BIOLOGICAL DIVERSITY

ELEMENT: 1.2 Species Diversity
Conserve species diversity by ensuring that habitats for the native species found on the Defined Forest Area are maintained through time, including habitats for known occurrences of species at risk.

VALUE: 1.2.1 Wildlife Species Habitat

OBJECTIVE: 1.2.1.3 Retain ecological values and functions associated with sensitive brook trout habitat.

Indicator 1.2.1.3.1	Target	Variance
Brook Trout Lake and Critical Fish Habitat AOC Integrity	100% compliance with Area of Concern prescriptions for designated self-sustaining brook trout lakes and critical fish habitat as assessed in FOIP.	-5%

What is this indicator and why is it important?
Algonquin Park contains the single largest complex of natural Brook Trout lakes in the world, and contains hundreds of naturally sustaining lake trout lakes as well. Furthermore, the quality of these fisheries attracts tens of thousands of people to the park every year, generating tourism dollars for neighbouring communities and providing a high quality angling experience.

Most of the lentic, or lake dwelling, Brook Trout in Algonquin Park are genetically unique to the park, having evolved in isolation from other Brook Trout populations over thousands of years. Brook trout rely on groundwater flow to create necessary spawning and rearing habitat. A minimum 30 metre set back from all waterways within the park ensures a relatively intact riparian area around aquatic features to buffer any negative consequences of logging.

Roads, water crossings and aggregate pits can also impact the hydrology, or flow of water, both above and below ground. This can be of particular concern around critical fish habitat such as brook trout nursery creeks, or around naturally sustaining brook trout lakes, which are dependent upon groundwater upwellings for reproduction

There are two Area of Concern prescriptions for the protection of brook trout habitat that were originally assessed for this indicator:

BT - Self-Sustaining Brook Trout Lakes
CFH - Critical Fish Habitat (including Brook Trout Nursery Creeks)

For complete details of these AOC prescriptions, refer to tables FMP-14 and FMP-23 of the 2010-2020 FMP and table FMP-10 and FMP-19 of the 2015 Phase II FMP.

For the Phase II 2015-2020 FMP, the old critical fish habitat AOC prescription has been deleted and replaced by the cold water (CW) AOC prescription which now includes lakes, ponds, rivers, permanent streams and inventoried brook trout nursery creeks. A separate BTINT AOC was also created to include intermittent creeks within 500 metres of brook trout waters. Therefore, this calculation no longer includes CFH, but includes BT, CW and BTINT AOC prescriptions.

Status at SFM Plan Development
In 2010/11 there was 100% compliance with this target.

2012-2013 = 100%
2013-2014 = 100%
2014-2015 = 94% (target not met)
2015-2016 = 100%

2016-2017 Status Update
Target met.
2016-2017 = 98%
There was one report of non-compliance from 55 FOIP reports where AOC protection was applied for designated self-sustaining brook trout lakes. This report was for a landing constructed within a BTH AOC without Ontario Park's approval.

For the Phase II 2015-2020 FMP, the old critical fish habitat AOC prescription was replaced by the cold water AOC prescription which now includes lakes, ponds, rivers, permanent streams and inventoried brook trout nursery creeks. Therefore, this calculation included CW, BT and BTINT AOC prescriptions starting with the 2015/16 Annual Report. However it was recognized that this revised procedure was overestimating brook trout and critical fish habitat AOC non-compliances and the procedure was once again revised to only include the inventoried brook trout nursery creeks and the BT lakes in this Annual Report.

Forecast
Monitoring indicator - no forecast required.

Management Strategies and Implementation
Self-sustaining brook trout lakes are mapped during FMP development and the BT AOC prescription is applied. In addition, a protocol has been developed between AFA and Ontario Parks to survey the perimeter of all BT lakes prior to operations and identify previously unmapped nursery creeks. When identified, these nursery creeks are protected with the CFH (critical fish habitat) AOC prescription. Operators are trained regularly to ensure they understand how to apply Area of Concern prescriptions in the field.

Research and Monitoring Plan
Compliance percentages are calculated only on OPUs that contain the BT AOC, and includes the CFH AOC. Both AFA and MNR compliance reports are summarized.

Comparative Assessment of Planned versus Actual Levels
Compliance with Area of Concern prescriptions will be measured annually to ensure the target is being met. Reports will be presented in MNR Annual Report Table AR-6.

CRITERION: 1. BIOLOGICAL DIVERSITY

ELEMENT: 1.2 Species Diversity

Conserve species diversity by ensuring that habitats for the native species found on the Defined Forest Area are maintained through time.

VALUE: **1.2.2 Tree Species Diversity**

OBJECTIVE: 1.2.2.1 To maintain red spruce in the Defined Forest Area.

Indicator 1.2.2.1.1	Target	Variance
Status of red spruce as documented in tree marking records, Silvicultural Effectiveness Monitoring (SEM) records and the use of local knowledge	1) Maintain operational controls to ensure the identification and management of red spruce as encountered within the Recreation/Utilization Zone. 2) Maintain a map showing known historic and present red spruce areas.	As reported every 5 years

What is this indicator and why is it important?
Red spruce is uncommon in the Province, being primarily associated with the Maritimes. In Ontario, red spruce exists on the western edge of its natural range. Red spruce has experienced a decline in abundance and vigor throughout its entire range during the last 50 years. This VOIT is important to establish the level of abundance of red spruce in the DFA and ensure its maintenance over the long term.

Status at SFM Plan Development
There are no red spruce stands or species identified in the Algonquin Park FRI. Known occurrences of red spruce are protected in the following 3 Natural Zones: N45 - Cauliflower Lake Sr zone; N46 - Bruton and Clyde Sr zone; and N47 - Oak Lake Sr zone. Red spruce regeneration has been noted on several occasions during field operations, especially in the south-western part of the DFA. Enhanced imagery as part of the new FRI for Algonquin Park will assist in identifying more red spruce that exists in the Park. Over 22,000 red spruce seedlings have been planted by AFA over the last several years.

Operational controls are in place to ensure the identification and management of red spruce. A map showing areas of known Sr has been produced and is being updated as more is found. A historical map of Sr areas in Algonquin Park was pursued but is not available. FRI timber cruisers were trained on the identification of red spruce and have tallied all occurrences.

2012-2013 Status
No annual update. Next update scheduled for 2017.
Note: 5,000 red spruce trees planted, for a total of 18,000 planted so far during the 2010 FMP term.

2016-2017 Status
A total of 0.9 hectolitres of Sr cones have been collected for seed since 2012/13.
4,800 Sr trees were planted in 2016/17, for a total of 43,700 planted so far during the 2010 FMP term.

The new 2016 FRI for the Algonquin Park Forest has identified more Sr than the previous FRI. There has been one stand identified with Sr as the lead species, 13 stands with Sr identified in the species composition (at least 10% of the stand) and 31 stands with Sr identified as an incidental species (<10% composition).

Operational controls continue to be in place to ensure the identification and management of red spruce. The map showing areas of known Sr has been maintained and updated as more is found.

Forecast

Monitoring indicator - no forecast required.

Management Strategies and Implementation
Tree marking prescriptions for Sr are contained in the 2010 FMP (if encountered). Tree marker training is ongoing specifically around Sr identification and protection.

Research and Monitoring Plan
Refer to target (2) above.

Comparative Assessment of Planned versus Actual Levels
N/A – there are no planned levels for red spruce. Manage as encountered.

CRITERION: 1. BIOLOGICAL DIVERSITY

ELEMENT: **1.2 Species Diversity**
Conserve species diversity by ensuring that habitats for the native species found on the Defined Forest Area are maintained through time, including habitats for known occurrences of species at risk.

VALUE: **1.2.2 Tree Species Diversity**

OBJECTIVE: 1.2.2.2 Quantify the status of hemlock in the Defined Forest Area.

Indicator 1.2.2.2.1	Target	Variance
Hemlock regeneration and recruitment status	Review and report on the status of hemlock regeneration and recruitment in Algonquin Park by June 1, 2013.	

What is this indicator and why is it important?
Hemlock provides important habitat for several wildlife species, especially deer, in the winter. Many species such as barred owl, blackburnian warbler, northern flying squirrel, and pine marten make extensive use of the hemlock forest. Values include shelter, food and perching sites. Hemlock is a heavily used browse species for deer and moose and the seeds provide food for small mammals and birds. Hemlock is of low value as a commercial lumber species.

The Ontario Crown Land Survey (1858-1893) composition of hemlock was recorded at 3.3% compared to 4.3% in the 2005 forest resource inventory for Algonquin Park. This snapshot in time provides a glance at a similar composition of hemlock that is present today. An extensive review on the history of hemlock in the Park notes that it became a minor component of the forest about 4,800 years ago, long before European influence (*Vasiliauskas, S.A. 1995. Interpretation of age-structure gaps in hemlock (Tsuga canadensis) populations of Algonquin Park*).

Status at SFM Plan Development
The hemlock forest unit accounts for 25,990 ha of the available production forest area or 6.2% of the total productive forested land in the Park. This area has increased since 1995 (AFA FRI updates) as a result of forest management practices. Recent science (OMNR - 2007 Landscape Guide) indicates that hemlock levels in Algonquin Park are currently above the simulated range of natural variation (SRNV) for the Algonquin Park Forest. About 85% of this forest unit is however in the late successional stage, with little area identified in the FRI in the regeneration and immature stages. Historical hemlock studies in the Park (Vasiliauskas, 1995) have shown that the lack of younger age classes is a result of extensive deer browsing in the early 1900s and current browsing by moose. Areas restricted from forest management activities contain 23% of the hemlock working group area.

As a result of the previous hemlock VOIT in this SFM Plan, a Lakehead University 4th year forestry student has been retained to produce an undergraduate thesis on the regeneration and recruitment of hemlock in Algonquin Park. This project involved a significant re-measurement of the 1990 seedling plots and statistical analysis of the data. Funding partners include AFA, Ontario Parks and MNR Science and Information Branch. Data collection occurred during the summer of 2011 and the thesis will be completed by September 2012 and conclusions will be reported to the Advisory Group.

2012-2013 Status
Target met and VOIT closed. Refer to the 2011-12 Annual Report for concluding details.

Forecast
Monitoring indicator - no forecast required.

Management Strategies and Implementation
Changes were made to Algonquin Provincial Park tree marking prescriptions in the early 1990s to maintain more hemlock and a strategy to get hemlock from the regeneration stage to free-growing status was developed with the 2000-2020 FMP. The 2005 plan addresses hemlock establishment, ensuring seedling growth to the free-growing stage, in an integrated wildlife/forestry approach and the hemlock forest unit was changed from a uniform shelterwood to a selection forest unit (HeSEL) in order to more effectively manage regeneration and ensure its establishment and recruitment into the forest canopy.

Research and Monitoring Plan
A new Forest Resource Inventory for the Park has also recently been completed and received in March 2016 which will provide updated inventory information on all tree species in the Algonquin Park Forest.

Comparative Assessment of Planned versus Actual Levels: N/A

CRITERION: 1. BIOLOGICAL DIVERSITY

ELEMENT: **1.2 Species Diversity**
Conserve species diversity by ensuring that habitats for the native species found on the Defined Forest Area are maintained through time, including habitats for known occurrences of species at risk.

VALUE: **1.2.2 Tree Species Diversity**

OBJECTIVE: 1.2.2.3 To maintain the forest of Algonquin Park with native tree species.

Indicator 1.2.2.3.1	Target	Variance
Proportion of regeneration comprised of native species* *Native tree species as defined in Trees of Algonquin Provincial Park (Friends of Algonquin Park, 2006)	100% of regenerating tree species comprised of native species. 5 year reporting cycle	-1%

What is this indicator and why is it important?

The introduction of foreign plants, animals, and microorganisms is one of the most disruptive influences on ecosystems. Sometimes a non-native species will find conditions highly favorable in a new location. With natural enemies left behind, populations expand unchecked until the species becomes a pest. The result can be that non-native species eliminate native plants or animals from an ecosystem, greatly altering how the ecosystem functions.

Status at SFM Plan Development
Algonquin Park has 34 native tree species (Trees of Algonquin Provincial Park, 2006). There are 10 conifers or "softwoods" (including 3 pines, 3 spruces, cedar, hemlock, fir and larch). The other 24 Algonquin trees are deciduous species (also known as hardwoods) belonging to 8 separate families.

There are also a number of non-native tree species in Algonquin Park that have been deliberately or inadvertently planted. Although they are of negligible importance in the Park as a whole, they are usually found in places frequented by Park visitors, and not in the R/U zone. This is particularly true with the rather extensive stands of Scot's pine at Pog Lake, Kearney Lake and Rock Lake campgrounds

2012-2013 Status
No annual update. Next update scheduled for 2017.

2016-2017 Status
Target met. No non-native trees were identified or tallied during SEM surveys.

Forecast
Monitoring indicator - no forecast required.

Management Strategies and Implementation
Areas will be regenerated according to the Silviculture Ground Rules (Table FMP-5, 2010). Silvicultural effectiveness monitoring (SEM) assessments will be conducted each year as areas become available and as operational conditions allow.

Research and Monitoring Plan
Silvicultural effectiveness monitoring assessments are performed regularly in order to meet the five-year target identified in Table FMP-28 (2005 FMP). The success of these activities is reported in Annual Report Table AR-13 during Year 7 and 10 annual reports, with the next Year 7 report scheduled for 2017.

Comparative Assessment of Planned versus Actual Levels: N/A

CRITERION: 1. CONSERVATION OF BIOLOGICAL DIVERSITY

ELEMENT: **1.3 Genetic Diversity**
Conserve genetic diversity by maintaining the variation of genes within the species and ensuring that reforestation programs are free of genetically modified organisms.

VALUE: **1.3.1 Genetic Diversity of Tree Species**

OBJECTIVE: 1.3.1.1 To maintain genetic diversity within the tree species native to the Defined Forest Area.

Indicator 1.3.1.1.1	Target	Variance

Application of tree marking guidelines	100% of sites where natural regeneration is a preferred treatment must retain appropriate leave trees as a seed source or retain local genetic reproductive material.	0

What is this indicator and why is it important?
Genetic information forms the building blocks of diversity within an individual and its species. Since most of the silviculture activities within the Algonquin Park Forest are conducted using partial harvesting techniques and natural regeneration, tree marking is important to the selection of leave trees. Unless superseded by more critical requirements, leave trees are selected for their ability to form high quality stands, including genetic excellence.

Status at SFM Plan Development
Due to the diligence in inspection and re-marking, the trend has been 100% marking compliance with the prescription every year.

2012-2013 = 100%
2013-2014 = 100%
2014-2015 = 100%
2015-2016 = 100%

2016-2017 Status Update
Target met
2016-2017 = 100%
No tree marking inspections failed as a result of species priority, quality priority or residual quality infractions. Any infractions identified during tree marking inspections were rectified prior to harvesting.

Forecast: Monitoring indicator - no forecast required.

Management Strategies and Implementation
Tree marking guidelines will be applied to assist in the maintenance of genetic diversity. The guidelines will ensure that dominant/co-dominate trees in good health will be retained as a seed source while maintaining cavity trees, mast producing trees and den trees for wildlife.

The objectives and strategies are implemented during the tree marking field season by trained and qualified crews. These activities are guided by Tree Marking Prescriptions (FMP appendix), Silviculture Ground Rules and Annual Work Schedules.

Research and Monitoring Plan
The monitoring program is comprised of inspection of the tree marking. Algonquin Forestry Authority supervisors regularly inspect the tree marking program to the standards that are in place. This is done using the EMS Tree Marking Inspection form. A variance of +/- 5% is allowed from the standards and variations beyond this point usually require that the area be re-marked. However, as indicated above, 100% compliance is expected so variance is shown as zero. Ministry of Natural Resources technicians also audit the tree marking throughout the year. Results of all AFA tree marking inspections are forwarded to the Ministry of Natural Resources.

Comparative Assessment of Planned versus Actual Levels: N/A

CRITERION: 1. BIOLOGICAL DIVERSITY

ELEMENT: **1.3 Genetic Diversity**
Conserve genetic diversity by maintaining the variation of genes within the species and ensuring that reforestation programs are free of genetically modified organisms.

VALUE: **1.3.1 Genetic Diversity of Tree Species**

OBJECTIVE: 1.3.1.1 To maintain genetic diversity within the tree species native to the Defined Forest Area.

Indicator 1.3.1.1.2	Target	Variance
Proportion of seed used in artificial renewal derived from appropriate seed zone	100% of seed used on the DFA is from the appropriate seed zone and/or within transfer guidelines.	0

What is this indicator and why is it important?
While artificial regeneration is less common on the Algonquin Park Forest than natural regeneration, this indicator complements the previous one. Here we focus on appropriate genetic measures for artificial regeneration; that is, regeneration with some direct assistance from forestry activities.

Provincial guidelines require that artificial regeneration be derived from local seed sources in order to maintain the appropriate genetic adaptations and ensure good growth and vigour.

Status at SFM Plan Development
The 2010-2011 Annual Report indicates that 100% of all seed collected was from the appropriate local seed zone.

2011-2012 - Target met
2012-2013 - Target met
2013-2014 - Target met
2014-2015 - Target met
2015-2016 - Target met

2016-2017 Status Update
Target met.
100% of the seed was from the appropriate local seed zone.

Forecast
No forecasting is required.

Management Strategies and Implementation
Every effort will be made to use tree seed and stock within seed zones for artificial regeneration. If this is not possible, stand collection tree seed and stock will be used in adjacent seed zones on a last resort basis and must conform to provincial standards for similarity of seed origin and host site. In the case of cross-zone movement, the origin of the seed must be well documented and the environment of the seed origin must be similar to that of the planting site. These strategies are reflected in the forest management plan currently being implemented.

Research and Monitoring Plan
Seed collection activities will be monitored by the Algonquin Forestry Authority and reported in annual report Table AR-3 each year. Seed records from Angus Seed Plant are to be used.

Comparative Assessment of Planned versus Actual Levels: N/A

CRITERION: 1. BIOLOGICAL DIVERSITY

ELEMENT: 1.4 Protected Areas and Sites of Special Biological and Cultural Significance
Respect protected areas identified through government processes. Cooperate in broader landscape management related to protected areas and sites of special biological and cultural significance. Identify sites of special geological, biological or cultural significance within the DFA and implement management strategies appropriate to their long-term maintenance.

VALUE: 1.4.1 Algonquin Provincial Park Management Plan Zones

OBJECTIVE: 1.4.1.1 Protect the special values represented by the following four land use categories defined by the Algonquin Provincial Park Management Plan: Nature Reserve, Wilderness Natural Environment and Historical.

Indicator 1.4.1.1.1	Target	Variance
Identification and protection of zone boundaries	100% compliance with zone boundary locations.	0

What is this indicator and why is it important?
The Algonquin Park Forest has a long history of integrated resource management as witnessed by the policies and objectives for the Forest, and the long standing identification of seven land use zones. Excluding the Recreation/Utilization zone, there are four zones of biological significance: the Nature Reserve zone; Historical zone; Wilderness zone; and Natural Environment zone. As per the 1998 Algonquin Provincial Park Management Plan, these protected zones represent 19% of the gross area. The Development and Access zones are the two remaining categories, but were felt to represent no biological significance.

In order to maintain these special biological areas, this indicator will monitor the maintenance of the boundaries with the Recreation/Utilization zone.

Status at SFM Plan Development
The boundaries are currently intact. In 2010/11 there were 19 FOIP reports where zone boundaries were encountered within or formed a part of the operating unit boundary. There were 0 non-compliance issues reported.

2012-2013 = 96% (target not met)
2013-2014 = 100%
2013-2014 = 100%
2014-2015 = 100%
2015-2016 = 100%

2016-2017 Status Update
Target met
2016-2017 = 100%
There were 0 non-compliance issues reported out of 50 FOIP reports filed where operations were conducted in proximity to protection zone boundaries.

Forecast
No forecasting is required.

Management Strategies and Implementation

Proposed operations in the vicinity of zone boundaries will be carefully marked so operators will not infringe upon them. Where the zone boundary is also the Algonquin Park Forest boundary, there is an AOC category that results in a prescription to leave a buffer on the boundary. These strategies are reflected in the FMP currently being implemented.

Research and Monitoring Plan
Monitoring will be conducted through the Forest Operations Information Program. The degree of compliance, with the target of zero infractions due to zone boundary infringement, will be reported annually. There is no acceptable variance. Compliance percentages are calculated only on OPUs that are adjacent to non RU zone boundaries. Both AFA and MNR compliance reports are summarized.

Comparative Assessment of Planned versus Actual Levels: N/A

CRITERION: 1. BIOLOGICAL DIVERSITY

ELEMENT: **1.4 Protected Areas and Sites of Special Biological and Cultural Significance**
Respect protected areas identified through government processes. Cooperate in broader landscape management related to protected areas and sites of special biological and cultural significance. Identify sites of special geological, biological or cultural significance within the DFA and implement management strategies appropriate to their long-term maintenance.

VALUE: **1.4.1 Algonquin Provincial Park Management Plan Zones**

OBJECTIVE: 1.4.1.1 Protect the special values represented by the following four land use categories defined by the Algonquin Provincial Park Management Plan: Nature Reserve, Wilderness Natural Environment and Historical.

Indicator 1.4.1.1.2	Target	Variance
Proportion of identified sites with implemented management strategies	100% of identified sites of special biological and cultural significance in the Algonquin Park Management Plan and in Areas of Concern (AOCs) with implemented management strategies	0

What is this indicator and why is it important?
The Algonquin Park Forest has a long history of integrated resource management as witnessed by the policies and objectives for the Forest, and the long standing identification of seven land use zones. Excluding the Recreation/Utilization zone, there are four zones of biological and cultural significance: the Nature Reserve zone, Historical zone, Wilderness zone, and Natural Environment zone.

Table 14 of the 2010-2020 FMP contains Operational Prescriptions for Areas of Concern. Many of the AOCs also protect values of special biological and cultural significance.

Status at SFM Plan Development
All of the zones in the Algonquin Park Management Plan of special biological or cultural significance have implemented management strategies. These strategies are outlined in Appendix 1 of the 2010-2020 FMP: Management Guidelines for Land Use Areas and Strategies for General Resource Areas.

The operational prescriptions identified in Table 14 of the 2010-2020 FMP contain detailed management strategies to protect all of the values of special biological and cultural significance that have been identified in the R/U zone.

2012-2013 Status
No annual update. This VOIT will be re-assessed during the development of the 2020 FMP.

Forecast
No forecasting is required.

Management Strategies and Implementation
Zone boundaries and AOC boundaries are identified and delineated on the ground as part of the tree marking/boundary layout program. Any changes to AOC's prescribed in the FMP are requested by AFA and verified by MNR prior to operations. In the event that a new type of value is discovered that does not already have an AOC prescription identified in the FMP, this will be communicated to MNR and a new prescription will be developed (FMP amendment) prior to operations commencing.

Research and Monitoring Plan
Monitoring will be conducted through the Forest Operations Information Program. The degree of compliance, with the target of zero infractions due to zone boundary infringement, will be reported annually. There is no acceptable variance. Compliance percentages are calculated only on OPUs that are adjacent to non RU zone boundaries. Both AFA and MNR compliance reports are summarized.

Comparative Assessment of Planned versus Actual Levels: N/A

CRITERION: 1. BIOLOGICAL DIVERSITY

ELEMENT: **1.4 Protected Areas and Sites of Special Biological and Cultural Significance**
Respect protected areas identified through government processes. Cooperate in broader landscape management related to protected areas and sites of special biological and cultural significance. Identify sites of special geological, biological or cultural significance within the DFA and implement management strategies appropriate to their long-term maintenance.

VALUE: **1.4.2 Algonquin Provincial Park Management Plan Zones**

OBJECTIVE: 1.4.2.1 Identify and protect sacred and culturally important sites in the DFA.

Indicator 1.4.2.1.1	Target	Variance
Protection of identified sacred and culturally important sites	100% compliance with identified sites (CHS1, CHS2, CHS3 and APA Areas of Concern) as assessed in FOIP.	-5%

What is this indicator and why is it important?
The Algonquin Park Forest has a long history of integrated resource management as witnessed by the policies and objectives for the Forest, and the long standing identification of seven land use zones. Excluding the Recreation/Utilization zone, there are four zones of biological and cultural significance: the Nature Reserve zone, Historical zone, Wilderness zone, and Natural Environment zone. Many of Algonquin Park's most significant culturally important sites are protected in these zones, most notably in the 48 Historical zones.

Culturally important sites in the R/U zone of Algonquin Park are protected with Areas of Concern as part of the 2010-2020 FMP. Table 14 of the 2010-2020 FMP contains Operational Prescription for Areas of Concern. The following AOCs are designed to protect sacred and cultural sites in the R/U zone:

- CHS1 - Cultural Heritage: known sites as identified by the Ontario Ministry of Culture (MOC) (has Borden Number)
- CHS2 - Cultural Heritage Landscape: significant known sites in Algonquin Park inventory, or sites with an undetermined boundary- Point, polygon (buildings, bridges, dams, camps etc)
- CHS3 - Cultural Heritage Landscape: known sites in Algonquin Park inventory- Point, polygon (buildings, bridges, dams, camps etc) and linear (roadbeds and railways)
- APA - Archaeological Potential area as mapped by OMNR predictive model

Status at SFM Plan Development
The operational prescriptions identified in Table 14 of the 2010-2020 FMP contain detailed management strategies to protect all of the values of special biological and cultural significance that have been identified in the R/U zone.

Tree markers, who are trained in dealing with a multitude of values, implement the operational prescriptions for Areas of Concern as described in FMP-14 and the conditions on regular operations as identified in table 14. Adherence to the guidelines is monitored by AFA personnel responsible for the tree marking program, and audited by the Ministry of Natural Resources. Implementation and monitoring of Area of Concern prescriptions in Algonquin Provincial Park has been ongoing since the early 1970s.

In the event that any unmapped cultural heritage sites are identified in areas of operations, the direction from the Forest Management Guide for Cultural Heritage Values will be implemented and the appropriate AOC prescription from FMP-14 will be established.

In 2010/11 there was 100% compliance with this target.

2012-2013 = 100%
2013-2014 = 100%
2014-2015 = 100%
2015-2016 = 100%

2016-2017 Status Update
Target met
2016-2017 = 100%
There were no reports of non-compliance from 16 FOIP reports where operations were conducted in proximity to identified culturally important sites.

Forecast
No forecasting is required.

Management Strategies and Implementation
Tree marking and harvest layout crews will be kept informed of sacred and culturally important site locations and prescriptions in order that they may receive adequate protection. Ensure that operational crews follow stop work procedures when unidentified values are discovered, and that they report such values to their supervisors and to the Ministry of Natural Resources for verification. Roads, harvesting and other disturbances may be restricted within these areas. Where operations are allowed, they will be in a modified manner in order to minimize the disturbance of soil and physical values (modified conditions identified in Table FMP-14, 2010).

Reporting will be tailored within the existing Forest Operations Information Program.

Research and Monitoring Plan
Algonquin Forestry Authority is responsible for monitoring compliance with these Area of Concern prescriptions. The values represented by these categories may be confidential and thereby require that their location remain undisclosed on maps presented to the public. Compliance is reported on an annual basis in the Annual Report Table AR-6.

Compliance percentages are calculated only on OPUs that contain the applicable AOC types. Both AFA and MNR compliance reports are summarized.

Comparative Assessment of Planned versus Actual Levels: N/A

CRITERION 2: ECOSYSTEM CONDITION AND PRODUCTIVITY

ELEMENT: **2.1 Forest Ecosystem Resilience**
Conserve ecosystem resilience by maintaining both ecosystem processes and ecosystem conditions.

VALUE: **2.1.1 Resilient Great Lakes-St. Lawrence Forested Ecosystems**

OBJECTIVE: 2.1.1.1 Assist those ecosystems as required whose growth has been impacted by fire, insect, disease, blowdown or harvesting to regenerate or otherwise continue along their successional pathway.

Indicator 2.1.1.1.1	Target	Variance
Reforestation success	100% regeneration success 80% silviculture success Free-to-grow time frames as prescribed in FMP silvicultural ground rules. 5 year reporting cycle – next report in 2017	-10%

What is this indicator and why is it important?
Areas that are impacted by natural disturbance or forest management activities will be most productive if they return to a vigorous state within a certain time frame. Silvicultural Ground Rules are developed to aid in the achievement of a new stand following such disturbance. This ensures the resiliency of the forest ecosystem.

Status at SFM Plan Development
Table AR-13 from the 2009-10 CFSA "Year 10" Annual Report is a summary of assessment of regeneration and silviculture success for the area surveyed during the 2005-2010 term. Analyses of the results in AR-13 indicate the following:

- For the harvest depletion area category, 82% of the area surveyed was regenerated to the projected forest unit (silviculture success), 6% to another forest unit (regeneration success), for a total of 88% of the total area surveyed classified as regenerated
- For the natural depletion area category, 51% of the area surveyed was regenerated to the projected forest unit (silviculture success), 44% to another forest unit (regeneration success), for a total of 95% of the total area surveyed classified as regenerated.
- In total, the table indicates that 88% of the total area assessed is successfully regenerated, with 81% regenerating to the projected forest unit. The remaining area that has not successfully regenerated will continue to be monitored and treated as required.

Assessments are not only required to verify free-to-grow status, but are also required to assess regeneration progress and prescribe further treatment if required. This is important on the Algonquin Park Forest where natural regeneration after harvest is heavily relied upon in many forest units. Where natural regeneration has not been successful, follow-up artificial regeneration treatments or tending are prescribed. The inclusion of regeneration progress assessments (or stocking assessments) in the data analyzed for AR-13 has the effect of lowering the regeneration success. Starting with the 2010 FMP, AFA is ensuring that all surveys are classified as either Free-to-Grow or stocking surveys, and annual reporting will only reflect the results of Free-to-Grow assessments.

Forecast
Table FMP-25 from the 2010 Forest Management Plan identifies a target assessment area of 9,244 ha spread among a number of Forest Units and Silviculture Ground Rules. Assessments in the HDSEL (hardwood selection) Forest Unit and some of the HeSEL (hemlock selection) Forest Unit are unique compared to the other even-aged Forest Units. The HDSEL and HeSEL Forest Units require assessments of management standards and not regeneration assessments and have not been included in this table.

FTG surveys and associated reporting will be completed after the regeneration harvest in clearcut forest units, and in group openings associated with group selection SGRs. For shelterwood SGRs, FTG will be assessed after the final removal harvest. Because regeneration must be well established in advance of the final removal harvest in shelterwood forest units, FTG assessments under these forest types will be conducted within three years of the harvest.

2012-2013 Status
No annual update – five year reporting cycle with next report in 2017.

2016-2017 Status
The regeneration success target of 80% silvicultural success and 100% regeneration success (10% allowable variance) has been achieved. Over the first 7 years of the FMP (2010-2016), 92% silviculture success and 98% regeneration success was achieved at FTG survey time (2% of area surveyed was not yet FTG). Refer to the 2016/17 MNRF Algonquin Park Forest Year 7 Annual Report posted on the Ministry of Natural Resources and Forestry FMP Website for more specific details.

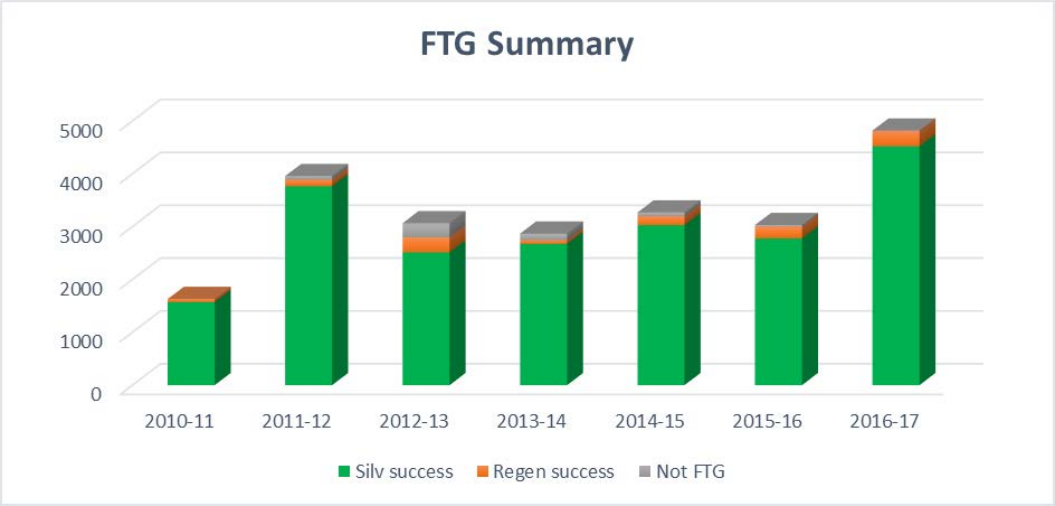

Figure 2: Free to Grow Summary

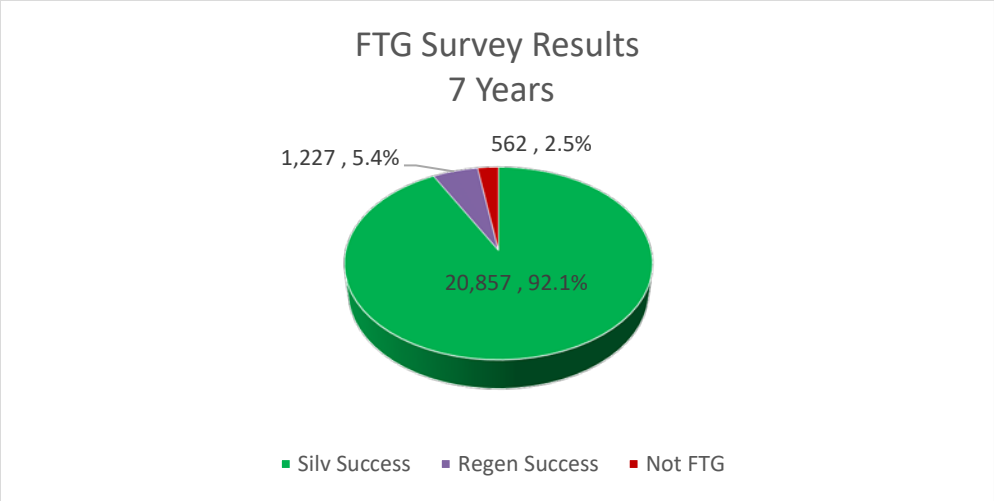

Figure 3: Free to Grow Results - 7 Years

Management Strategies and Implementation
Areas will be regenerated according to the preferred or alternative Silviculture Ground Rule (Table FMP-5, 20105), as specified in the Forest Operations Prescription. Silvicultural effectiveness monitoring (SEM) assessments will be conducted each year as areas become available and as operational conditions allow.

Research and Monitoring Plan
Silvicultural effectiveness monitoring assessments are performed regularly in order to meet the five-year target identified in Table FMP-25 (2010 FMP). The 'Regeneration Standards' section of each SGR details the standards by which FTG success is measured, including the minimum stocking of both crop and acceptable species, minimum heights and associated stocking definitions, as well as the age since harvest or silvicultural treatment at which standards should be met. The results of FTG surveys will be reported spatially to OMNR and summarized in Annual Report tables for each assessment season, as per Forest Information Manual requirements.

Comparative Assessment of Planned versus Actual Levels
The assessment is scheduled for 2017. At this time, an assessment of the previous term's performance will be conducted.

CRITERION: 2. ECOSYSTEM CONDITION AND PRODUCTIVITY

ELEMENT: **2.2 Forest Ecosystem Productivity**
Conserve forest ecosystem productivity and productive capacity by maintaining ecosystem conditions that are capable of supporting naturally occurring species. Reforest promptly and use tree species ecologically suited to the site.

VALUE: **2.2.1 Healthy, Productive Forests**

OBJECTIVE: 2.2.1.1 To maintain the ecological and productive capacity of the Defined Forest Area in order to provide society with a sustainable harvest of forest-based material and social values.

Indicator 2.2.1.1.1	Target	Variance

Additions and deletions to the forest area	No more than 2.0% of production forest area harvested used for roads, landings and aggregate pits. 5 year reporting cycle – next report in 2017	+ 10% (i.e. 2.2% max)

What is this indicator and why is it important?
There are 481,478 hectares of Crown Managed Production Forest (FMP 2010). This land classification indicates the extent to which sustainable forest management activities might be conducted. In addition, various wildlife habitat and other values are present and can potentially be influenced on the Crown Managed Productive Forest area. Other categories include non-forested areas like water or muskeg, as well as patent land and area outside of the recreation/utilization zone (wilderness, natural environment, etc.).

Maintaining the landbase in a forested state is a key principle of avoiding forest land conversion. While necessary to conduct forest management activities, the construction of access infrastructures poses a threat to the extent of productive forest area. Access infrastructure needs to be carefully planned and use optimized in order to avoid unnecessary losses.

This is a monitoring indicator that will provide an early indication of any undesirable loss to the managed productive forest landbase.

Status at SFM Plan Development
A park-wide analysis as of November 1, 2011 indicates that 1.6% of productive managed forest area harvested has been used for roads, landings and aggregate pits. This includes all roads in AFA's road database (existing and old, summer and winter, primary, branch and operational classes). Some of these roads (especially winter roads) have naturally re-vegetated back to a productive forest state, but have still been included in the calculation.

2012-13 Status
No annual update. Next update scheduled for 2017.

2016-17 Status
A park-wide analysis as of Feb 4, 2018 (Year 7 Annual Report) indicates that 1.7% of production managed forest area harvested has been used for roads, landings and aggregate pits. Target met.

Forecast
No forecasting is required.

Management Strategies and Implementation
The maximum road right-of-way is 13.7 metres for primary roads and 9.1 metres for branch and operational roads. In many cases roads are not constructed to this maximum standard, and as a result, area consumed by roads is over-estimated during this calculation. Whenever possible, existing roads (roads that were used in the previous harvest) will be used to gain access to proposed harvested areas except where Forest values will be compromised by their use. Existing roads in the Recreation/Utilization Zone may also be phased out if alternative means of access, which would have a lesser impact on forest values, are available or possible. To prevent excessive disturbance outside the road right-of-way, borrow pits will be limited to a maximum of five per kilometre.

The size of borrow pits will not exceed six metres including side slopes of 1.5:1 and will be limited to ten metres from the tree-line of the road right-of-way. Maximum aggregate pit size, not including rehabilitated area, will be one hectare (2.5 acres). Landings for logs shall not exceed 0.2 hectares.

Operators have been informed of the requirements for access structures through the Standard Operating Procedure for Road and Landing Construction and FMP standard operating conditions (FMP appendix 6.2.10).

Research and Monitoring Plan
At each forest management plan renewal date the Crown Managed Productive Forest area is determined. The next renewal is scheduled for 2020, at which time this indicator can be analyzed. The amount of area used for roads, landings and aggregate pits will be monitored and reported next in 2017.

Comparative Assessment of Planned versus Actual Levels
This indicator is not projected into the future. The assessment is scheduled for 2017. At this time, an assessment of any change will be conducted.

CRITERION: 2. ECOSYSTEM CONDITION AND PRODUCTIVITY

ELEMENT: **2.2 Forest Ecosystem Productivity**
Conserve forest ecosystem productivity and productive capacity by maintaining ecosystem conditions that are capable of supporting naturally occurring species. Reforest promptly and use tree species ecologically suited to the site.

VALUE: **2.2.1 Healthy, Productive Forests**

OBJECTIVE: 2.2.1.1 To maintain the ecological and productive capacity of the Defined Forest Area in order to provide society with a sustainable harvest of forest-based material and social values.

Indicator 2.2.1.1.2	Target	Variance
Proportion of the calculated long-term sustainable harvest level that is actually harvested	Make available 100% of the available harvest area (AHA) in the 2010 FMP. Do not exceed the calculated AHA from FMP. Annually report on proportion actually harvested.	

What is this indicator and why is it important?
Timber harvest levels are maintained at or below the calculated long-term sustainable level. The harvest area by forest unit from the 2010-20 FMP strategic analysis for the first ten-year period is referred to as the available harvest area. Areas selected for harvest for the ten year period will not exceed the available harvest area by forest unit.

Status at SFM Plan Development
The planned harvest volume and wood utilization by species and product for the first 5-year term is illustrated in FMP-18 of the 2010-2020 FMP. The subsequent forecast of wood utilization by commitment type/holder is summarized in FMP-19. As illustrated in FMP-19, it was projected that all merchantable volumes will be utilized, assuming that market conditions improve and open market demand is strong. Although sales for the open market wood are not known at this time, these volumes not directed by the Minister may be offered to the commitment holders, traditional users and area mills.

As indicated in Table AR-7 Summary of Planned and Actual Harvest Area and in Appendix O of the SFM, the available harvest area in the Algonquin Park Forest has never been exceeded.

As per Table AR-7, planned (available) harvest area has averaged approximately 14,000 hectares per year over the last 4 FMP terms. Actual harvest increased over the first 3 terms, from 7,433 hectares per year in 1990-1995 to 8,181 hectares per year in 2000-2005. Actual harvest area then declined to 7,534 hectares during the 2005-2010 term. Percent of actual to planned harvest area increased from 45% from the 1990-1995 term to 67% for the 2000-2005 term. This percentage has dropped to 56% of planned area harvested in the 2005-2010 term. The main reason for the under-harvest is related to markets. Several mills declined deliveries at given years over this time frame.

2012-13 - 39% (5,218 hectares) of the annual planned area was harvested.
2013-14 - 47% (6,306 hectares) of the annual planned area was harvested. This harvest area includes 555 ha of blowdown salvage area from the July 19th 2013 windstorm on the east side of Algonquin Park.
2014/15 – 100% of the FMP planned harvest area was available, 41% (5,571 hectares) of the annual planned area was harvested.
2015/16 – 100% of the FMP planned harvest area was available, 43% (5,853 hectares) of the annual planned area (13,503 ha) was harvested.

2016-17 Status Update
2016/17 – 100% of the FMP planned harvest area was available, 59% (7,495 hectares) of the annual planned area (13,503 ha) was harvested.

Forecast
Mills in the vicinity of Algonquin Park are primarily in the sawlog sector and their demand is for sawlog and better material. Demand for poles, sawlog and veneer quality products has always been high, but the ability to generate these volumes is dependent on selling all of the pulp quality material. The supply of pulp quality products exceeds demand in this area of the province. Traditional pulp wood markets are going through some structural changes as a result of the 2008/2009 global economic down turn. As the market place for the pulp and paper business rationalizes the bio-economy demand for low-end fiber is expected to increase.

Management Strategies and Implementation
Implementation of the 2010-2020 FMP will ensure that the full available harvest area and volume is offered as depicted in tables FMP-18 and 19. Annual reporting will be completed to ensure that the calculated available harvest area is not exceeded.

Research and Monitoring Plan
Harvest area utilization is tracked and reported in annual reports.

Comparative Assessment of Planned versus Actual Levels
Refer to Appendix O of the SFM Plan for Table AR-7, the Summary of Planned and Actual Harvest Area.

CRITERION 3: SOIL AND WATER

ELEMENT: **3.1 Soil Quality and Quantity**
Conserve soil resources by maintaining soil quality and quantity.

VALUE: **3.1.1 Soils of the Precambrian Upland and Ottawa Lowland**

OBJECTIVE: 3.1.1.1 To maintain the living substrate for forest stands.

Indicator 3.1.1.1.1	Target	Variance
Level of soil disturbance	100% of area harvested in compliance with FMP site impact guidelines as assessed in FOIP.	- 5%

What is this indicator and why is it important?
The 2010-20 FMP contains guidelines to assist operators with identifying and avoiding potential site hazards and detrimental conditions (FMP Appendix 7 – Site Impact Guidelines). These will minimize the amount of rutting and compaction that can have negative impacts upon the soil that trees and other plants require. This direction is consistent with the Ministry of Natural Resources' efforts to maintain productive soils via the *Forest Management Guide for Conserving Biodiversity at the Stand and Site Scales (2010)*.

This is an operational monitoring indicator that will identify when and where undesirable effects are taking place.

Status at SFM Plan Development
This target is being met. From 53 Harvest FOIP reports filed in 2010-2011 there were no reports where the site impact guidelines were exceeded.

2012-2013 = 100%
2013-2014 = 100%
2014-2015 = 97%
2015-2016 = 100%

2016-2017 Status Update
Target met.
2016-2017 = 100%
There were no reports where site impact guidelines were exceeded from the 55 Harvest FOIP reports filed in 2016-2017.

Forecast
No forecasting is required.

Management Strategies and Implementation
Extra care is taken in wet or soft conditions, or alternate (drier) routes/sites are used. Seeps and woodland pools are avoided – tree markers identify these sensitive areas where possible with "S" marking. Table 14 - Conditions on Regular Operations in the FMP provides more operational direction for working near values such as woodland pools and intermittent creeks.

Research and Monitoring Plan
Monitoring will be conducted through the Forest Operations Information Program. The target will be reported annually. Both AFA and MNR Compliance reports are summarized.

Comparative Assessment of Planned versus Actual Levels: N/A

CRITERION: 3. SOIL AND WATER

ELEMENT: **3.1 Soil Quality and Quantity**
Conserve soil resources by maintaining soil quality and quantity.

VALUE: **3.1.1 Soils of the Precambrian Upland and Ottawa Lowland**

OBJECTIVE: 3.1.1.1 To maintain the living substrate for forest stands.

Indicator 3.1.1.1.2	Target	Variance
Level of downed woody debris	All tree marking inspections will meet the residual stocking and wildlife tree retention criteria (if wildlife trees are available) at final inspection stage.	- 5%

What is this indicator and why is it important?
Dead wood is an important component of a healthy forest ecosystem. While live trees can be blown down and die, often trees die standing. These standing dead trees, or snags, serve as important habitats for a wide range of decomposing organisms, as well as cavity-nesting species such as woodpeckers. Coarse woody debris includes both downed woody debris and standing trees that have been left to allow the woody debris to decompose, resulting in organic matter that eventually becomes part of the soil. Downed woody debris can be managed by leaving both dead and live trees, as well as downed logs, whenever timber harvests are taken.

The role of downed woody material is closely linked in form and function to 'wildlife trees'. In the managed forest, some or much of the downed woody material will come from fallen wildlife trees. AFA tree marking guidelines in Appendix 5 of the 2010-20 FMP provide direction regarding residual retention. Provincial direction on residual tree retention is provided in the Natural Disturbance Pattern Emulation Guide (2001).

With approximately 95% of the harvesting in Algonquin Park completed with partial cutting systems and tree length logging (i.e. selection and shelterwood with tops and branches left at the stump), the maintenance of residual timber and subsequent downed woody debris is not an issue.

Status at SFM Plan Development
Under current market conditions there is limited demand for low-end material. Utilization strategies have been identified in the 2010-2020 FMP to address this situation which included minimizing the volume of unmarketable product forwarded to landings. This will be accomplished by adjusting operations to merchandize at the stump. End-butting of cull and topping at heavy branching will be practiced wherever harvest operations occur. This practice will contribute to the level of downed woody debris.

It is anticipated that any potential future use of unmerchantable volume for biomass production in Algonquin Park will consist primarily of utilization of tree length to smaller top diameters and utilization of previously unmerchantable landing material. Increased utilization of tops and limbs that are normally left at the stump during tree length logging is not anticipated.

2012-2013 = 100%
2013-2014 = 100%
2014-2015 = 100%

2015-2016 = 100%

2016-2017 Status Update
Target met.
2016-2017 = 100%
No tree marking inspections failed as a result of residual stocking or wildlife tree retention infractions. Any infractions identified during tree marking inspections were rectified prior to harvesting.

Forecast
No forecasting is required.

Management Strategies and Implementation
The stand level requirements of the NDPE Guide apply to all stands with clearcut prescriptions and to stands with shelterwood final removal prescriptions where the regenerated new stand is < 6 m height. These requirements include the retention of internal and peninsular patches, individual living trees, snags and downed woody debris. Clearcuts less than 100 hectares in size do not require the prescribed residual patches to be retained. The requirement to leave an average of 25 trees per hectare will always be met. The NDPE Guide generally does not affect selection stands.

In situations of larger fires or windthrow areas where the overstory is affected, salvage logging will be avoided in some areas in an effort to emulate natural disturbances and retain standing and down woody debris. Also, harvesting of unburned area (residual area) within the disturbance boundary will be kept to a minimum.

Stems retained as wildlife trees that fall down, or are felled for worker safety reasons, become downed woody material and, except in extraordinary circumstances, will be left on site. Moving such trees for silvicultural purposes is permitted.

Research and Monitoring Plan
Monitoring will be conducted through the Forest Operations Information Program. The target will be reported annually. Both AFA and MNR Compliance reports are summarized.

Comparative Assessment of Planned versus Actual Levels: N/A

CRITERION: 3. SOIL AND WATER

ELEMENT: **3.1 Soil Quality and Quantity**
Conserve soil resources by maintaining soil quality and quantity.

VALUE: **3.1.2 Aggregate Resources**

OBJECTIVE: 3.1.2.1 Effective and efficient use of aggregate material used for the construction and maintenance of forest access roads.

Indicator 3.1.2.1.1	Target	Variance
Compliance with FMP operational standards for forestry aggregate pits	100% compliance with operational standards for forestry aggregate pits as assessed in FOIP.	- 5%

What is this indicator and why is it important?
Aggregate is a finite resource and as such, must be managed wisely. Roads, water crossings and forestry aggregate pits can also impact the hydrology, or flow of water, both above and below ground. This can

be of particular concern around critical fish habitat such as brook trout nursery creeks, or around naturally sustaining brook trout lakes.

Aggregate extraction is permitted in the Recreation/Utilization Zone for the purposes of forest management operations. There are no mineral or quarry areas within Algonquin (not permitted), however there are a limited number of forestry aggregate pit sites within the recreation utilization zone for use by the forest industry.

Section 4.5.3 of the 2010-2020 FMP provides direction for the establishment and use of forestry aggregate pits in Algonquin Park. Appendix 6.2.10 of the 2010-2020 FMP contains Operational Standards for Forestry Aggregate Pits. Conditions on Regular Operations, Roads, Landings and Aggregate Pits are also identified in table 14 of the 2010-2020 FMP text.

Status at SFM Plan Development
Forestry aggregate pits in Algonquin Park are managed so as to minimize environmental impacts and are rehabilitated in a timely manner. There are numerous standards and regulations in effect that limit the establishment, size and duration of use of forestry aggregate pits in Algonquin Park. These regulations are mentioned in the Ontario Forest Management Planning Manual (OMNR 2009), but the standards and practices in Algonquin Park are more restrictive than the provincial forest management planning document. A principal difference between the provincial forest management planning directives and the Algonquin Park directives is that the maximum pit size in Algonquin Park is restricted to 1.0 ha of active area as opposed to 3.0 ha of active area for other areas under forest management in Ontario.

2012-2013 = 100%
2013-2014 = 100%
2014-2015 = 94% (target not met)
2015-2016 = 100%

2016-2017 Status Update
2016-2017 = 100%
There were no reports of non-compliance from 22 aggregate pits used for the 2016/17 operating year.

Forecast
No forecasting is required.

Management Strategies and Implementation
Management strategies and operational standards for forestry aggregate pit establishment and use are identified in Section 4.5.3 and Appendix 6.2.10 of the 2010-2020 FMP.

As noted in the FMP, all known naturally sustaining Brook Trout lakes are evaluated to establish the presence or absence of Brook Trout nursery creeks. Furthermore, road placement in these areas undergoes very high scrutiny by park staff for other reasons described in the exploitation section. No new aggregate pits are allowed within the hydrologically sensitive portion of the Brook Trout lakes Area of Concern.

In addition, forestry aggregate pits are not permitted to extend within 1.5 metres of groundwater anywhere in the park. This protects the flow of groundwater to lakes, streams and other aquatic features. Many of the forestry aggregate pits established in Algonquin Park are hillside cuts or excavations of glacial landforms rather than downward excavations of aggregate material. These efforts to conduct hillside cuts where possible are favourable to reduce the risk of the aggregate pit intercepting groundwater.

The risk of impacting groundwater dependent ecosystems is further minimized through the placement of forestry aggregate pits in areas where groundwater concerns are minimal. Through analysis utilizing scientific modelling, important groundwater recharge and discharge areas in Algonquin Park have been mapped. This mapping, in conjunction with operational direction from the OMNR Regional Hydro-

geologist, will be used to assess groundwater concerns prior to approval. Groundwater protection and research will continue to be reviewed regularly.

Research and Monitoring Plan
Monitoring will be conducted through the Forest Operations Information Program. The target will be reported annually. Both AFA and MNR Compliance reports are summarized.

Comparative Assessment of Planned versus Actual Levels: N/A

CRITERION: 3. SOIL AND WATER

ELEMENT: 3.2 Water Quality and Quantity
Conserve water resources by maintaining water quality and quantity.

VALUE: 3.2.1 Algonquin Dome Headwaters

OBJECTIVE: 3.2.1.1 Conserve the quality and quantity of interior waterways, wetlands and catchment areas within the Defined Forest Area.

Indicator 3.2.1.1.1	Target	Variance
Proportion of water crossings that are properly installed and removed	100% compliance as measured by Forest Operation Inspections on access.	- 5%

What is this indicator and why is it important?
One of the initial environmental goals stated when the Algonquin Park Forest was designated was the protection of major interior waterways. These waterways include such rivers as the Oxtongue, Big East, Madawaska, Bonnechere, Amable de Fond, York, Barron, South and Petawawa. Water crossings can have significant impacts upon waterways if not properly installed or removed. This indicator is an operational monitoring one that will apply to waterways of all sizes, and ensure the protection of these quality watersheds.

Status at SFM Plan Development
In 2010-2011 100% of the 65 water crossing inspections recorded in FOIP complied with installation and removal requirements.

2012-2013 = 96%
2013-2014 = 98%
2014-2015 = 100%
2015-2016 = 100%

2016-2017 Status Update
Target met.
2016-2017 = 100%
In 2016-17 there were 99 water crossing inspection reports in the FOIP program. There were no reports of non-compliance recorded related to the installation and removal of a water crossing.

Forecast
No forecasting is required.

Management Strategies and Implementation Plan
Waterway crossing installations and removals are conducted according to the Ministry of Natural Resources' *Environmental Guidelines for Access Roads and Water Crossings and the Forest Management Planning Manual (2009).* The extensive use of portable bridges by the Algonquin Forestry Authority significantly reduces impacts at water crossings. These clear-span structures are the preferred water crossing structure as they have the least overall impact on aquatic values and maintain the natural stream characteristics.

Reporting of water crossing installation and removal success will be tailored from the existing Forest Operations Information Program.

Research and Monitoring Plan
Monitoring will be conducted through the Forest Operations Information Program. The target will be reported annually. Progress will be reported through Annual Reports, particularly Table AR-6. Both AFA and MNR compliance reports are summarized.

Comparative Assessment of Planned versus Actual Levels: N/A

CRITERION: 3. SOIL AND WATER

ELEMENT: **3.2 Water Quality and Quantity**
Conserve water resources by maintaining water quality and quantity.

VALUE: **3.2.1 Algonquin Dome Headwaters**

OBJECTIVE: 3.2.1.1 Conserve the quality and quantity of interior waterways, wetlands and catchment areas within the Defined Forest Area.

Indicator 3.2.1.1.2	Target	Variance
Compliance with prescriptions developed for the protection of water quality and fish habitat	100% compliance as measured by Forest Operation Inspections.	- 5%

What is this indicator and why is it important?
Water quality and fish habitat are significant environmental values on the Algonquin Park Forest that are interrelated. The water provides exceptional opportunities for recreationalists as well as a source of life for many species of wildlife. Quality habitat supports many species of fish and other living creatures that prey on those fish or use the same habitat.

As part of a carefully planned forestry operation, AFA has developed site level prescriptions for forest management activities conducted near these values. The prescriptions are documented in the FMP and are categorized as follows:

CW - Lake Trout Lakes, Coldwater Streams and Unknown Lakes/Streams
BT - Self-Sustaining Brook Trout Lakes
CFH - Critical Fish Habitat (including Brook Trout Nursery Creeks)
WW - Other Lakes, Coolwater and Warmwater Streams
WT - Wood Turtle Habitat
BH - Beaver Habitat
MAFA - Moose Aquatic Feeding Areas and mineral licks

Under the 2015 Phase II FMP the AOC list has been revised to the following:

CW - Lake Trout Lakes, Coldwater Streams and Unknown Lakes/Streams
BT - Self-Sustaining Brook Trout Lakes
BTINT - Brook Trout Intermittent Creeks
GRA – Ground Water Recharge Areas
PSW – Provincially Significant Wetlands
WT - Wood Turtle Habitat
BH - Beaver Habitat

Status at SFM Plan Development
In 2010-2011 99% of the Forest Operations Information Program reports complied with the prescriptions for the protection of water quality and fish habitat. There was one reported non-compliance out of 126 reports. This equates to a 99 % compliance rate.

2012-2013 = 98%
2013-2014 = 95.3%
2014-2015 = 97%
2015-2016 = 99%

2016-2017 Status Update
Target met.
2016-2017 = 97%
FOIP reports for 2016-2017 include 77 Access, 58 Harvest and 3 Renewal reports. All of these 138 reports have been reviewed for compliance to this VOIT as all OPU's contain either WW or CW AOC's. Of these reports 3 non-compliance reports were submitted = 97% compliance rate. One non-compliance report was recorded from both Industry & MNR reports.

Note – the species list has been updated for this VOIT (as described above) for starting last year, as that was the first Annual Report under the 2015 Phase II FMP.

Forecast
No forecasting is required.

Management Strategies and Implementation
Forest management activities are monitored in order to avoid infringing on fish habitat or negatively impacting water quality. Skidding across intermittent streams is avoided and temporary crossing structures are used when appropriate. Clear-cutting or road building is generally not permitted in these Areas of Concern. Refer to tables FMP-14 and FMP-23 for Area of Concern prescriptions and Table 14 – Conditions on Regular Operations in the FMP text for complete operational prescription detail. Reporting will be tailored from the existing Forest Operations Information Program.

Research and Monitoring Plan
The Algonquin Forestry Authority is responsible for monitoring the status of this indicator. This will be completed through the current Forest Operation Information Program which ensures that Area of Concern prescriptions are implemented properly. Annual Reports document each year's success. Compliance percentages are calculated only on OPUs that contain the applicable AOC types. Both AFA and MNR compliance reports are summarized.

Comparative Assessment of Planned versus Actual Levels
The assessment is scheduled annually.

CRITERION: 3. SOIL AND WATER

ELEMENT: 3.2 Water Quality and Quantity
Conserve water resources by maintaining water quality and quantity.

VALUE: 3.2.1 Algonquin Dome Headwaters

OBJECTIVE: 3.2.1.1 Conserve the quality and quantity of interior waterways, wetlands and catchment areas within the Defined Forest Area.

Indicator 3.2.1.1.3	Target	Variance
Number of spills that enter waterbodies	Zero spills entering waterbodies, as recorded by the Environmental Management System Spill Incident Form.	0

What is this indicator and why is it important?
The prevention of pollution is one of the major aspects of Algonquin Forestry Authority's Sustainable Forest Management Policy. This indicator provides a direct link between the Forestry Policy and the element. Preventing spills will help maintain the quality of the Algonquin Park Forest's interior waterways.

Status at SFM Plan Development
Spills are tracked under the Algonquin Forest Authority's Environmental Management System.
In 2010-2011 there were no spills entering waterbodies.

2012-2013 = 0
2013-2014 = 0
2014-2015 = 0
2015-2016 = 0

2016-2017 Status Update
Target met.
2016-2017 = 0
There are no spills entering water bodies.

Forecast
No forecasting is required.

Management Strategies and Implementation
Follow the Algonquin Forestry Authority Standard Operating Procedure for Handling and Dispensing Fuel and Emergency Response Plan. Monitoring is conducted through Algonquin Forestry Authority's Spill Incident Form.

Research and Monitoring Plan
The Algonquin Forestry Authority is responsible for monitoring the status of this indicator. This will be completed through the current Environmental Management System. This indicator is designed to be reported every year.

Comparative Assessment of Planned versus Actual Levels: N/A

CRITERION: 3. SOIL AND WATER

ELEMENT: 3.2 Water Quality and Quantity
Conserve water resources by maintaining water quality and quantity.

VALUE: 3.2.1 Algonquin Dome Headwaters

OBJECTIVE: 3.2.1.1. To ensure the maintenance of water quality and quantity during development of aggregate pits.

Indicator 3.2.1.1.4	Target	Variance
Use of salted sand for winter road maintenance on forest access roads	Phase out the use of salted sand on interior roads by 50% by 2015 and 100% by 2020	0

What is this indicator and why is it important?
The negative impacts of road salt as a de-icer for winter road maintenance is well-documented and in recent years this has resulted in strict salt management guidelines throughout Canada. The knowledge of the negative impacts of road salt is a particular concern of one of the stakeholders in Algonquin Park and has led the AFA to include in the Algonquin Park Forest Management Plan the target of eliminating road salt usage by 2020. This FMP target and best management practice has been carried forward into this VOIT.

Despite well documented evidence of the negative impacts of road salt usage, AFA is not aware of any research that has documented the negative impacts of the extremely low road salt levels such as those used in Algonquin Park. On paved roads, road salt is used as a deicer so that a clear pavement surface can be achieved to improve the safety for road users. On gravel roads, road salt use can melt the road surface, removing frost from the upper layers of the road resulting in a road condition that may be impassable and unsafe for users. As a result, in gravel road winter maintenance management, the objective is not to reduce the presence of the ice layer on the road but rather to prevent winter sand from freezing before it can be spread.

Traction levels on winter gravel roads are increased by applying coarse sand or small aggregate on the road surface after the accumulated snow has been removed. The application of sand can be improved by adding road salt to the sand. This prevents the sand from freezing and sticking together which can make it difficult to apply. It is therefore to prevent sand from freezing that road salt is used in Algonquin Park, and not to directly melt the road surface, as would be done on paved roads.

In order to alleviate issues of frozen sand, practices such as stockpiling and mixing sand piles prior to winter (to remove the moisture and potential of freezing), and creating a narrow face when operating in sand stockpiles will be used to reduce the freezing of stockpiled sand.

Status at SFM Plan Development
The addition of road salt to winter sand to prevent freezing is typically achieved through a mix rate of 5-10% (by weight) of salt to sand. AFA's normal mix rate is 5% or less, which is lower than the mix rates used in most forest road winter maintenance operations.

2012-2013 Status
This is a new VOIT with the 2012 SFM Plan. Based on historical amounts used from 2005 to 2010, a benchmark of 112 tonnes/year has been calculated. This indicator will be reported in 2015.

2015-2016 Status Update
Target met.
The use of salted sand on interior roads has been reduced by 69% of the 2010 benchmark level by 2015. Next update in 2020.

Forecast
The use of salted sand on interior roads will be reduced by 50% by 2015 and 100% by 2020.

Management Strategies and Implementation
N/A

Research and Monitoring Plan

The Algonquin Forestry Authority is responsible for monitoring the status of this indicator. This indicator will be reported in 2015.

Comparative Assessment of Planned versus Actual Levels: N/A

CRITERION: 3. SOIL AND WATER

ELEMENT: 3.2 Water Quality and Quantity
Conserve water resources by maintaining water quality and quantity.

VALUE: 3.2.1 Algonquin Dome Headwaters

OBJECTIVE: 3.2.1.1. Conserve the quality and quantity of interior waterways, wetlands and catchment areas within the Defined Forest Area

Indicator 3.2.1.1.5	Target	Variance
Proportion of watershed or water management areas with recent stand-replacing disturbance	Less than 20% of each Algonquin Park tertiary watershed with recent (10 year) stand-replacing disturbance Assess every 10 years – next report in 2020	0

What is this indicator and why is it important?
Forest ecosystem conditions at the watershed level can have a strong influence on water quality and quantity in rivers, lakes, and wetland systems. Forest ecosystems subject to stand-replacing disturbances such as fire, windthrow, or clear-cutting can temporarily lose their ability to ameliorate water flows associated with large rainfalls and snowfalls. These water flows include both overland flow and the underground flows associated with groundwater recharge and discharge. To maintain water quality and quantity in forest-based rivers, lakes, and wetlands, forest managers might need to restrict, to the degree possible, the proportion of a watershed's forest that has recently experienced stand-replacing disturbances. This will also help ensure that peak flow thresholds are not exceeded due to management actions.

With approximately 95% of the harvesting in Algonquin Park completed with partial cutting systems (i.e. selection and shelterwood), there are very few stand replacing disturbances created from forest management practices.

A map of Algonquin Park tertiary watersheds and recent stand replacing disturbances is displayed in Appendix P of the SFM Plan.

Status at SFM Plan Development
This is a new indicator. Recent stand replacing disturbances (i.e. blow down, wind events, clearcuts) were mapped for the 10 year term (2010-2020). Only1.5% of total forested area was affected.

2012-2013 Status
This is a new VOIT with the 2012 SFM Plan. This indicator will be reported again in 2020.

Forecast
No forecasting is required.

Management Strategies and Implementation
Continued use of partial cutting systems in the Algonquin Park Forest will enable future achievement of this target

Research and Monitoring Plan
The Algonquin Forestry Authority is responsible for monitoring the status of this indicator. This indicator will be reported again in 2020.

Comparative Assessment of Planned versus Actual Levels: N/A

CRITERION 4: ROLE IN GLOBAL ECOLOGICAL CYCLES

ELEMENT: **4.1 Carbon Uptake and Storage**
Maintain the processes that take carbon from the atmosphere and store it in forest ecosystems.

VALUE: **4.1.1 Forest Ecosystem Carbon**

OBJECTIVE: 4.1.1.1 To provide a pre-determined rate of carbon storage in the Defined Forest Area.

Indicator 4.1.1.1.1	Target	Variance
Net carbon uptake	Maintain or increase projected forest carbon stocks (carbon sink) from the DFA over the next 100 years (to 2105). Assess every 10 years – next report in 2020.	0

What is this indicator and why is it important?
Forest management activities can have substantial impacts on the role of forests in the carbon cycle. Forests use, store and release carbon. The longevity and large area of forests make them particularly well adapted to long-term positive carbon balance. Conversely, conversion of forest lands to low biomass, short-lived standing crops with rapid turnover rates, or the permanent removal of forest cover, can reduce the land's capacity to absorb and store carbon. As such, Algonquin Forestry Authority will monitor the degree to which its forests store carbon.

Status at SFM Plan Development
Value was estimated at 119.3 million tonnes of carbon in 2005 and 125.1 million tonnes in 2010.

Forecast
Refer to FORCARB model output (Figure 10 in SFM Plan) – change in Forest Carbon graph. This graph presents the projected change in forest carbon stocks over the next 100 years as calculated by the FORCARB-ON model. The two scenarios presented are the 2010-2020 Forest Management Plan Selected Management Alternative (SMA) and the same alternative modified to reflect actual harvest volumes from the Algonquin Park Forest during the 1998-2007 term (SMA – Mod SFMM 1998-2007 adjusted actual). The second scenario (SMA- Mod SFMM) is the more realistic of the two, since it has been calibrated to reflect actual harvest volumes over the recent 10 year term (less harvest than the full SMA alternative). While there are short term projected declines in forest carbon stocks (due to the current age class structure of the forest and the projected natural succession trends), over the long term forest carbon stocks are projected to increase and remain positive over the 100 year modeling horizon, for an overall positive forest carbon balance over the next 100 years.

2012-13 Status
No annual update. Next assessment scheduled for 2020 with next Forest Management Plan.

Management Strategies and Implementation
As indicated in the Forest Management Plan currently being implemented, the amount of forested areas (carbon storage areas) will be maintained and vigorous regeneration encouraged.

Research and Monitoring Plan

Every ten years, as forest stands grow and develop the status of the indicator will be re-evaluated by staff at the Ontario Centre for Forest Research[4]. The assessment will be conducted using a carbon budget model called FORCARB-ON. This model estimates the carbon stored by the forest in living and dead trees and other plants, woody debris on the ground and even carbon in the soil.

Comparative Assessment of Planned versus Actual Levels
The assessment is scheduled for 2020 and ten years thereafter.

CRITERION: 4. ROLE IN GLOBAL ECOLOGICAL CYCLES

ELEMENT: **4.1 Carbon Uptake and Storage**
Maintain the processes that take carbon from the atmosphere and store it in forest ecosystems.

VALUE: **4.1.1 Forest Ecosystem Carbon**

OBJECTIVE: 4.1.1.1 To provide a pre-determined rate of carbon storage in the Defined Forest Area.

Indicator 4.1.1.1.2	Target	Variance
Reforestation success	100% regeneration success 80% silviculture success Free-to-grow time frames as prescribed in FMP silvicultural ground rules. 5 year reporting cycle – next report in 2017	-10%

What is this indicator and why is it important?
Areas that are impacted by natural disturbance or forest management activities will sequester the most carbon if they return to a vigorous state within a certain time frame. Silvicultural Ground Rules are developed to aid in the achievement of a new stand following such disturbance. This ensures the resiliency of the forest ecosystem.

Status at SFM Plan Development
Table AR-13 from the 2009-10 CFSA "Year 10" Annual Report is a summary of assessment of regeneration and silviculture success for the area surveyed during the 2005-2010 term. Analyses of the results in AR-13 indicate the following:

- For the harvest depletion area category, 82% of the area surveyed was regenerated to the projected forest unit (silviculture success), 6% to another forest unit (regeneration success), for a total of 88% of the total area surveyed classified as regenerated
- For the natural depletion area category, 51% of the area surveyed was regenerated to the projected forest unit (silviculture success), 44% to another forest unit (regeneration success), for a total of 95% of the total area surveyed classified as regenerated.

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- In total, the table indicates that 88% of the total area assessed is successfully regenerated, with 81% regenerating to the projected forest unit. The remaining area that has not successfully regenerated will continue to be monitored and treated as required.

Forecast
Table FMP-25 from the 2010 Forest Management Plan identifies a target assessment area of 9,244 ha spread among a number of Forest Units and Silviculture Ground Rules. Assessments in the HDSEL (hardwood selection) Forest Unit and some of the HeSEL (hemlock selection) Forest Unit are unique compared to the other even-aged Forest Units. The HDSEL and HeSEL Forest Units require assessments of management standards and not regeneration assessments and have not been included in this table.

2012-13 Status
No annual update. Next assessment scheduled for 2017.

2016-2017 Status
The regeneration success target of 80% silvicultural success and 100% regeneration success (10% allowable variance) has been achieved. Over the first 7 years of the FMP (2010-2016), 92% silviculture success and 98% regeneration success was achieved at FTG survey time (2% of area surveyed was not yet FTG). Refer to the 2016/17 MNRF Algonquin Park Forest Year 7 Annual Report posted on the Ministry of Natural Resources and Forestry FMP Website for more specific details.

Management Strategies and Implementation
Areas will be regenerated according to the preferred or alternative Silviculture Ground Rule (Table FMP-5, 2010), as specified in the Forest Operations Prescription. Silvicultural effectiveness monitoring (SEM) assessments will be conducted each year as areas become available and as operational conditions allow.

Research and Monitoring Plan
Silvicultural effectiveness monitoring assessments are performed regularly in order to meet the five-year target identified in Table FMP-25 (2010 FMP). The 'Regeneration Standards' section of each SGR details the standards by which FTG success is measured, including the minimum stocking of both crop and acceptable species, minimum heights and associated stocking definitions, as well as the age since harvest or silvicultural treatment at which standards should be met. The results of FTG surveys will be reported spatially to OMNR and summarized in Annual Report tables for each assessment season, as per Forest Information Manual requirements.

Comparative Assessment of Planned versus Actual Levels
The next assessment is scheduled for 2017. At this time an assessment of the previous term's performance will be conducted.

CRITERION: 4. ROLE IN GLOBAL ECOLOGICAL CYCLES

ELEMENT: **4.2 Forest Land Conversion**
Protect forestlands from deforestation or conversion to non-forests, where ecologically appropriate

VALUE: **4.2.1 Extent of the Defined Forest Area Production Forest Area**

OBJECTIVE: 4.2.1.1 To minimize the conversion of production forest to non-forested area in the recreation/utilization zone.

Indicator 4.2.1.1.1	Target	Variance

Additions and deletions to the forest area Same indicator as 2.2.1.1.1	No more than 2.0% of production forest area harvested used for roads, landings and aggregate pits. 5 year reporting cycle – next report in 2017.	+ 10% (i.e. 2.2% max)

What is this indicator and why is it important?
There are 481,478 hectares of Crown Managed Production Forest (FMP 2010). This land classification indicates the extent to which sustainable forest management activities might be conducted. In addition, various wildlife habitat and other values are present and can potentially be influenced on the Crown Managed Productive Forest area. Other categories include non-forested areas like water or muskeg, as well as patent land and area outside of the recreation/utilization zone (wilderness, natural environment, etc.).

Maintaining the landbase in a forested state is a key principle of avoiding forest land conversion. While necessary to conduct forest management activities, the construction of access infrastructures poses a threat to the extent of productive forest area. Access infrastructure needs to be carefully planned and use optimized in order to avoid unnecessary losses.

This is a monitoring indicator that will provide an early indication of any undesirable loss to the managed productive forest landbase.

Status at SFM Plan Development
A park-wide analysis as of November 1, 2011 indicates that 1.6% of productive managed forest area harvested has been used for roads, landings and aggregate pits. This includes all roads in AFA's road database (existing and old, summer and winter, primary, branch and operational classes). Some of these roads (especially winter roads) have naturally re-vegetated back to a productive forest state, but have still been included in the calculation.

2012-13 Status
No annual update. Next update scheduled for 2017.

2016-17 Status
A park-wide analysis as of Feb 4, 2018 (Year 7 Annual Report) indicates that 1.6% of productive managed forest area harvested has been used for roads, landings and aggregate pits. Target met.

Forecast
Forecasting is not required.

Management Strategies and Implementation
The maximum road right-of-way is 13.7 metres for primary roads and 9.1 metres for branch and operational roads. In many cases roads are not constructed to this maximum standard, and as a result, area consumed by roads is over-estimated during this calculation. Whenever possible, existing roads (roads that were used in the previous harvest) will be used to gain access to proposed harvested areas except where Forest values will be compromised by their use. Existing roads in the Recreation/Utilization Zone may also be phased out if alternative means of access, which would have a lesser impact on Forest values, are available or possible. To prevent excessive disturbance outside the road right-of-way, borrow pits will be limited to a maximum of five per kilometre.

The size of borrow pits will not exceed six metres including side slopes of 1.5:1 and will be limited to ten metres from the tree-line of the road right-of-way. Maximum aggregate pit size, not including rehabilitated area, will be one hectare (2.5 acres). Landings for logs shall not exceed 0.2 hectares.

Operators have been informed of the requirements for access structures through the Standard Operating Procedure for Road and Landing Construction and FMP standard operating conditions (FMP appendix 6.2.10).

Research and Monitoring Plan
At each forest management plan renewal date the Crown Managed Productive Forest area is determined. The next renewal is scheduled for 2020, at which time this indicator can be analyzed. The amount of area used for roads, landings and aggregate pits will be monitored and reported next in 2017.

Comparative Assessment of Planned versus Actual Levels
This indicator is not projected into the future. The assessment is scheduled for 2017. At this time, an assessment of any change will be conducted.

CRITERION: 5. ECONOMIC AND SOCIAL BENEFITS

ELEMENT: **5.1 Timber and Non-Timber Benefits**
Manage the forest sustainably to produce an acceptable and feasible mix of both timber and non-timber benefits. Evaluate timber and non-timber forest products and forest-based services.

VALUE: **5.1.1 Timber Resources**

OBJECTIVE: 5.1.1.1. To provide timber resources from the Defined Forest Area for local industry.

Indicator 5.1.1.1.1	Target	Variance
Quantity and quality of timber benefits, products, and services produced in the DFA: Long-term projected available harvest volume by product	1. Average annual volume of white and red pine sawlogs for the next 100 years >117,635 m3. 2. Average annual volume of red pine poles/treelength for the next 100 years >15,611 m3. 3. Average annual volume of hardwood and white birch sawlogs for the next 100 years >91,064 m3. 4. Make available 573,150 m3 of forest products on an annual basis – 275,650 m3 is in sawlog and better products and 297,500 m3 of pulp and composite quality products. Assessed during FMP development (2010) and every 5 years during implementation – next assessment in 2017	0

What is this indicator and why is it important?
This indicator identifies the details of product diversification on value added derived from the available timber harvest. The manufacture of sawlogs, veneer and poles requires higher quality logs than pulp and composite products. Targets one to three identify these higher quality products, while target four compares the balance of higher quality products to pulp. These targets will be measured using the Algonquin Forest Authority Sales System.

Refer to Appendix M of the 2010-2020 FMP supplementary documentation section 6.1.6 for a description of how these targets were derived. The target has been set at the highest forecasted sustainable volume over the 100 year modeling horizon for each product class. This is the lowest level of the forecasted long term sustainable volume, while balancing all other environmental and ecological values in the FMP.

Status at SFM Plan Development
Prior to implementation of the 2010 FMP, the level of this indicator was as follows[5]:

1. 111,609 m^3
2. 17,252 m^3
3. 59,075 m^3

[5] Average for the 2005-2010 period from the 2009-2010 Year Ten Annual Report (AFA Sales System).

4. 228,498 m^3 sawlog and better / 275,028 m^3 pulp

Given the current depressed market conditions, red pine poles/treelength was the only product group that surpassed the new target.

Forecast

The forecast sustainable harvest levels are depicted in section 3.13 of Appendix M of the 2010-2020 FMP supplementary documentation. The Advisory Group concluded that, despite potential market demand, these targets should be set based on what the forest can produce over the long term. In most product groups, short term (next 30 years) available volumes are greater than these targets, and if markets improve, actual volumes should exceed these targets. Unforeseen deviations from the planned harvest, such as fires, mill closures or market disturbances, will have an impact upon the ability to meet these targets.

2012-13 Status

No annual update. The next reported assessment of this target will be in 5 years in 2017.

2016-17 Status

Target not met after 7 years of 2010 FMP:

Product	Target	Volume Harvested	Shortfall	% Diff
Pw & Pr SL	117,635	101,633	-16,002	-14%
Pr Poles/ TL	15,611	13,801	-1,810	-12%
Hwd & Birch SL	91,064	73,743	-17,321	-19%
SL & Better	275,650	225,381	-50,269	-18%
Pulp,Composite,Firewood	297,500	156,273	-141,227	-47%
Total Volume	573,150	381,654	-191,496	-33%

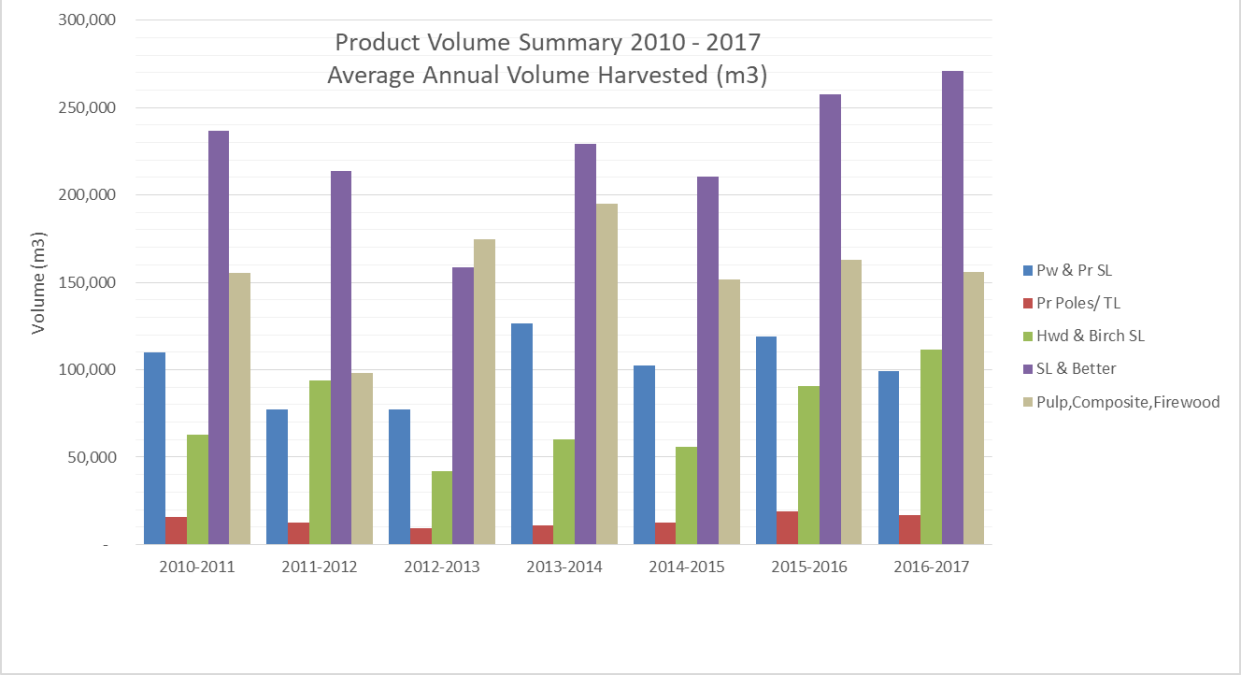

Figure 4: Product Volume Summary 2010-2017

As discussed above, this target was set at the highest forecasted sustainable volume over the 100 year modeling horizon for each product class. During the first seven years of this SFM Plan (2010-17) volume

utilized was below the planned levels in all product groups primarily due to overall lower demand for forest products, inclement weather and an unanticipated shortage of workers and equipment. Volume utilization has recently improved in the first 2 years of the 2015 – 2020 term to 54% of planned volume.

Management Strategies and Implementation
The wood supply will be allocated to individual companies based on the range of species and qualities available from particular cutting areas. Surplus species and quantities will be identified and made known to the forest industry, so that it may assess the feasibility of altering its operations to utilize this material. Alternative opportunities will be provided, where possible, to industries which face shortages of traditional raw materials and provide for the use of wood fibre as a source of energy. New markets for pulp quality material will be actively sought.

Research and Monitoring Plan
Algonquin Forestry Authority is responsible for monitoring this indicator and they will use their annual sales records to evaluate their performance on a yearly basis. The next reported assessment of this target will be in 5 years in 2017.

Comparative Assessment of Planned versus Actual Levels: N/A

CRITERION: 5. ECONOMIC AND SOCIAL BENEFITS

ELEMENT: 5.1 Timber and Non-Timber Benefits
Manage the forest sustainably to produce an acceptable and feasible mix of both timber and non-timber benefits. Evaluate timber and non-timber forest products and forest-based services.

VALUE: 5.1.2 Recreation and Tourism

OBJECTIVE: 5.1.2.1 To maintain or improve the back country qualities of recreation and tourism opportunities within the DFA, through the reduction of sight and sound evidence of AFA operations.

Indicator 5.1.2.1.1	Target	Variance
Quantity and quality of non-timber benefits, products, and services produced in the DFA: Number of documented public complaints about forestry impacts on back-country recreation	No documented public complaints from interior users within the RU zone with noted logging impacts. Respond to all documented public complaints from interior users within the RU zone with noted logging impacts.	+5

What is this indicator and why is it important?
Recreation and tourism are major benefits provided by the DFA. This is reflected in the Algonquin Provincial Park Management Plan.

The objective of this indicator is to directly monitor public feedback on the impacts of forestry operations on recreation values and activities and respond to all documented public complaints.

Status at SFM Plan Development
In 2010/11, there was one documented public complaint out of 243,920 interior visitor nights. The complaint was regarding forestry related noise heard on Scorch Lake in August 2010. The complaint was addressed and resolved. A response email was received from the complainant thanking AFA for the response and indicating that the complainant hopes to return to Algonquin Park sometime in the future.

Forecast
N/A

2012-13 Status = 0
2013-14 Status = 4
2014-15 Status = 2
2015-16 Status = 3

2016-17 Status Update
Target met. There were 4 documented public complaints about forestry impacts on back-country recreation in 2016/17 (allowable variance of 5).

One complaint was related to logging noise (trucks) during the night in summer at Kingscote, Shall Lake and Basin Depot. Noise of night time generators also at Tim Lake, Galeairy and Crotch Lakes. Some of the complaints were from areas that AFA was not operating. A response was provided by Ontario Parks indicating that all applicable timing restrictions are being respected and that the generator noise may have been from other sources outside the park.

The second complaint was regarding logging noise from OPU's 3171 & 3172 after the sound zone restriction period was over. Ontario Parks advised the concerned party that the noise restrictions were being respected and that there is a recognition of greater fall use in the park. The concerned party was also advised that the intent for this area was to finish these entire blocks and that operations will not return to this area for another 24 years.

The third complaint was related to two haul truck complaints received through Ontario Parks at the Shall Lake Access point and Kingscote road. AFA was not actually hauling past the Shall Lake access point at the time of the complaint so it may have been related to another operation in this area. Regardless, AFA truckers were spoken to in both instances. AFA Operations Supervisors were encouraged to continue to enforce safe driving practices on public roads and the issue was reviewed with all AFA staff at spring training.

The final complaint was related to logging noise on Lower Spectacle Lake in late September 2016. Ontario Parks responded by indicating that summer sound zone restriction are in place to prevent this however these had expired on labour day. The concerned party was also advised that AFA does endeavour to ensure that the public is aware of forestry in Algonquin Park through signage, their website, education and maps of forestry operations by season.

Management Strategies and Implementation
Recreational values will be identified on values maps and Area of Concern guidelines will be implemented to ensure protection of these values. These strategies are reflected in the Forest Management Plan currently being implemented. Where possible, public concerns will be addressed through forest management activities. Continue to utilize Environmental Management System procedure 4.4.3 Communication.

Research and Monitoring Plan
A system for reviewing comments is already operating and documentation related to public complaints from interior users within the RU zone with noted logging impacts will be shared by Ontario Parks with AFA.

Comparative Assessment of Planned versus Actual Levels: N/A

CRITERION: 5. ECONOMIC AND SOCIAL BENEFITS

ELEMENT: **5.1 Timber and Non-Timber Benefits**
Manage the forest sustainably to produce an acceptable and feasible mix of both timber and non-timber benefits. Evaluate timber and non-timber forest products and forest-based services.

VALUE: **5.1.2 Recreation and Tourism**

OBJECTIVE: 5.1.2.1 To maintain or improve the back-country qualities of recreation and tourism opportunities within the DFA, through the reduction of sight and sound evidence of AFA operations.

Indicator 5.1.2.1.2	Target	Variance
Provision of information with respect to location of planned forest	Upload annual harvest schedule map with primary haul routes on AFA website, including seasonal updates when possible.	N/A

operations on the AFA website.		

What is this indicator and why is it important?
The internet is the most easily accessible source of information for a growing number of Canadians. Posting information on the website will ensure that AFA's operational plans are accessible to as many members of the public as possible, including recreational users who may be concerned about the proximity of forestry operations during their stay in Algonquin Park.

Status at SFM Plan Development
Map posted under the Forest Management Planning\Annual Work Schedule section of the AFA website.

Forecast
No forecasting is necessary.

2016-17 Status Update
Updated map for the 2016-17 season was uploaded to the AFA internet site in March and September 2016.

Management Strategies and Implementation
AFA updates this map annually after Annual Work Schedule approval.

Research and Monitoring Plan
N/A

Comparative Assessment of Planned versus Actual Levels: N/A

CRITERION: 5. ECONOMIC AND SOCIAL BENEFITS

ELEMENT: 5.1 Timber and Non-Timber Benefits
Manage the forest sustainably to produce an acceptable and feasible mix of both timber and non-timber benefits. Evaluate timber and non-timber forest products and forest-based services.

VALUE: 5.1.3 Cottage Experience

OBJECTIVE: 5.1.3.1. To maintain the quality of the cottage experience within the Recreation/Utilization (RU) zone of the Defined Forest Area.

Indicator 5.1.3.1.1	Target	Variance
Compliance with the cottage/lease AOCs	100% compliance with cottage lease AOCs assessed in FOIP	0

What is this indicator and why is it important?
There are 305 cottage properties held under lease, license or land use permit in the Park as of January 1998 (Algonquin Park Management Plan). Only a small percentage of these are in the R/U zone and are potentially impacted by forest management operations. An AOC has been developed to afford protection for these features within the R/U zone.

Status at SFM Plan Development
In 2010/11 there were no active operations adjacent to cottage leases.

Forecast
No forecast necessary

2012-13 = 100% compliance
2013-14 = 100% compliance
2014-15 = 100% compliance
2015-16 = 100% compliance

2016-17 Status Update
Target met
2016-17 = 100% compliance

Management Strategies and Implementation
Cottaging/lease values will be identified on values maps and Area of Concern guidelines will be implemented to ensure that operations do not negatively impact the cottaging experience. These strategies are reflected in the Forest Management Plan currently being implemented.

Research and Monitoring Plan
This will be monitored annually. Compliance percentages are calculated only on OPUs that contain the cottage lease AOC. Both AFA and MNR compliance reports are summarized.

Comparative Assessment of Planned versus Actual Levels: N/A

CRITERION: 5. ECONOMIC AND SOCIAL BENEFITS

ELEMENT: 5.1 Timber and Non-Timber Benefits
Manage the forest sustainably to produce an acceptable and feasible mix of both timber and non-timber benefits. Evaluate timber and non-timber forest products and forest-based services.

VALUE: 5.1.4 Cultural Heritage

OBJECTIVE: 5.1.4.1 To collect and preserve knowledge.

Indicator 5.1.4.1.1	Target	Variance
On going research/ assessment/support	Demonstrate financial and/or in-kind support for cultural heritage initiatives beyond those mandated or required.	As budgeted

What is this indicator and why is it important?
Algonquin has a rich and varied human history, with traditional dependence upon the resources of the Park being a dominant theme. Extensive field research has identified more than 300 areas of historical human activity and a comparable number of archaeological sites. Those sites that provided the best representation of the Park's history have been selected as Historical Zones. Ongoing research and assessment is important to complete the system of archaeological and historical sites. The collection and preservation of knowledge will provide opportunities to enhance the public's understanding and awareness and appreciation of Algonquin Park's heritage.

Status at SFM Plan Development
The historical zones in Algonquin Park encompass 1,680 hectares and include 48 historical sites and 38 archaeological sites. The location of archeological sites is kept confidential in order to ensure their protection. The park protects all newly discovered historical resources dated prior to 1940, pending thorough study and documentation of their significance. A major focus of historical resources interpretation is at the Algonquin Logging Museum near the east gate. AFA contributes annually to the Algonquin Park Loggers Day (cash and in-kind). In 2007/08 a $5,000 contribution was made for Logging Museum upgrades. Cultural heritage training of woodsworkers and tree markers has been conducted. Funding for a new roof on the cabin at Basin Depot was provided by AFA. Stage 2 archaeological assessments were conducted in 2004/05 and in 2007/08 in order to determine the presence of cultural artifacts in areas scheduled for forestry operations. In 2008-09 the AFA display presented at Basin Depot Archaeological Project and $5,000 was contributed to the project. In 2009-2010 $10,000 was budgeted for the Camboose Camp repairs at the Algonquin Park Logging Museum. In 2010-11 harvesting and delivery of logs for the Camboose Camp repairs was completed and repairs commenced in the summer of 2011.

Forecast
No forecasting is necessary.

2013-14 Status
Target met. AFA sponsored the Barry's Bay Timberfest and the Killaloe Snow Fun Weekend which promoted logging and cultural history. AFA also supported upgrades to the Algonquin Park Logging Museum by providing perlons and scoops for the stable (paid for logging and transportation).

2014-15 Status
Target met. AFA increased funding and provided staff to support the Barry's Bay Logger's Festival. Upgrades to the Algonquin Park Logging Museum stable continued with the addition of more perlons and cedar for scooped roofing. AFA sponsored pictorial interpretive displays ($3k) and attended the event to commemorate Achray station's cultural history and the 100th anniversary of adding east Algonquin

townships to Algonquin Park. AFA sponsored the construction of the “pine pavilion” at the Shaw Woods education centre south of Pembroke with the supply of timber from Algonquin Park. AFA staff attended the ribbon cutting ceremony to show continued support for the sustainable forest management and stewardship of our cultural and natural history values espoused by the Shaw Woods enterprise.

2015-16 Status Update
Target met. This year marked AFA’s 40th anniversary and the Algonquin Park Logging Museum’s 20th. An estimated $20,000 in total was spent on these celebrations. A special event was organized to coincide with the annual Logger’s Day event and was attended by over 1000 people including past and present AFA staff, directors, contractors and local dignitaries. Work on the stable continued this year, as more decay was discovered during the previous season. The roof was partially completed for Logger’s Day. The unique method and active construction was a focal point. AFA also made a presentation at Renfrew County Council to highlight AFA contributions to forest industry and celebrate continuance of the logging culture. AFA also sponsored the Barry’s Bay Timberfest ($250) and the Killaloe Snow Fun Weekend ($500) which promoted logging and cultural history.

2016-17 Status Update
Target met.
The Algonquin Park Logging Museum’s stable roof was completed and several exhibits lifted and placed on concrete pads to avoid soil contact (rot). An annual meeting between the Friends of Algonquin Park and the AFA Board of Directors was convened in July to plan exhibit upgrades and discuss other mutually beneficial programs and possible ventures.

AFA also sponsored the Hagarty-Killaloe-Richards Logger’s Festival ($500) which promoted logging and cultural history.

Planning for a Canada 150th film production featuring area youth in forestry and forestry’s historical contributions involved AFA director Dave Lemkay. Filming will begin in 2017.

AFA staff and directors provided financial and in-kind support for the Saw-Tech Log-Expo held in Bancroft. An AFA exhibit was provided during the four-day event that featured the history of logging in Algonquin Park.

Management Strategies and Implementation
During forest management activities (primarily tree marking), all newly discovered potential archaeological sites are identified and verified by Ontario Parks prior to operations. An AOC is established if warranted. In addition, high potential cultural heritage areas are identified during the FMP process and have an AOC prescription identified, that includes a stage 2 archaeological assessment for certain activities to be permitted.

Research and Monitoring Plan
Document activities and expenditures.

Comparative Assessment of Planned versus Actual Levels: N/A

CRITERION: 5. ECONOMIC AND SOCIAL BENEFITS

ELEMENT: **5.1 Timber and Non-Timber Benefits**
Manage the forest sustainably to produce an acceptable and feasible mix of both timber and non-timber benefits. Evaluate timber and non-timber forest products and forest-based services.

VALUE: **5.1.4 Cultural Heritage**

OBJECTIVE: 5.1.4.2 To assist in the sharing/promotion of cultural heritage information.

Indicator 5.1.4.2.1	Target	Variance
Establishment of website linkages to information (within the constraints of confidentiality) and promotion of cultural heritage events.	Provide information (publications, website linkages) as allowed by provincial guidelines/direction.	As budgeted

What is this indicator and why is it important?
Information that can be provided to the general public is distributed most widely via the internet. Therefore, non-sensitive cultural information can be provided to the public via websites. Linkages to relevant available information will be established from the AFA website. Sharing this type of information will help ensure the appreciation of these values and that it is not lost to future generations.

Status at SFM Plan Development
Several website linkages have been added to the AFA website.

Forecast
No forecasting is necessary.

2016-17 Status Update
Target met. Website linkages are being maintained and added to the AFA website as they become available. Nothing new to report for 2016-17.

Management Strategies and Implementation
The availability of relevant cultural heritage information will be determined, Linkages to this information on the AFA website will be established where possible.

Research and Monitoring Plan
N/A

Comparative Assessment of Planned versus Actual Levels: N/A

CRITERION: 5. ECONOMIC AND SOCIAL BENEFITS

ELEMENT: 5.1 Timber and Non-Timber Benefits
Manage the forest sustainably to produce an acceptable and feasible mix of both timber and non-timber benefits. Evaluate timber and non-timber forest products and forest-based services.

VALUE: 5.1.5 Natural and Spiritual

OBJECTIVE: 5.1.5.1 To maintain a wilderness-like experience for users within the Defined Forest Area.

Indicator 5.1.5.1.1	Target	Variance
Compliance with Area of Concern prescriptions which schedule operations such that there is a separation in time and/or space between wilderness recreation and forestry operations	100% compliance with applicable AOCs in 2010 FMP Table 14 assessed in FOIP.	0

What is this indicator and why is it important?
The sound of forestry operations can negatively impact the perceived wilderness experience of recreationalists within the Park. This indicator will assess whether or not the careful scheduling of operations, through the use of Area of Concern prescriptions, can successfully ensure that operations occur at times and places that are separate from wilderness recreation.

As part of a carefully planned forestry operation, Algonquin Forestry Authority has developed site level prescriptions for forest management activities conducted near these values. The prescriptions are documented in the forest management plan and are categorized as follows:
CR – MNR Designated Canoe Routes,
C - Campsites,
P - Portages,
H – MNR Designated Hiking/Backpack Trails,
ST – MNR Designated Cross Country Ski Trails.

Status at SFM Plan Development
In 2010-2011 there were no non-compliances identified from the 56 FOIP reports associated with these values

Forecast
No forecasting is necessary.

2012-13 = 100% compliance
2013-14 = 100% compliance
2014-15 = 100% compliance
2015-16 = 100% compliance

2016-17 Status Update
Target met
2016-17 = 100% compliance

Management Strategies and Implementation
Management strategies are based on the land use direction summarized in Appendix 1 of the 2010-2020 FMP: Management Guidelines for Land Use Areas and Strategies for General Resource Areas.

Research and Monitoring Plan
The Algonquin Forestry Authority is responsible for monitoring the status of this indicator. This will be completed through the current Forest Operation Information Program which ensures that Area of Concern prescriptions are implemented as prescribed. Annual Reports document each year's success. Compliance percentages are calculated only on OPUs that contain these applicable AOC types and from both AFA and MNR compliance reports.

Comparative Assessment of Planned versus Actual Levels
Annual Reports document each year's success.

CRITERION: 5. ECONOMIC AND SOCIAL BENEFITS

ELEMENT: **5.2 Communities and Sustainability**
Contribute to the sustainability of communities by providing diverse opportunities to derive benefits from forests and by supporting local community economies.

VALUE: **5.2.1 Economic Value Added**

OBJECTIVE: 5.2.1.1. To maintain or enhance the economic value added that harvesting in the Defined Forest Area contributes to the provincial and local economies.

Indicator 5.2.1.1.1	Target	Variance
Managed Crown Forest area available for timber production	Maintain the total production forest area available for forest management within the DFA. 2010 FMP benchmark level = 481,478 ha.	- 5%

What is this indicator and why is it important?
The managed Crown forest area available for timber production is defined by the Algonquin Park Management Plan and is the area used to calculate the available harvest area. Any reduction in this area will result in reduced area available for forest management operations, and a reduction in economic value added.

Status at SFM Plan Development
There are 481,478 ha of managed Crown forest available for timber production (FMP 2010).

Forecast
The 2012 proposed Algonquin Park Management Plan amendment to implement the Lighten the Footprint (LTF) Report would result in an approximate 10% reduction in the production forest area, which would exceed the allowable variance for this target.

2013-14 Status
Target not met.
The 2013 LTF amendment to the Algonquin Park Management Plan resulted in a 44,214 ha (9.2%) reduction in the total production forest area available for forest management, which exceeds the allowable 5% variance. Refer to section 3.1.1 of this report for discussion on the implications of this change in the DFA.

2014-15 Status
Target not met as per 2013-14 report.

2016-17 Status Update
Target not met as per 2013-14 report.

Management Strategies and Implementation
The Algonquin Park Management Plan defines the area that is available for timber production in Algonquin Park.

Research and Monitoring Plan
N/A

Comparative Assessment of Planned versus Actual Levels: N/A

CRITERION: 5. ECONOMIC AND SOCIAL BENEFITS

ELEMENT: 5.2 Communities and Sustainability
Contribute to the sustainability of communities by providing diverse opportunities to derive benefits from forests and by supporting local community economies.

VALUE: 5.2.1 Economic Value Added

OBJECTIVE: 5.2.1.1. To maintain or enhance the economic value added that harvesting in the Defined Forest Area contributes to the provincial and local economies.

Indicator 5.2.1.1.2	Target	Variance
Level of investment in initiatives that contribute to community sustainability	AFA total direct program costs >$16.5 million annually 5 year average – next assessment in 2017	

What is this indicator and why is it important?
Forests represent not only a return on investment (measured, for example, in dollar value, person-days, donations, etc.) for the organization but also a source of income and non-financial benefits for DFA-related workers, contractors, and others; stability and opportunities for communities; and revenue for local, provincial, and federal governments. This indicator tracks the total direct program costs incurred by AFA to support the delivery of its forest management program. This includes payments to contractors, employees, vehicles, fuel, equipment, etc which are all sourced locally and contribute to local community stability.

Status at SFM Plan Development
Total direct program costs for 2010-11 were $16,292,568

Forecast
Direct program costs fluctuate with market conditions, the level of harvest and the amount of silviculture completed. It is anticipated to increase as markets recover.

2012-13 Status
This is a new VOIT with the 2012 SFM Plan. No annual update. Will be reported in 2017.

2016-17 Status
Target met. Five year average investment that contributes to community stability = $18,383,159

Management Strategies and Implementation
AFA will continue to source resources locally wherever possible.

Research and Monitoring Plan
N/A

Comparative Assessment of Planned versus Actual Levels
This target will be assessed every 5 years with the next assessment in 2017.

CRITERION: 5. ECONOMIC AND SOCIAL BENEFITS

ELEMENT: 5.2 Communities and Sustainability
Contribute to the sustainability of communities by providing diverse opportunities to derive benefits from forests and by supporting local community economies.

VALUE: 5.2.1 Economic Value Added

OBJECTIVE: 5.2.1.1. To maintain or enhance the economic value added that harvesting in the Defined Forest Area contributes to the provincial and local economies.

Indicator 5.2.1.1.3	Target	Variance
Level of direct and indirect employment	Total direct employment (woodland and mills) >2,500 people Total indirect employment (woodland and mills) >7,500 people Assessed every 5 years – next assessment in 2017	

What is this indicator and why is it important?
The economic and employment contribution from the Algonquin Park Forest is important to the sustainability of the communities surrounding Algonquin Park. The level of direct and indirect employment is a clear indicator of the impact that forest management in the Algonquin Park Forest is having on communities and their sustainability.

Algonquin Provincial Park plays a number of important roles: not only is it famous for its excellent recreation opportunities, but it is extremely important to the regional wood supply and employment. There are fourteen communities (census sub-divisions) in Ontario that receive substantial amounts of timber, chips, or other forest products from the Park or have substantial employment related to the forest industry: Bancroft, Englehart, Huntsville, Laurentian Valley, Madawaska Valley, Mattawa, Nipissing, North Algoma Wilberforce, North Bay, Pembroke, Petawawa, Pikwakanagan (Golden Lake 39), Renfrew and South Algonquin. Refer to supplementary documentation section 6.1.23 of the 2010 FMP for a complete social and economic description for the Algonquin Park management unit and surrounding communities. In addition to these Ontario communities, there are several Quebec communities including Temiscaming and Thurso that receive pulp quality timber from the Algonquin Park Forest and are included in these target employment numbers.

Status at SFM Plan Development
Total direct employment for generated from wood harvested from the Algonquin Park Forest in 2011-12 was 2,775 people, 296 of which are directly associated with woodlands operations (includes seasonal workers). Using a multiplier of 3 to calculate total indirect employment (*Source: Ontario Forest Industry Association, Ontario Forest Sector – Sustainable by Nature, 2010*), this translates to 8,325 total indirect jobs.

Forecast
In 2011 the Canadian and United States economies have bottomed and are expected to rebound slowly in 2012 or 2013. Employment levels are improving in the US. The need for new housing is expected to improve in 2012 in the US.

2012-13 Status
No annual update. Will be reported in 2017.

2016-17 Status
Target met. Survey completed in Feb 2018 identified: total direct employment = 3510, indirect = 10,530.

Management Strategies and Implementation
Market demand and associated employment levels are something AFA can generally not affect. AFA will continue to maintain a diverse client base to mitigate any negative impacts on wood supply demand in order to maintain or enhance the level of direct and indirect employment associated with timber from the Algonquin Park Forest.

Research and Monitoring Plan
N/A

Comparative Assessment of Planned versus Actual Levels
This target will be assessed every 5 years with the next assessment in 2017.

CRITERION: 5. ECONOMIC AND SOCIAL BENEFITS

ELEMENT: **5.2 Communities and Sustainability**
Contribute to the sustainability of communities by providing diverse opportunities to derive benefits from forests and by supporting local community economies.

VALUE: **5.2.1 Economic Value Added**

OBJECTIVE: 5.2.1.2. To support production facilities by providing affordable wood fibre from the Defined Forest Area.

Indicator 5.2.1.2.1	Target	Variance
Number of production facilities (wood supply commitment holders) that utilize wood fibre from the DFA.	Establish a benchmark from 2012, monitor trends and support facilities over time.	N/A

What is this indicator and why is it important?
The number of production facilities using wood from the forest is an indicator of the economic benefits derived from the forest.

Status at SFM Plan Development
There are currently 12 production facilities that utilize wood fibre from the DFA. These are identified in table FMP-19 in the 2010-2020 Forest Management Plan and in Figure 3.

Forecast
This is a monitoring indicator – no forecast required.

2012-13 Status
No Annual update. Will be reported again in 2017. Note - on January 31, 2012 the MNR announced that 4 wood supply commitments are no longer recognized by the Crown because of inactivity or mill closures.

2016-17 Status
There are currently 7 production facilities (wood supply commitment holders) that utilize wood fibre from the DFA. On January 31, 2012 MNRF announced that four wood supply commitments were no longer

recognized by the Crown because of inactivity or mill closures. Appendix D of the current Algonquin Park Forestry Agreement (May 2017) identifies seven wood supply commitment holders, all of which are currently receiving wood from the Algonquin Park Forest. Lavern Heideman & Sons Ltd. purchased the assets of the Commonwealth Plywood Co. Ltd. (CPCL) sawmill in Pembroke resulting in the transfer of the wood supply commitment issued to CPCL.

Management Strategies and Implementation
The wood supply will be allocated to individual companies based on the range of species and qualities available from particular cutting areas. Surplus species and quantities will be identified and made known to the forest industry, so that it may assess the feasibility of utilizing this material. New markets for pulp quality material will be actively sought.

Research and Monitoring Plan
Production facilities that utilize wood from the DFA are currently defined as the 2010 FMP (Table FMP-19).

Comparative Assessment of Planned versus Actual Levels
The next assessment is scheduled for 2017.

CRITERION: 5. ECONOMIC AND SOCIAL BENEFITS

ELEMENT: **5.2 Communities and Sustainability**
Contribute to the sustainability of communities by providing diverse opportunities to derive benefits from forests and by supporting local community economies.

VALUE: **5.2.1 Economic Value Added**

OBJECTIVE: 5.2.1.3. To ensure that if wood volume becomes available, local production facilities will receive first opportunity to receive the wood volume.

Indicator 5.2.1.3.1	Target	Variance
Available wood volume offered to local production facilities (wood supply commitment holders)	100% of sawlog and better product is offered.	0

What is this indicator and why is it important?
The wood volume available to local production facilities is an indicator of the local economic benefits derived from the forest. If more of the wood is made available to facilities in the local area, the economic benefit to local communities and businesses is greater. Local production facilities have been defined as facilities with wood supply commitments in the 2010-2020 Forest Management Plan.

Demand for sawlog and better material is strongest in the communities surrounding the Park, while demand for lower quality pulp material is currently strongest in communities farther away, such as Temiscaming and Thurso Quebec. Markets for this lower end material are important for the achievement of forest management objectives.

Status at SFM Plan Development
In 2010-2011 100% of sawlog and better product produced from the Algonquin Park Forest was offered to local production facilities. In the end, 66% was sold to commitment holders and 34% was sold to outside sales.

Forecast
N/A

2012-13 Target met. 100% of sawlog and better was offered.
This VOIT was revised in the 2012 SFM Plan to measure only sawlog and better forest products, as opposed to total volume. In 2012-2013 100% of sawlog and better product produced from the Algonquin Park Forest was offered to local production facilities. In the end, 68% was sold to commitment holders and 32% was sold to outside sales.

2013-14 Status
Target met.
100% of sawlog and better was offered.
In 2013-2014 100% of sawlog and better product produced from the Algonquin Park Forest was offered to local production facilities. In the end, 78% was sold to commitment holders and 22% was sold to outside sales.

2014-15 Status
Target met.
100% of sawlog and better was offered.
In 2014-2015 100% of sawlog and better product produced from the Algonquin Park Forest was offered to local production facilities. In the end, 74% was sold to commitment holders and 26% was sold to outside sales.

2015-16 Status Update
Target met.
100% of sawlog and better was offered.
In 2015-2016 100% of sawlog and better product produced from the Algonquin Park Forest was offered to local production facilities. In the end, 76% was sold to commitment holders and 24% was sold to outside sales.

2016-17 Status Update
Target met.
100% of sawlog and better was offered.
In 2016-2017 100% of sawlog and better product produced from the Algonquin Park Forest was offered to local production facilities. In the end, 80% was sold to commitment holders and 20% was sold to outside sales

Management Strategies and Implementation
The Algonquin Park Forestry Agreement provides AFA with the direction to meet wood supply commitments that are set by the Minister of Natural Resources. These commitments are spelled out in the Forest Management Plan – Table 19 of the 2010-2020 FMP. In the event that a commitment holder is unable to utilize its committed volume, AFA may offer the wood to other commitment holders and/or other existing markets.

Research and Monitoring Plan
This will be accomplished by reviewing the annual report and reporting on the percent of sawlog and better volume sold to commitment holders.

Comparative Assessment of Planned versus Actual Levels
Annual Reports document each year's success.

CRITERION: 5. ECONOMIC AND SOCIAL BENEFITS

ELEMENT: 5.2 Communities and Sustainability
Contribute to the sustainability of communities by providing diverse opportunities to derive benefits from forests and by supporting local community economies.

VALUE: 5.2.2 Qualified Forestry Workforce

OBJECTIVE: 5.2.2.1. To ensure a competent and trained forestry workforce.

Indicator 5.2.2.1.1	Target	Variance
Level of investment in training and skills development	100% of Algonquin Park Forest woodsworkers trained as per EMS training matrix, as assessed during EMS/SFM system registrar audits.	0

What is this indicator and why is it important?
The knowledge and skills necessary to achieve environmental and sustainable forest management are identified in section 4.4.2 of the AFA Environmental Management System. Job specific training and skills development are identified in the EMS Training Matrix. Requirements for competence, training and awareness are identified in Management System Procedure 4.4.2.

Appropriate training is provided to all personnel within the organization and to contractors employed by the AFA on an ongoing basis. Personnel and contractors are required to have sound knowledge of the methods and skills required to perform their tasks in an efficient and competent manner, and are aware of the impact of their activities on sustainable forest management. Education and training is provided to ensure that personnel and contractors have appropriate and current knowledge of regulatory requirements, internal standards, and the organization's policies and targets. The level of training varies according to the task.

Status at SFM Plan Development
There were no non-conformances related to training identified in the 2011 EMS or SFM system audits. Two Areas of Concerns related to training were identified regarding the retention of non-core training records by contractors and ensuring that all core training requirements are identified for contractor supervisors. Click here for copies of the SFM system audit reports.

Forecast
N/A

2016-17 Status Update
Target not met. One non-core training non-conformances was identified in the 2016 registrar audit.

Management Strategies and Implementation
Investment in training and skills development is ongoing through the implementation of the EMS/SFM system within the Algonquin Park Forest. Training requirements are identified and tracked within the system and are continuously monitored and updated. The investment in training and skills development is measured by the conformance to the Training Matrix requirements as assessed during EMS/SFM annual registrar audits.

Research and Monitoring Plan
N/A

Comparative Assessment of Planned versus Actual Levels
As assessed annually during EMS/SFM system registrar audits.

CRITERION: 5. ECONOMIC AND SOCIAL BENEFITS

ELEMENT: 5.2 Communities and Sustainability
Contribute to the sustainability of communities by providing diverse opportunities to derive benefits from forests and by supporting local community economies.

VALUE: 5.2.3 Opportunities to Local Algonquin Communities

OBJECTIVE: 5.2.3.1. Encourage participation of local Algonquins and increase involvement of Algonquins of Ontario communities/people in the economic opportunities provided by forest management.

Indicator 5.2.3.1.1	Target	Variance
Level of Aboriginal participation in the forest economy: Percentage of total volume harvested by Algonquins of Ontario communities/organizations/people.	Maintain/increase the total volume harvested by Algonquins of Ontario communities per year from a benchmark set in 2012 = 16%	

What is this indicator and why is it important?
This indicator is a measure of the distribution of economic opportunities to various demographic groups. In this particular case, Algonquin Aboriginal peoples are identified in respect of the unique role they play in forest management.

Status at SFM Plan Development
The benchmark of 16% set for this target represents the average Algonquin harvest level over the last 6 years. The majority of this activity has been completed by one contractor.

Forecast
No forecasting is required.

2012-2013 = 16.8% Target met – above benchmark of 16%
2013-2014 = 12.7% Target not met
2014-2015 = 7.3% Target not met
2015-2016 = 13% Target not met

2016-17 Status Update
2016-2017 = 10.2%
Target not met – below benchmark of 16%, but improvement from previous 2 years

Refer to Appendix 1 - MNR District Report for Forest Management Declaration Order MNR-75; Condition 56 for details regarding Aboriginal involvement in Algonquin Park forestry for 2016/17.

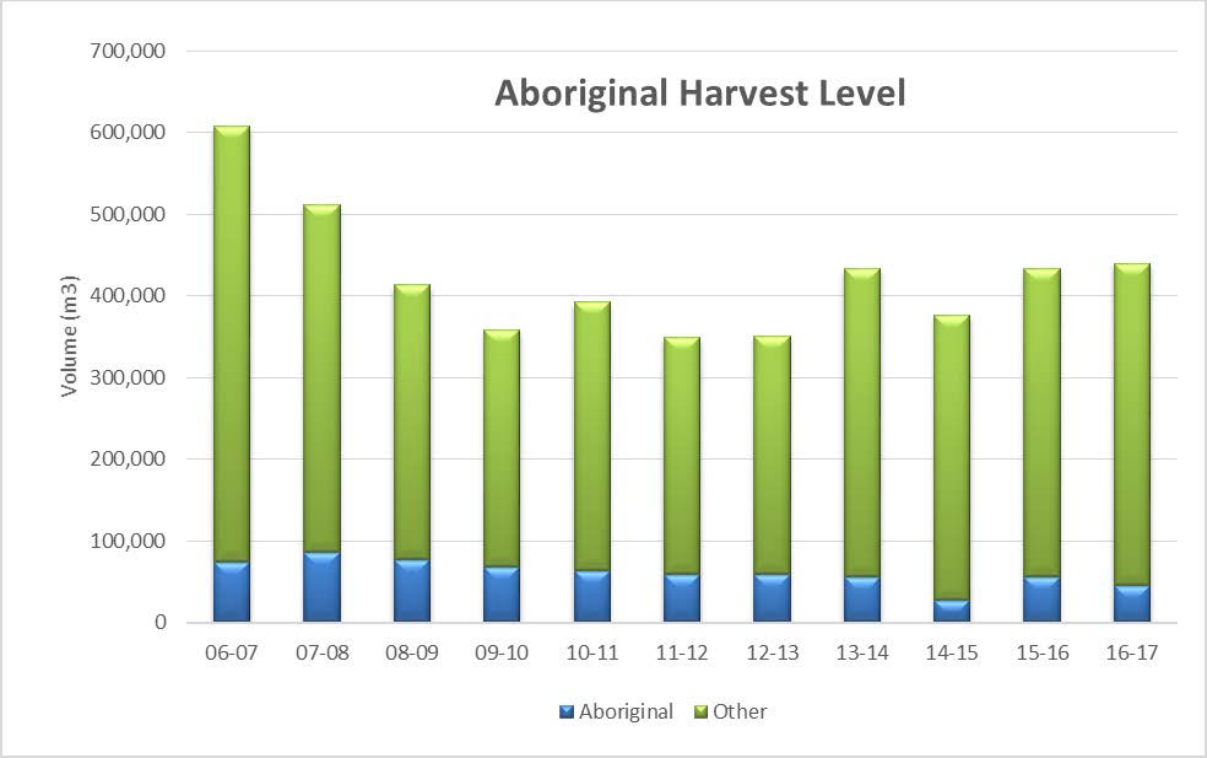

Figure 5: Aboriginal Harvest Level

Management Strategies and Implementation
Ontario Parks will continue to annually distribute an AWS Approval Letter to all Algonquin communities. This letter states that if any members of Algonquin communities are interested in employment opportunities to provide a list of people, including their skills and equipment available, to the AFA. When this information is provided, AFA attempts to find forestry operation employment opportunities within the park for those individuals. As well, a limited amount of funding is made available for qualified community members to take one of the forestry courses offered annually by the MNR (tree marking, scaling, or compliance) and interested individuals are encouraged to contact the Algonquin Park Forester.

AFA also has a procurement section on the website at http://algonquinforestry.on.ca/category/tenders/ Tender packages are made available through this website to advertize and stimulate interest. AFA processes the outcome of the bid process and implement activities accordingly.

Research and Monitoring Plan
AFA will continue to monitor total volumes and those volumes harvested by Algonquin contractors.

As part of the Annual Reporting process the Ministry of Natural Resources provides information on the progress toward implementing ways of achieving a more equal participation by Aboriginal communities in the benefits provided through forest management activities. This is referred to as the Environmental Assessment Condition 34 Report and will be coordinated between Algonquin Forestry Authority and the Ministry of Natural Resources. This information will also be used to assess progress towards meeting these targets.

Comparative Assessment of Planned versus Actual Levels: N/A

CRITERION: **5. ECONOMIC AND SOCIAL BENEFITS**

ELEMENT: **5.2 Communities and Sustainability**
Contribute to the sustainability of communities by providing diverse opportunities to derive benefits from forests and by supporting local community economies.

VALUE: **5.2.3 Opportunities to Local Algonquin Communities**

OBJECTIVE: 5.2.3.1. Encourage participation of local Algonquins and increase involvement of Algonquins of Ontario communities/people in the economic opportunities provided by forest management.

Indicator 5.2.3.1.2	Target	Variance
Level of Aboriginal participation in the forest economy: Percentage of silviculture completed by Algonquins of Ontario communities/organizations/people.	Maintain/increase level of silviculture program completed by Algonquins of Ontario communities/organizations/people per year from a benchmark set in 2012 = 9%	

What is this indicator and why is it important?
This indicator is a measure of the distribution of economic opportunities to various demographic groups. In this particular case, Algonquin Aboriginal peoples are identified in respect of the unique role they play in forest management.

Status at SFM Plan Development
The benchmark of 9% set for this target represents the average Algonquin contractor contribution level over the last 5 years. Algonquin contractors have participated in tree marking, manual cleaning, site preparation, scarification, pre-commercial thinning and stand improvement activities.

Forecast
No forecasting is required.

2012-2013 = 4% Target not met
This indicator has been broadened in the new 2012 SFM Plan to include all silviculture completed by Algonquins, not just tree marking, and the target has been revised accordingly to 9%. Silviculture completed by Algonquins in 2012-13 consisted of tree marking, brush saw and stand improvement work.

2013-2014 = 4% Target not met
2014-2015 = 3% Target not met
2015-2016 = 9% Target met

2016-17 Status Update
2016-2017 = 4% Target not met

Refer to Appendix 1 - MNR District Report for Forest Management Declaration Order MNR-75; Condition 56 for details regarding Aboriginal involvement in Algonquin Park forestry for 2016/17.

Algonquin tree marking as a percentage of total area marked in 2016/17 was 6.3%, which is slightly higher than the 6.0% average over the past five years. Changes in the available tree marking workforce over that time has resulted in large fluctuations in the level of Algonquin involvement in the overall marking program. In 2008 and earlier, a well-established Algonquin crew averaged well over 10% of the total program each year. This well-established crew left the business in 2009, resulting in a significant decline in Algonquin marking. In 2010 and 2011 a large crew of new markers was formed and a second

Algonquin contractor was added resulting in levels above 10% each of those years. Although many hectares were marked in 2010 and 2011, there were issues managing the larger, less experienced crew. As a result, in 2012 the Algonquin tree marking program was re-focused using two small, experienced crews.

Similar to the fluctuations in Algonquin involvement in tree marking, the level of Algonquin participation in the other silvicultural treatments that make up the remainder of the overall silvicultural program have fluctuated significantly over the past five years. In addition to tree marking, stand improvement and manual cleaning are the two silvicultural treatment types that Algonquin contractors have traditionally been most involved with. In 2016/17, stand improvement was the only other silvicultural activity completed by Aboriginal contractors (56 ha).

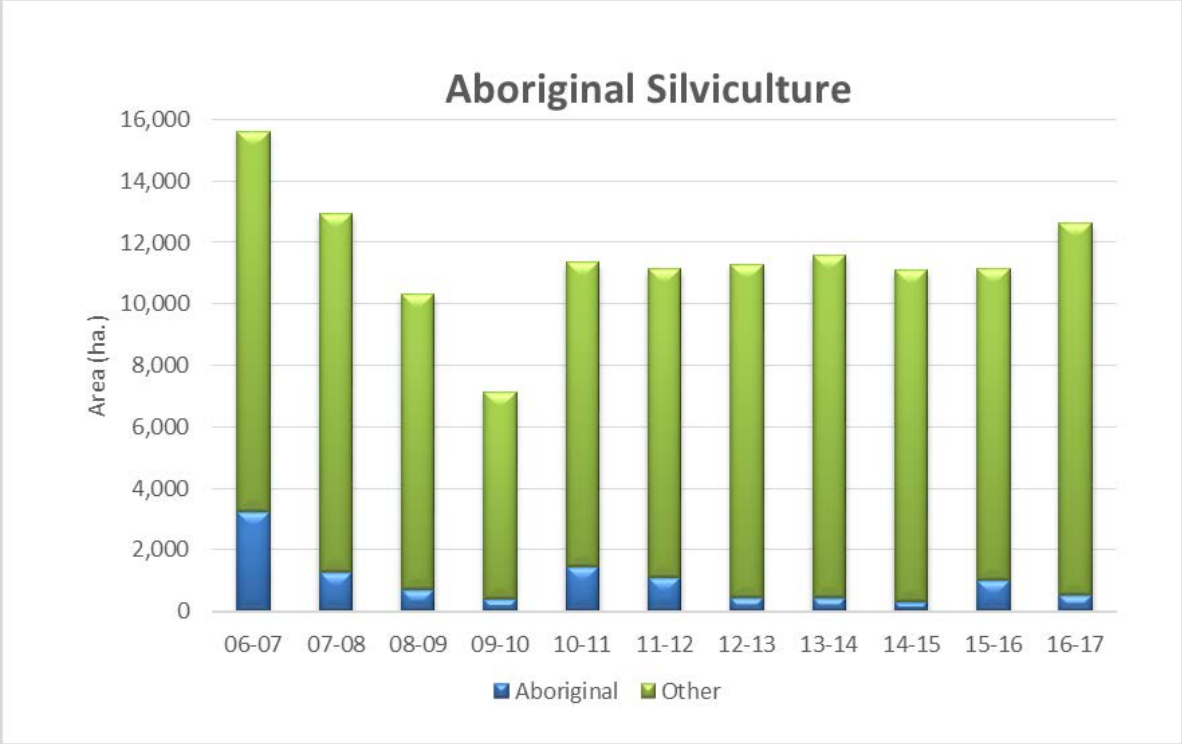

Figure 6: Aboriginal Silviculture Level

Management Strategies and Implementation

Ontario Parks will continue to annually distribute an AWS Approval Letter to all Algonquin communities. This letter states that if any members of Algonquin communities are interested in employment opportunities to provide a list of people, including their skills and equipment available, to the AFA. When this information is provided, AFA attempts to find forestry operation employment opportunities within the park for those individuals. As well, a limited amount of funding is made available for qualified community members to take one of the forestry courses offered annually by the MNR (tree marking, scaling, or compliance) and interested individuals are encouraged to contact the Algonquin Park Forester.

AFA also has a procurement section on the website at http://algonquinforestry.on.ca/category/tenders/ Tender packages are made available to advertize and stimulate interest. AFA processes the outcome of the bid process and implement activities accordingly.

Research and Monitoring Plan

AFA will continue to monitor the level of silviculture completed by Algonquin communities, organizations and/or people.

As part of the Annual Reporting process the Ministry of Natural Resources provides information on the progress toward implementing ways of achieving a more equal participation by Aboriginal communities in the benefits provided through forest management activities. This is referred to as the Environmental Assessment Condition 34 Report and will be coordinated between Algonquin Forestry Authority and the Ministry of Natural Resources. This information will also be used to assess progress towards meeting these targets.

Comparative Assessment of Planned versus Actual Levels: N/A

CRITERION: 5. ECONOMIC AND SOCIAL BENEFITS

ELEMENT: **5.2 Communities and Sustainability**
Contribute to the sustainability of communities by providing diverse opportunities to derive benefits from forests and by supporting local community economies.

VALUE: **5.2.3 Opportunities to Local Algonquin Communities**

OBJECTIVE: 5.2.3.1. Encourage participation of local Algonquins and increase involvement of Algonquins of Ontario communities/people in the economic opportunities provided by forest management.

Indicator 5.2.3.1.3	Target	Variance
Level of Aboriginal participation in the forest economy: Percentage of total direct program costs paid to Algonquins of Ontario communities/organizations/people.	Maintain/increase the total direct program costs paid to Algonquins of Ontario communities/organizations/people per year from a benchmark set in 2012 = 19%	

What is this indicator and why is it important?
This indicator is a measure of the distribution of economic opportunities to various demographic groups. In this particular case, Algonquin Aboriginal peoples are identified in respect of the unique role they play in forest management.

Status at SFM Plan Development
The benchmark of 19% set for this target represents the average Algonquin contractor contribution level over the last 5 years. Algonquin contractors have participated in harvesting, road construction, tree marking, manual cleaning, site preparation, scarification, pre-commercial thinning and stand improvement activities.

Forecast
No forecasting is required.

2012-2013 = 13.9% Target not met
2013-2014 = 12.3% Target not met
2014-2015 = 7.1% Target not met
2015-2016 = 13.7% Target not met.

2016-17 Status Update
2016-2017 = 12.3% Target not met.

Refer to Appendix 1 - Forest Management Declaration Order MNR-75; Condition 56for details regarding Aboriginal involvement in Algonquin Park forestry for 2016/17.

Figure 5 below illustrates the trend of Aboriginal expenditures in relation to total AFA direct program costs. The Algonquin timber harvest level decreased slightly from the previous year resulting in decreased expenditures.

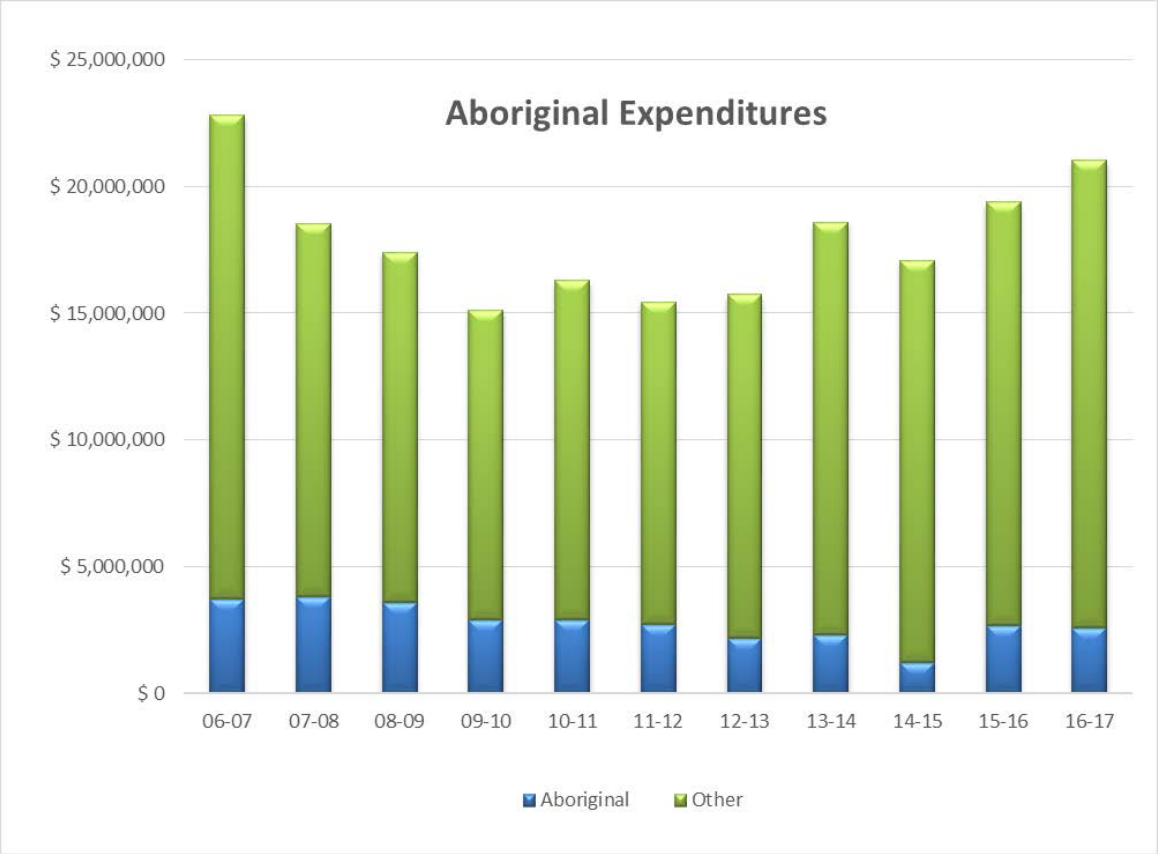

Figure 7: Aboriginal Expenditures

Management Strategies and Implementation
Ontario Parks will continue to annually distribute an AWS Approval Letter to all Algonquin communities. This letter states that if any members of Algonquin communities are interested in employment opportunities to provide a list of people, including their skills and equipment available, to the AFA. When this information is provided, AFA attempts to find forestry operation employment opportunities within the park for those individuals. As well, a limited amount of funding is made available for qualified community members to take one of the forestry courses offered annually by the MNR (tree marking, scaling, or compliance) and interested individuals are encouraged to contact the Algonquin Park Forester.

AFA also has a procurement section on the website at http://algonquinforestry.on.ca/category/tenders/ Tender packages are made available to advertize and stimulate interest. AFA processes the outcome of the bid process and implement activities accordingly.

Research and Monitoring Plan
AFA will continue to monitor total direct program costs paid to Algonquin communities, organizations and/or people.

As part of the Annual Reporting process the Ministry of Natural Resources provides information on the progress toward implementing ways of achieving a more equal participation by Aboriginal communities in

the benefits provided through forest management activities. This is referred to as the Environmental Assessment Condition 34 Report and will be coordinated between Algonquin Forestry Authority and the Ministry of Natural Resources. This information will also be used to assess progress towards meeting these targets.

Comparative Assessment of Planned versus Actual Levels: N/A

CRITERION: 5. ECONOMIC AND SOCIAL BENEFITS

ELEMENT: 5.3 Fair Distribution of Benefits and Costs
Promote the fair distribution of timber and non-timber benefits and costs.

VALUE: 5.3.1 Revenues to the Crown

OBJECTIVE: 5.3.1.1. To provide Crown timber stumpage revenue from the Defined Forest Area.

Indicator 5.3.1.1.1	Target	Variance
Crown timber stumpage paid to government consolidated revenues	Maintain a revenue stream of $750,000 per year of Crown stumpage payments from the DFA.	- 20%

What is this indicator and why is it important?
A fee, called stumpage, is paid to the province for the harvest of Crown timber from the Algonquin Park Forest. Stumpage fees are used for the benefit of the entire province; to pay for expenditures from such activities as highway maintenance, operation of schools and hospitals, and civil service payroll, making this a good indicator of how society benefits from forest management activities. Stumpage fees for this indicator do not include fees paid to the Forestry Futures Trust Fund or the Forest Renewal Fund.

Status at SFM Plan Development
With the decline in market conditions, past revenues have dropped from $2.6 million per year in 2004/05 to $727,000 in 2011/12. The average crown revenue from Algonquin Park timber harvesting activity over the last 5 years has been $781,440.

Forecast
No forecasting required.

2012-13 = $667,527 Target met
2013-14 = $908,996 Target met
2014-15 = $896,593 Target met
2015-16 = $1,163,792 Target met

2016-17 Status Update
Target met.
2016-17 = $1,230,459

Management Strategies and Implementation
Strategies referenced by indicator 5.1.1.1 will continue to be pursued.

Research and Monitoring Plan
The annual value of payments made to the Crown is no longer part of the MNR Annual Report. This information will be requested annually by AFA and information provided by MNR from the provincial TREES system.

Comparative Assessment of Planned versus Actual Levels: N/A

CRITERION: 5. ECONOMIC AND SOCIAL BENEFITS

ELEMENT: 5.3 Fair Distribution of Benefits and Costs
Promote the fair distribution of timber and non-timber benefits and costs.

VALUE: 5.3.2 Aboriginal Benefits

OBJECTIVE: 5.3.2.1. Shared stewardship, co-management for Algonquin Aboriginal people.

Indicator 5.3.2.1.1	Target	Variance
Increased participation	As determined by the Treaty under negotiation	N/A

What is this indicator and why is it important?
This indicator is a measure of the distribution of economic opportunities to various demographic groups. In this particular case, Algonquin Aboriginal people are identified in respect of the unique role they play in forest management.

Status at SFM Plan Development
No shared stewardship or co-management agreements have been made at this time.

Forecast
No forecasting is required.

2013-14 Status
A Preliminary Draft Land Claim Agreement-in-Principle has been developed and was made public in December 2012. Public consultation regarding this document commenced in 2013 and work is ongoing towards a proposed Agreement-In-Principle on the Algonquin Land Claim.

2014-15 Status
In 2014-15 the governments of Canada and Ontario and the Algonquins of Ontario initialed a proposed Agreement-In-Principle on the Algonquin Land Claim, which is viewed as a key step toward a final agreement.

2015-16 Status
Refer to Appendix 1 - MNR District Report for Forest Management Class EA Condition 34 for details regarding Aboriginal involvement in Algonquin Park forestry for 2015/16.

2016-17 Status Update
Refer to Appendix 1 - MNRF District Report for Forest Management Declaration Order MNR-75; Condition 56 for details regarding Aboriginal involvement in Algonquin Park forestry for 2016/17.

Management Strategies and Implementation
The Algonquins of Ontario are currently engaged in negotiations with Ontario and Canada working towards an Agreement in Principle and eventually a Treaty. These discussions involve the future of Algonquin Park and the Algonquin's participation in the future management of the Park.

Research and Monitoring Plan
As part of the Annual Reporting process the Ministry of Natural Resources provides information on the progress toward implementing ways of achieving a more equal participation by Aboriginal communities in the benefits provided through forest management activities. This is referred to as the Environmental Assessment Condition 34 Report and will be coordinated between Algonquin Forestry Authority and the

Ministry of Natural Resources. This information will also be used to assess progress towards meeting these targets.

Comparative Assessment of Planned versus Actual Levels: N/A

CRITERION: 5. ECONOMIC AND SOCIAL BENEFITS

ELEMENT: 5.3 Fair Distribution of Benefits and Costs
Promote the fair distribution of timber and non-timber benefits and costs.

VALUE: 5.3.3 Recreation-based social and economic benefits

OBJECTIVE: 5.3.3.1. Support recreational forest access benefits.

Indicator 5.3.3.1.1	Target	Variance
Level of maintenance of public forest access roads in Algonquin Park	Continuation of the Public Access Road Agreement between Ontario Parks and AFA	N/A

What is this indicator and why is it important?
The maintenance of public access roads in Algonquin Park is important for safe public travel to access points and interior recreation facilities and opportunities. These public roads are often shared with the forest industry and need to be actively maintained to ensure public safety.

The maintenance of the Public Access Roads in Algonquin Park is the responsibility of the Province when the roads are open to the public. As it is Ontario's responsibility to maintain these roads, Ontario Parks has an option to either tender the maintenance out to the general public or engage the AFA as a contactor to do the work. Benefits of using AFA for the maintenance of public roads in Algonquin Park include; trained staff and contractors working in proximity, cost competitiveness and the provision of low-season employment for some operators.

Status at SFM Plan Development
There is a 5 year agreement in place ending on March 31, 2015.

Forecast
The agreement is to be renewed by December 31, 2014, subject to mutual agreement and an approved budget.

2016-17 Status Update
Target met – agreement is in place and public access roads into Algonquin Park are being maintained by AFA according to the agreement, with a new expiry date of December 31, 2019.

Management Strategies and Implementation
AFA will continue to engage AFA contractors that are trained to AFA's Environmental Management System to carry out the work.

Research and Monitoring Plan
N/A

Comparative Assessment of Planned versus Actual Levels: N/A

CRITERION: 6. SOCIETY'S RESPONSIBILITY

ELEMENT: **6.1 Aboriginal and Treaty Rights**
Recognize and respect Aboriginal title and rights, and treaty rights. Understand and comply with current legal requirements related to Aboriginal title and rights, and treaty rights.

VALUE: **6.1.1 Aboriginal Title and Rights**

OBJECTIVE: 6.1.1.1 To recognize Aboriginal title and rights applicable to the Defined Forest Area.

Indicator 6.1.1.1.1	Target	Variance
Evidence of a good understanding of the nature of Aboriginal title and rights	Produce an Aboriginal Background Information Report and Aboriginal Consultation Summary associated with Forest Management Plans. Continue to participate in the Algonquin Land Claim External Advisors meetings. Continue working towards a positive working relationship to help resolve Algonquin community/AFA issues.	N/A

What is this indicator and why is it important?
Aboriginal peoples hold a unique position in Canada and as such, have a legally protected right to participate in the development and review of resource management strategies or plans in areas they assert to be traditional territories, including Crown lands outside areas where treaties apply. Refer to section 4.2 of the SFM Plan for more detail on Aboriginal consultation that contributed to the development of the SFM Plan.

The Algonquin land claim against Canada and Ontario is based on the Algonquins of Ontario's (AOO's) assertion that they never entered into a treaty with the Crown and that they have unsurrendered Aboriginal rights and title to 36,000 sq. kilometres of eastern Ontario. Negotiations between Canada, Ontario and the AOO over the past 20 years have helped maintain a non-confrontational environment which has helped avoid impediments to ongoing business and development opportunities in the region.

Status at SFM Plan Development
As stated in the SFM Policy, AFA is committed to:

- Respecting Aboriginal and treaty rights
- Providing participation opportunities for Aboriginal peoples with respect to their rights and interests in sustainable forest management
- Working co-operatively with local aboriginal communities to identify and implement ways of achieving a more equal participation by aboriginal communities in the benefits provided through forest management planning in Algonquin Park

During preparation of forest management plans in Algonquin Park, consultation is conducted with Algonquin Aboriginal communities and prescriptions are developed and implemented for the protection of Aboriginal values. Supplementary documentation section 6.17 and 6.18 of the 2010 Forest Management Plan contains the Native Background Information Report and Native Consultation Summary (refer to Appendix Q of the SFM Plan for a copy of this).

Negotiations are ongoing with respect to an Aboriginal land claim that affects a major portion of the DFA. AFA is committed to monitoring the progress of the land claim and recognizing associated treaty rights once finalized and where possible, contributing to any economic benefits. AFA is and will continue to participate in the land claim committee of external advisors. It is understood by AFA and Aboriginal community members that participation in the CSA consultation process will not prejudice those rights. It is also understood that any references to the term Aboriginal in this SFM Plan refers to the Algonquins of Ontario however, does not exclude other traditional Aboriginal interests in Algonquin Provincial Park.

Working towards a positive working relationship to help resolve Algonquin community/AFA issues is an ongoing process. Refer to Appendix R for the 2010-11 MNR Algonquin Park District Report for Forest Management Class EA Condition 34 for an update on recent accomplishments.

Algonquin involvement and participation on the CSA Forest Certification Advisory Group has been positive during the development of the SFM Plan. Refer to Appendix E "Advisory Group Minutes" for a list of participants involved in each advisory group meeting.

Forecast
No forecasting is required.

2012-13 Target met.
A Preliminary Draft Land Claim Agreement-in-Principle has been developed and was made public in December 2012. Public consultation regarding this document commenced in 2013. AFA continues to participate in the Algonquin Land Claim External Advisors meetings.

An Independent Forest Audit on the Algonquin Park Forest was completed in 2012. This audit involved public and Aboriginal consultation regarding involvement in the forest management planning process. As stated in section 4.2 of the final audit report, "Nine of the ten Algonquin communities joined the planning team; they considered this to be the main form of their involvement and were satisfied with it. Some of the Algonquin communities prepared Aboriginal Background Information Reports. The AOO indicated to the audit team that involvement in the planning team should not necessarily be construed as AOO support for, or approval of, the FMP. The planning team provided opportunities for AOO input to the FMP".

2013-14 Target met.
Algonquin communities commenced production of an updated Aboriginal Background Information Report and Aboriginal Consultation Summary associated with the Phase 2 Forest Management Plan.
AFA continue to participate in the Algonquin Land Claim External Advisors meetings.
AFA and the Algonquins of Ontario continue to work towards a positive working relationship to help resolve Algonquin community/AFA issues.
Refer to Appendix 1 - MNR District Report for Forest Management Class EA Condition 34 for details regarding Aboriginal involvement in Algonquin Park forestry for 2013/14.
Refer to Appendix 2 - SAI Global 2013 Surveillance Audit Report Aboriginal Consultation Process section for Algonquins of Ontario concerns raised during the audit.

2014-15 Target met.
Algonquin communities completed production of an updated Aboriginal Background Information Report and Aboriginal Consultation Summary associated with the Phase II Forest Management Plan.

Just prior to approval of the Phase II FMP (October 2014), in a letter to MNRF the Algonquins of Ontario indicted that "*the AOO will not impede the approval of the Phase II FMP-APF. Although the AOO continue to have outstanding concerns as articulated in our earlier correspondence we appreciate that both Ontario Parks and Algonquin Forest Authority (AFA) are committed to working towards the resolution and accommodations of our forestry management related concerns for Algonquin Park*".
AFA continue to participate in the Algonquin Land Claim External Advisors meetings. Work continues between the AOO and the governments of Canada and Ontario towards a Draft Agreement-in-Principle.

AFA and the Algonquins of Ontario continue to work towards a positive working relationship to help resolve Algonquin community/AFA issues.

Refer to Appendix 1 - MNR District Report for Forest Management Class EA Condition 34 for details regarding Aboriginal involvement in Algonquin Park forestry for 2014/15. Refer to Appendix 2 - SAI Global 2014 Surveillance Audit Report Aboriginal Consultation Process section for Algonquins of Ontario concerns raised during the audit.

2015-16 Target met.
AFA continue to participate in the Algonquin Land Claim External Advisors meetings. Work continues between the AOO and the governments of Canada and Ontario towards ratification of an Agreement-in-Principle.
AFA and the Algonquins of Ontario continue to work towards a positive working relationship to help resolve Algonquin community/AFA issues.
Refer to Appendix 1 - MNR District Report for Forest Management Class EA Condition 34 for details regarding Aboriginal involvement in Algonquin Park forestry for 2015/16.

2016-17 Status Update:
Target met.
AFA continues to participate in the Algonquin Land Claim Committee of External Advisors meetings. The AOO and the governments of Canada and Ontario announced the signing of an Agreement-in-Principle (AIP) in 2016. A draft AIP was released to the public in 2012 followed by meetings with the general public in 2013 and 2014.

AFA and the Algonquins of Ontario continue to work towards a positive working relationship to help resolve Algonquin community/AFA issues.

Refer to Appendix 1 - MNR District Report for Forest Management Declaration Order MNR-75; Condition 56 for details regarding Aboriginal involvement in Algonquin Park forestry for 2016/17.

Management Strategies and Implementation
Maintaining a good understanding of the nature of Algonquin Aboriginal title and rights is an ongoing process. This understanding is developed and enhanced through the various consultation efforts that are conducted through the forest management planning process, the land claim process and the forest certification process. Dialogue will continue throughout the implementation of these processes.

Research and Monitoring Plan
N/A

Comparative Assessment of Planned versus Actual Levels: N/A

CRITERION: 6. SOCIETY'S RESPONSIBILITY

ELEMENT: 6.1 Aboriginal and Treaty Rights
Recognize and respect Aboriginal title and rights, and treaty rights. Understand and comply with current legal requirements related to Aboriginal title and rights, and treaty rights.

VALUE: 6.1.1 Aboriginal Title and Rights

OBJECTIVE: 6.1.1.1 To recognize Aboriginal title and rights applicable to the Defined Forest Area.

Indicator 6.1.1.1.2	Target	Variance
Evidence of best efforts to obtain acceptance of management plans based on Aboriginal communities having a clear understanding of the plans	Include Algonquin community representatives on Forest Management Planning Teams and Forest Certification Advisory Groups and LCC. Produce an Aboriginal Background Information Report and Aboriginal Consultation Summary associated with Forest Management Plans	N/A

What is this indicator and why is it important?
One of the first steps in achieving understanding and respect for Aboriginal title and rights is communication and consultation. Algonquin Aboriginal participation has been an integral part of the development of forest management plans in Algonquin Park Forest over the years.

Status at SFM Plan Development
During preparation of forest management plans in Algonquin Park, consultation is conducted with Algonquin Aboriginal communities and prescriptions are developed and implemented for the protection of Aboriginal values. Supplementary documentation section 6.17 and 6.18 of the 2010 Forest Management Plan contains the Native Background Information Report and Native Consultation Summary (refer to Appendix Q of the SFM Plan for a copy of this).

Algonquin involvement and participation on the CSA Forest Certification Advisory Group has been positive during the development of the SFM Plan. Refer to Appendix E “Advisory Group Minutes” for a list of participants involved in each advisory group meeting.

Algonquin participation in these forest management planning processes, and during the implementation of these plans, ensures that the participating Algonquin communities have a clear understanding of the plans.

Forecast
No forecasting is required.

2012-13: Target met.
Algonquin community representatives continue to be involved on Forest Management Planning Teams, the Forest Certification Advisory Group and the Local Citizens Committee.

An Independent Forest Audit on the Algonquin Park Forest was completed in 2012. This audit involved public and Aboriginal consultation regarding involvement in the forest management planning process. As stated in section 4.2 of the final audit report, “The Algonquin communities were consulted at the start of the FMP process and each community was asked to consider their preferred consultation approach, nominate a planning team member, and begin the production of an Aboriginal Background Information

Report. There was subsequent correspondence at various stages of the planning process. Nine of the ten Algonquin communities joined the planning team; they considered this to be the main form of their involvement and were satisfied with it. Some of the Algonquin communities prepared Aboriginal Background Information Reports. The AOO indicated to the audit team that involvement in the planning team should not necessarily be construed as AOO support for, or approval of, the FMP. The planning team provided opportunities for AOO input to the FMP".

2013-14: Target met.
Algonquin community representatives continue to be involved on Forest Management Planning Teams, the Forest Certification Advisory Group and the Local Citizens Committee.
Algonquin communities commenced production of an updated Aboriginal Background Information Report and Aboriginal Consultation Summary associated with the Phase 2 Forest Management Plan.
Refer to Appendix 1 - MNR District Report for Forest Management Class EA Condition 34 for details regarding Aboriginal involvement in Algonquin Park forestry for 2013/14.

2014-15 Target met.
Algonquin community representatives continue to be involved on Forest Management Planning Teams, the Forest Certification Advisory Group and the Local Citizens Committee. Algonquin communities completed production of an updated Aboriginal Background Information Report and Aboriginal Consultation Summary associated with the Phase 2 Forest Management Plan.
Refer to Appendix 1 - MNR District Report for Forest Management Class EA Condition 34 for details regarding Aboriginal involvement in Algonquin Park forestry for 2013/14.

Just prior to approval of the Phase II FMP (October 2014), in a letter to MNRF the Algonquins of Ontario indicted that "*the AOO will not impede the approval of the Phase II FMP-APF. Although the AOO continue to have outstanding concerns as articulated in our earlier correspondence we appreciate that both Ontario Parks and Algonquin Forest Authority (AFA) are committed to working towards the resolution and accommodations of our forestry management related concerns for Algonquin Park"*.

2015-16 Target met.
Algonquin community representatives continue to be involved on Forest Management Planning Teams, the Forest Certification Advisory Group and the Local Citizens Committee.
An Algonquin Forestry Authority / Algonquins of Ontario / Ontario Parks Forestry Working Group has been created with quarterly meetings occurring to discuss access concerns, moose hunt traffic and operations concerns. These meetings include the Annual Work Schedule presentation (questions and answers) regarding access control measures and road projects. The Authority provides maps and an explanation of operations and mitigation of possible conflicts prior to the traditional Algonquin Hunt.
Refer to Appendix 1 - MNR District Report for Forest Management Class EA Condition 34 for details regarding Aboriginal involvement in Algonquin Park forestry for 2013/14.

2016-17 Status Update
Target met.

Algonquin community representatives continue to be involved on Forest Management Planning Teams, the Forest Certification Advisory Group and the Local Citizens Committee.

An Algonquin Forestry Authority / Algonquins of Ontario / Ontario Parks Forestry Working Group has been created with meetings occurring to discuss access concerns, moose hunt traffic and operations concerns. These meetings include the Annual Work Schedule presentation (questions and answers) regarding access control measures and road projects. The Authority also provides maps and an explanation of operations and mitigation of possible conflicts prior to the traditional Algonquin Hunt each fall. The 2016 fall hunt session included the Algonquin hunt monitors and has been a good venue to communicate issues and work on solutions, i.e., traffic speed and signage.

Refer to Appendix 1 - MNR District Report for Forest Management Declaration Order MNR-75; Condition 56 for details regarding Aboriginal involvement in Algonquin Park forestry for 2016/17.

Management Strategies and Implementation
An enhanced effort is made through the forest management planning process and the *Crown Forest Sustainability Act* to involve Aboriginal communities at all stages of planning and implementation. Updated contact information for all interested Aboriginal communities is maintained.

Research and Monitoring Plan
Minutes of all Forest Management Planning Team and Forest Certification Advisory Group meetings will continue to be documented made available. The Ministry of Natural Resources will continue to produce the annual Algonquin Park District Report for Forest Management Class EA Condition 34 which provides updates on progress towards addressing this indicator.

Comparative Assessment of Planned versus Actual Levels: N/A

CRITERION: 6. SOCIETY'S RESPONSIBILITY

ELEMENT: **6.1 Aboriginal and Treaty Rights**
Recognize and respect Aboriginal title and rights, and treaty rights. Understand and comply with current legal requirements related to Aboriginal title and rights, and treaty rights.

VALUE: **6.1.1 Aboriginal Title and Rights**

OBJECTIVE: 6.1.1.1 To recognize Aboriginal title and rights applicable to the Defined Forest Area.

Indicator 6.1.1.1.3	Target	Variance
Level of management and/or protection of areas where culturally important practices and activities (hunting, fishing, gathering) occur	Include Algonquin community representatives on Forest Management Planning Teams and Forest Certification Advisory Groups. Algonquin initiatives in other resource management projects such as: Algonquin moose harvest management plan, moose aerial inventory project and fisheries agreement. AFA participation in Algonquin road strategy meetings (as invited) All potential white birch bark canoe trees/patches identified during tree marking communicated to Algonquins	N/A

What is this indicator and why is it important?
The protection of areas where Aboriginal culturally important practices and activities (hunting, fishing and gathering) occur is an integral part of the Algonquin Park forest management planning process. During preparation of forest management plans in Algonquin Park, consultation is conducted with Algonquin

Aboriginal communities and prescriptions are developed and implemented for the protection of Aboriginal values. Supplementary documentation section 6.17 and 6.18 of the 2010 Forest Management Plan contains the Native Background Information Report and Native Consultation Summary (refer to Appendix Q of the SFM Plan for a copy of this). The Algonquins continue to raise the concern that inadequate funding is provided for the production of the native values report.

Status at SFM Plan Development
There are currently 8 Algonquin representatives on the Algonquin Park Forest Management Planning Team and the CSA Forest Certification Advisory Group. Algonquin involvement and participation on the CSA Forest Certification Advisory Group has been positive during the development of the SFM Plan. Refer to Appendix E "Advisory Group Minutes" for a list of participants involved in each advisory group meeting.

Algonquin's are also involved in the following other resource management initiatives, either independently or in conjunction with MNR/AFA: the Algonquin Harvest Management Plan, Moose Aerial Inventory Project, Moose Hairloss Survey, Forestry Compliance Survey, Fish Stocking and a Guided Walk educating park users of Algonquin Values.

AFA is participating in Algonquin road strategy meetings, as invited.

All potential white birch bark canoe trees/patches are currently being identified during tree marking communicated to Algonquins.

Forecast
No forecasting is required.

2012-13:
An Independent Forest Audit on the Algonquin Park Forest was completed in 2012. This audit involved public and Aboriginal consultation regarding involvement in the forest management planning process. As stated in section 4.2 of the final audit report, "Because the Park and specific locations are so highly valued by the Algonquins, sites of spiritual, cultural, and historical importance take on special significance. Discussions with some Algonquin representatives indicated that they are comfortable with the process to protect these values on the landbase from forest management activities. However, there is some confusion in the Algonquin communities about whether Borden cultural heritage sites (those identified in Ontario's Archaeological Sites Database) are protected from forest management activities. It is highly important that all Native values (Borden or not) be protected from forest management activities. A recommendation has been issued for Ontario Parks to hold a meeting with the AOO to discuss how cultural heritage sites and Native values can be and are protected from forest management activities". A meeting is scheduled for April 2, 2014 to address this recommendation.

Algonquins also participated in other resource management projects such as; the Algonquin Harvest Management Plan, Moose Aerial Inventory Project, Moose Hairloss Survey, Forestry Compliance Survey, Fish Stocking and a Guided Walk educating park users of Algonquin Values.

An Independent Review of Road Standards in Algonquin Park was also conducted in 2012, with a final report produced in 2013. This review included Algonquin consultation and "The feedback provided by the Algonquins of Ontario on this independent review has been integrated (where applicable) into the final report and copies of the Algonquins of Ontario comments have been provided to Ontario Parks and the Algonquin Forestry Authority". In early March 2013, comments were provided by the Algonquins of Ontario on the draft final report. FPInnovations reviewed these comments, integrated the Algonquins of Ontario feedback (where applicable) into the final report and provided copies of the Algonquins of Ontario comments to Ontario Parks and the Algonquin Forestry Authority.

A total of 24 potential white birch canoe trees have been identified by AFA during tree marking activities and communicated to the Algonquin communities since 2008. Of these trees identified, only 2 have been utilized that AFA is aware of. These are usually veneer quality trees that would normally be utilized during

harvest operations. Further discussions with the Algonquins would be appropriate to scope down suitable areas for canoe tree identification, and to improve utilization of this valuable resource.

2013-14:
Algonquin community representatives continue to be involved on Forest Management Planning Teams, the Forest Certification Advisory Group and the Local Citizens Committee.
Refer to Appendix 1 - MNR District Report for Forest Management Class EA Condition 34 for details regarding Aboriginal involvement in Algonquin Park forestry for 2013/14.
An Algonquin Forestry Authority / Algonquins of Ontario / Ontario Parks Forestry Working Group has been created with quarterly meetings occurring to discuss access concerns, moose hunt traffic and operations concerns. These meetings include the Annual Work Schedule presentation (questions and answers) regarding access control measures and road projects.

2014-15 Target met.
Algonquin community representatives continue to be involved on Forest Management Planning Teams, the Forest Certification Advisory Group and the Local Citizens Committee.

Refer to Appendix 1 - MNR District Report for Forest Management Class EA Condition 34 for details regarding Aboriginal involvement in Algonquin Park forestry for 2014/15.
An Algonquin Forestry Authority / Algonquins of Ontario / Ontario Parks Forestry Working Group has been created with quarterly meetings occurring to discuss access concerns, moose hunt traffic and operations concerns. These meetings include the Annual Work Schedule presentation (questions and answers) regarding access control measures and road projects.

2015-16 Status Update
Target met.
Algonquin community representatives continue to be involved on Forest Management Planning Teams, the Forest Certification Advisory Group and the Local Citizens Committee.

Refer to Appendix 1 - MNR District Report for Forest Management Class EA Condition 34 for details regarding Aboriginal involvement in Algonquin Park forestry for 2015/16.
An Algonquin Forestry Authority / Algonquins of Ontario / Ontario Parks Forestry Working Group has been created with quarterly meetings occurring to discuss access concerns, moose hunt traffic and operations concerns. These meetings include the Annual Work Schedule presentation (questions and answers) regarding access control measures and road projects. During this term, meetings have not been quarterly due to other priorities, but otherwise communication is occurring as planned.
In the spring of 2015 a potential white birch canoe tree that was identified by AFA tree markers was harvested by Algonquins and a birch bark canoe was built using traditional methods by the Algonquin Nation Kijicho-Manito (Bancroft).

2016-17 Status Update
Target met.

Algonquin community representatives continue to be involved on Forest Management Planning Teams, the Forest Certification Advisory Group and the Local Citizens Committee.

Refer to Appendix 1 - MNR District Report for Forest Management Declaration Order MNR-75; Condition 56 for details regarding Aboriginal involvement in Algonquin Park forestry for 2016/17.

An Algonquin Forestry Authority / Algonquins of Ontario / Ontario Parks Forestry Working Group has been created with meetings occurring to discuss access concerns, moose hunt traffic and operations concerns. These meetings include the Annual Work Schedule presentation (questions and answers) regarding access control measures and road projects. During this term, meetings have not been quarterly due to other priorities, but otherwise communication is occurring as planned.

In the summer of 2016 another potential white birch canoe tree that was identified by AFA tree markers was harvested by Algonquins and a birch bark canoe was built using traditional methods by the Algonquin Nation Kijicho-Manito (Bancroft). This canoe was raffled off in the fall of 2016 in support of the Bancroft Algonquins.

AFA hosted the Pikwakanagan Earthwalkers Program and provided forest management work and forestry orientation and training to a group of 8 Algonquin youths for one week in the summer of 2016.

Figure 8: Algonquin Park Birchbark Canoe

Management Strategies and Implementation
Protection of areas where culturally important practices and activities (hunting, fishing and gathering) occur is an ongoing process. Native involvement in management and the protection of culturally important practices is developed and achieved through the forest management planning process, the land claim process and the forest certification process. Dialogue will continue throughout the implementation of these processes.

Research and Monitoring Plan
Accomplishments towards meeting these targets will be tracked and reported in annual reports and in the Algonquin Park District Report for Forest Management Class EA Condition 34.

Comparative Assessment of Planned versus Actual Levels: N/A

CRITERION: 6. SOCIETY'S RESPONSIBILITY

ELEMENT: **6.2 Respect for Aboriginal Forest Values, Knowledge, and Uses**
Respect traditional Aboriginal forest values, knowledge, and uses as identified through the Aboriginal input process

VALUE: **6.2.1 Aboriginal Consultation in the forest management planning process.**

OBJECTIVE: 6.2.1.1 To Involve Algonquins of Ontario in the identification and protection of Aboriginal values and uses in the DFA.

Indicator 6.2.1.1.1	Target	Variance

Evidence of understanding and use of Aboriginal knowledge through the engagement of willing Aboriginal communities, using a process that identifies and manages culturally important resources and values	Produce an Aboriginal Background Information Report and Aboriginal Consultation Summary associated with Forest Management Plans. Meet as required with those Aboriginal communities expressing interest to participate in forest management planning. Notify the Algonquin Negotiation table of the certification process and its outcomes	N/A

What is this indicator and why is it important?
The identification and protection of Aboriginal culturally important resources and values is an integral part of the Algonquin Park forest management planning process. During preparation of forest management plans in Algonquin Park, consultation is conducted with Algonquin Aboriginal communities and prescriptions are developed and implemented for the protection of Aboriginal values. Supplementary documentation section 6.17 and 6.18 of the 2010 Forest Management Plan contains the Native Background Information Report and Native Consultation Summary (refer to Appendix Q of the SFM Plan for a copy of this). The Algonquins continue to raise the concern that inadequate funding is provided for the production of the native values report.

Status at SFM Plan Development
There are currently 8 Algonquin representatives on the Algonquin Park Forest Management Planning Team and the CSA Forest Certification Advisory Group. Algonquin involvement and participation on the CSA Forest Certification Advisory Group has been positive during the development of the SFM Plan.

Ontario Parks continues to annually distribute an AWS Approval Letter to all Algonquin communities. This letter states that if any members of Algonquin communities are interested in employment opportunities to provide a list of people, including their skills and equipment available, to the AFA. When this information is provided, AFA attempts to find forestry operation employment opportunities within the park for those individuals. As well, a limited amount of funding is made available for qualified community members to take one of the forestry courses offered annually by the MNR (tree marking, scaling, or compliance) and interested individuals are encouraged to contact the Algonquin Park Forester.

AFA also has a procurement section on the website at http://algonquinforestry.on.ca/category/tenders/ Tender packages are made available to search and stimulate interest. AFA processes the outcome of the bid process and implement activities accordingly.

The Algonquin Negotiation table continues to be notified of the certification process and its outcomes.

Forecast
No forecasting is required.

2012-13 Target met.
An Independent Forest Audit on the Algonquin Park Forest was completed in 2012. This audit involved public and Aboriginal consultation regarding involvement in the forest management planning process. As stated in section 4.2 of the final audit report, “Because the Park and specific locations are so highly valued by the Algonquins, sites of spiritual, cultural, and historical importance take on special significance. Discussions with some Algonquin representatives indicated that they are comfortable with the process to protect these values on the landbase from forest management activities. However, there is some confusion in the Algonquin communities about whether Borden cultural heritage sites (those identified in Ontario's Archaeological Sites Database) are protected from forest management activities. It

is highly important that all Native values (Borden or not) be protected from forest management activities. A recommendation has been issued for Ontario Parks to hold a meeting with the AOO to discuss how cultural heritage sites and Native values can be and are protected from forest management activities". A meeting is scheduled for April 2, 2014 to address this recommendation.

The Algonquin Negotiating table is kept aware of the certification process and its outcomes through the involvement of the Algonquin Negotiating Representatives that participate on the CSA Advisory Group.

2013-14 Target met.
Refer to Appendix 1 - MNR District Report for Forest Management Class EA Condition 34 for details regarding Aboriginal involvement in Algonquin Park forestry for 2013/14.
Algonquin community representatives continue to be involved on Forest Management Planning Teams, the Forest Certification Advisory Group and the Local Citizens Committee.
The Algonquin Negotiating table is kept aware of the certification process and its outcomes through the involvement of the Algonquin Negotiating Representatives that participate on the CSA Advisory Group.

2014-15 Target met.
Refer to Appendix 1 - MNR District Report for Forest Management Class EA Condition 34 for details regarding Aboriginal involvement in Algonquin Park forestry for 2014/15. Algonquin community representatives continue to be involved on Forest Management Planning Teams, the Forest Certification Advisory Group and the Local Citizens Committee. A Phase II FMP information centre was help on May 5, 2014 for the Algonquins of Ontario at the Makwa Community Centre in Pikwàkanagàn.
An AFA / Algonquins of Ontario / Ontario Parks Forestry Working Group has been created with quarterly meetings occurring to discuss access concerns, moose hunt traffic and operations concerns. These meetings include the Annual Work Schedule presentation (questions and answers) regarding access control measures and road projects.
The Algonquin Negotiating table is kept aware of the certification process and its outcomes through the involvement of the Algonquin Negotiating Representatives that participate on the CSA Advisory Group.

2015-16 Target met.
Refer to Appendix 1 - MNR District Report for Forest Management Declaration Order MNR-75; Condition 56 for details regarding Aboriginal involvement in Algonquin Park forestry for 2016/17.
Algonquin community representatives continue to be involved on Forest Management Planning Teams, the Forest Certification Advisory Group and the Local Citizens Committee.
An AFA / Algonquins of Ontario / Ontario Parks Forestry Working Group has been created with quarterly meetings occurring to discuss access concerns, moose hunt traffic and operations concerns. These meetings include the Annual Work Schedule presentation (questions and answers) regarding access control measures and road projects.
The Algonquin Negotiating table is kept aware of the certification process and its outcomes through the involvement of the Algonquin Negotiating Representatives that participate on the CSA Advisory Group.

2016-17 Status Update
Target met.

Refer to Appendix 1 - MNR District Report for Forest Management Declaration Order MNR-75; Condition 56 for details regarding Aboriginal involvement in Algonquin Park forestry for 2016/17.

Algonquin community representatives continue to be involved on Forest Management Planning Teams, the Forest Certification Advisory Group and the Local Citizens Committee.

An AFA / Algonquins of Ontario / Ontario Parks Forestry Working Group has been created with meetings occurring to discuss access concerns, moose hunt traffic and operations concerns. These meetings include the Annual Work Schedule presentation (questions and answers) regarding access control measures and road projects.

The Algonquin Negotiating table is kept aware of the certification process and its outcomes through the involvement of the Algonquin Negotiating Representatives that participate on the CSA Advisory Group.

Management Strategies and Implementation
Protection of areas where culturally important practices and activities occur is an ongoing process. Native involvement in management and the protection of culturally important practices is developed and achieved through the forest management planning process, the land claim process and the forest certification process. Dialogue will continue throughout the implementation of these processes.

Research and Monitoring Plan
Accomplishments towards meeting these targets will be tracked and reported in annual reports and in the Algonquin Park District Report for Forest Management Class EA Condition 34.

Comparative Assessment of Planned versus Actual Levels: N/A

CRITERION: 6. SOCIETY'S RESPONSIBILITY

ELEMENT: 6.3 Forest community well-being and resilience
Encourage, co-operate with, or help to provide opportunities for economic diversity within the community.

VALUE: 6.3.1 Local community well-being and resilience

OBJECTIVE: 6.3.1.1. Provide opportunities for economic diversity within communities that derive timber and recreation from the Algonquin Park Forest.

Indicator 6.3.1.1.1	Target	Variance
Evidence that the organization has co-operated with other forest-dependent businesses, forest users, and the local community to strengthen and diversify the local economy.	Report on activities/opportunities taken/explored to strengthen and diversify all aspects of the local forest-based economy	

What is this indicator and why is it important?
An economically and socially diverse community is more sustainable. While it is not the responsibility of AFA to financially support community diversity, AFA supports efforts to increase diversity and the establishment of other local community enterprises.

Status at SFM Plan Development
As reported in the 2010-11 Annual Report, recent contributions have been made towards upgrading the Algonquin Park Logging Museum Camboose camp, to the Barry's Bay Timberfest event, and the Hasting's Highlands Loggers Games in Bancroft,

In an effort to strengthen the backcountry recreation-based economy and minimize conflicts, AFA posts and maintains a Schedule of Operations Map on its website to identify planned areas of forestry operations by season. Refer to indicator 5.1.2.1.2 for more detail.

The Algonquin Provincial Park Management Plan establishes policy and objectives for all land use within the Park. Further information about other specific values can be found in Appendix 6.2.1 - Management Guidelines for Land Use Areas and Strategies for General Resource Areas of the 2010-2020 FMP. These guidelines include extensive summer sound zone restrictions for the forest industry in Algonquin Park in order to strengthen the diversity of the forest-based economy.

AFA participates and meets regularly with the Algonquin Park Local Citizens Committee. This committee includes members with a range and balance of interests from the communities surrounding Algonquin Park. Most aspects of the local forest-based economy are represented on this committee.

AFA is participating in OMNRs Provincial Wood Supply Competitive Process in order to develop transparent, credible and readily available information on wood supply in the Algonquin Park Forest. This will be an important element in identifying and attracting new forest sector opportunities in the future.

AFA has a procurement section on the website at http://algonquinforestry.on.ca/category/tenders/ Tender packages are made available which helps to strengthen and diversify the local forest-based economy.

Forecast
Monitoring indicator - no forecast required

2012-13:
Target met. AFA continues to implement the activities identified above in the "Status at SFM Development" section. AFA has also been notified of two successful proponent facilities seeking Crown timber supply from the DFA via MNR's Wood Supply Competitive Process: Lavern Heideman & Sons Inc. of Eganville, and Woodville Pellet Corp of Woodville.
Letters of support have also been issued by AFA and business relationships forged with the following "open market" facilities to support their efforts to expand operations: Ben Hokum & Son Limited of Killaloe and Gulick Forest Products Ltd. of Palmer Rapids.

2013-14:
Target met. AFA continues to implement the activities identified above in the "Status at SFM Development" section.
AFA actively sought out additional contractor capacity, invested in engagement with 4 contractors and training, infrastructure development and oversight support for 3 new contractors.
AFA and the Canadian Forestry Service investigated a cooperative venture Petawawa Research Forest operations. Objectives included extending the season for AFA harvest and silviculture contractors.
AFA contributed to MNRF's Available Wood Supply Report which recognizes business to business arrangements and helps proponents to identify potential supply and opportunities.
AFA staff also met with three different interest groups (EDC, Madadjiwan and one new investor) to share information on potential wood supply and logistics for the idle Mattawa facility.

2014-15 Target met:
- AFA continues to implement the activities identified above in the "Status at SFM Development" section
- Expanded the role of four contractors engaged in 2013-14 to include harvesting for AFA in 2014-15. One contractor had worked for AFA in the past, but previously only in road construction and trucking roles. Two contractors invested further in commercial firewood and logging operations, while the fourth ramped up production to enable adding half a shift to a local saw mill.
- Increased deliveries of logs to open market clients including to one new customer.
- Brought the PRF partnership discussion to the federal and provincial political levels for endorsement.
- Increased deliveries of logs to one client with ministerial wood supply commitments and supported the transfer of a wood supply commitment.
- Responded with information to a mill owner wishing to restart an idle saw mill in the region.
- AFA facilitated training for contractors on new OHSA supervisory requirements.
- Collaborations with Golder and Associates created new work opportunities for staff and contractors.
- Responded to three new requests for logging opportunities; two cut-to-length and one pre-commercial thinning.
- Responded with information to one new venture for the Mattawa facility and one new venture for biofibre in the Bancroft area.
- Negotiated a fibre grinding contract with local service provider to help grow their business.

2015-16 Target met
- AFA continues to implement the activities identified above in the "Status at SFM Development" section
- Continued work on developing additional productive capacity with newer contractors. Improvement is evidenced by increased harvest volume for three of the four newer contractors mentioned in 2014-15 with a combined improvement of 51% for the four. One firewood contractor offset lower harvest volumes with increased access to volume through other contractors during this term.

- Increased deliveries of logs to open market clients including to 4 new customers in 2015-16. Overall, volume produced was up by 16% over the previous year.
- Collaborations with Golder and Associates continued to provide work opportunities for staff and contractors.
- Facilitated access to the Park hydro line corridor and AFA staging areas for corridor maintenance work from Madawaska to the Petawawa River.
- Met with BioNorth (new owners of the Mattawa facility) and Mattawa North Bay Algonquin's in April 2015 to discuss opportunities for wood from AFA.
- Worked with BAP's Enterprise, an Aboriginal contractor to develop harvest capacity to supply their existing fuelwood business. Aided the contractor in developing a business plan, gaining required chainsaw / skidder certification, aided in evaluation / acquisition of harvesting equipment, as well as introducing the contractor to tree marking and harvest layout and logistical planning. AFA prepared a harvest area for the contractor, which is now planned for harvest in 2016-17.
- Worked with Pembroke MDF to develop an analysis of round wood chipping viability to supply their newly reopened Pembroke mill. Processed 445 cubic metres in 2015-2016.
- Increased Makwa Community Development Corporation's harvest volume by 117% in 2015-16.
- Liaised with Forest Industry Branch to update MNRF Available Wood Report, relative to wood supply commitment transfer and AFA business arrangements.
- Investigated potential business opportunity with Ontario Parks for the thinning of red pine plantations along the Highway 60 corridor.
- Facilitated the scheduled start up of the Columbia Forest Products veneer mill in Rutherglen with the production and delivery of hardwood veneer, while honoring previous commitments to Commonwealth veneer buyer. Currently, this company operates the only veneer facility in Ontario.
- Grinding of waste fibre in log processing yards contributed to wood supply necessary to sustain a local business that processes and dyes wood fiber for the horticulture and landscape industry.

2016-17 Status Update:

Target met

- AFA continues to implement the activities identified above in the "Status at SFM Development" section
- Continued work on developing additional productive capacity by speaking with established contractors who traditionally work in adjacent SFLs. With the exception of one small cut-to-length operation that started in late winter 16/17, and the return of Tembec/Fisher, no additional capacity was added in 2016-2017. Efforts to grow existing contractors was rewarded with increased volume over the previous year.
- Investigated markets for cedar, conifer pulpwood and hardwood pulpwood to improve utilization and offset the results of uncertain pulpwood demand.
- Collaborations with Golder and Associates continued to provide work opportunities for staff and contractors. A new contractor from the Kingston area conducted work with AFA from May to October 2016.
- Facilitated access to the Park hydro line corridor and AFA staging areas for corridor maintenance work from Madawaska to the Petawawa River. With agreements in place in 2016, staging of equipment and personnel is planned for 2017.
- Met with Lakewoods Development to discuss development of a modern milling facility with wood from Algonquin Park. Pointed out available supply in the north-west corner and Mattawa as a possibility to locate a new facility.
- Worked with BAP's Enterprise, an Aboriginal contractor to develop harvest capacity to supply their existing fuelwood business. Aided the contractor in developing a business plan, gaining required chainsaw / skidder certification, aided in evaluation / acquisition of harvesting equipment, as well as introducing the contractor to tree marking and harvest layout and logistical planning. AFA prepared a harvest area for the contractor and harvesting began in 2016-17.
- Following the chipping pilot project with Pembroke MDF, AFA supported this initiative by increasing supply to 6800 tonnes of white pine pulpwood during the 2016-2017 operating year.

- Continued work with Ontario Parks on a joint venture to thin and restore red pine plantations along the Highway 60 corridor to a more natural condition.
- Repeated the grinding of waste fibre in log processing yards for a local business in the horticulture and landscape industry.

Management Strategies and Implementation
N/A

Research and Monitoring Plan
N/A

Comparative Assessment of Planned versus Actual Levels: N/A

CRITERION: 6. SOCIETY'S RESPONSIBILITY

ELEMENT: **6.3 Forest community well-being and resilience**
Encourage, co-operate with, or help to provide opportunities for economic diversity within the community.

VALUE: **6.3.1 Local community well-being and resilience**

OBJECTIVE: 6.3.1.2. Improve and enhance safety standards, procedures, and outcomes in all AFA related workplaces and affected communities.

Indicator 6.3.1.2.1	Target	Variance
Evidence of co-operation with DFA-related workers and their unions to improve and enhance safety standards, procedures, and outcomes in all DFA-related workplaces and affected communities	Continue to administer the Algonquin Park Contractor Safety and Environmental Awards Program and recognize achievements at the annual Contractors Meeting. Maintain the AFA Emergency Response Plan.	

What is this indicator and why is it important?
It is important to ensure that the health and safety of Algonquin Park Forest workers are respected and to provide conditions and safeguards for the health and safety of these workers and the public.

As stated in AFA's Sustainable Forest Management Policy: AFA will provide conditions and safeguards for the health and safety of workers and the public. In order to achieve this, the AFA will establish and communicate safe working habits to employees of the Authority and its contractors, will organize training programs for AFA employees and assist contractors in their training programs, and will maintain and communicate emergency response plans and procedures.

Status at SFM Plan Development
The Authority manages a Contractor Safety and Environmental Awards Program that culminates with an awards presentation at the annual AFA Contractors Meeting each spring. AFA Contractor employees worked a total of 18,321 accumulated man days throughout 2011-12 with only one lost time accident and one medical aid due to work related accidents. This award is presented annually to the Algonquin Park logging contractor with the best safety record. W. F. Dombroski and Sons Logging of Barry's Bay won

the annual Safety Award for the season. Environmental Awards are presented to woods workers selected by their respective AFA Operations Supervisors and Contractor Supervisors to recognize exemplary performance as cutter-men, skidder-men, mechanical harvest operators and truck drivers. The hauling and road construction sectors are also recognized for their contributions to the overall results.

AFA annually updates, maintains and distributes its Emergency Response Plan (ERP) and map. The ERP Map is intended to be the first source of information for all emergencies. This map is distributed annually to emergency response providers, staff, contractors and Ontario Parks staff.

Forecast
As stated in target.

2016-17 Status Update
AFA continues to administer the Algonquin Park Contractor Safety and Environmental Awards Program and recognize achievements at the annual Contractors Meeting. This award was presented Joe Dombroski of Walter Dombroski & Sons Logging as the Algonquin Park logging contractor with the best safety record in 2016/17.

Figure 9: 2016 AFA Contractor Annual Safety Award Presentation
Left Joe Dombroski (Dombroski Logging). Right: Steve Bursey (AFA Manager of Operations - Pembroke)

The AFA Emergency Response Plan (ERP) and associated documents were updated in the spring of 2016 for the 2016/17 operating season. Updated ERP maps were distributed to all emergency service providers surrounding Algonquin Park.

AFA recognized the top environmental performer in the conventional cutting and skidding phase on each operation. As an interim step towards revising the Environmental and Safety Awards program to encompass all of the job functions, all workers who performed up to standard were recognized. The

"above-and-beyond" award was continued again this season. AFA affirmed that modifications to the system are ongoing and will be rolled out in future.

Management Strategies and Implementation
N/A

Research and Monitoring Plan
N/A

Comparative Assessment of Planned versus Actual Levels: N/A

CRITERION: 6. SOCIETY'S RESPONSIBILITY

ELEMENT: **6.3 Forest community well-being and resilience**
Encourage, co-operate with, or help to provide opportunities for economic diversity within the community.

VALUE: **6.3.1 Local community well-being and resilience**

OBJECTIVE: 6.3.1.2. Improve and enhance safety standards, procedures, and outcomes in all AFA related workplaces and affected communities.

Indicator 6.3.1.2.2	Target	Variance
Evidence that a worker safety program has been implemented and is periodically reviewed and improved	Maintain a Health and Safety Committee and distribute Health & Safety Committee Minutes. Continue to administer the Algonquin Park Contractor Safety and Environmental Awards Program.	

What is this indicator and why is it important?
It is important to ensure that the health and safety of Algonquin Park Forest workers are respected and to provide conditions and safeguards for the health and safety of these workers and the public.

As stated in AFA's Sustainable Forest Management Policy: AFA will provide conditions and safeguards for the health and safety of workers and the public. In order to achieve this, the AFA will establish and communicate safe working habits to employees of the Authority and its contractors, will organize training programs for AFA employees and assist contractors in their training programs, and will maintain and communicate emergency response plans and procedures.

Status at SFM Plan Development
AFA maintains an active health and safety policy and program for all of its employees. AFA maintains a Volunteer Health and Safety Committee, and each office has a Health and Safety representative.

The Authority also manages a Contractor Safety and Environmental Awards Program. In 2011-12 Walter Dombroski and Sons Logging of Barry's Bay won the annual Safety Award for the season. This award is presented annually to the Algonquin Park logging contractor with the best safety record. AFA Contractor employees worked a total of 18,321 accumulated man days throughout 2011-12 with only one lost time accident and one medical aid due to work related accidents.

AFA and its contractors administer an “Environmental and Safety Award System” that recognizes positive work practices. Based on the point system, the top logging crews on each contractor operation receive rewards. The hauling and road construction sectors are also recognized for their contributions to the overall results.

Forecast
As stated in target.

2016-17 Status Update
AFA continues to maintain a Health and Safety Committee and distribute the Health & Safety Committee minutes and the General Manager’s responses to all AFA staff. AFA also continues to administer the Algonquin Park Contractor Safety and Environmental Awards Program, as described in VOIT 6.3.1.2.1 (above). Medical aids remained consistent with the previous year and three additional lost time accidents were incurred. An overall trend of continual improvement has been achieved – refer to Figure 10 below.

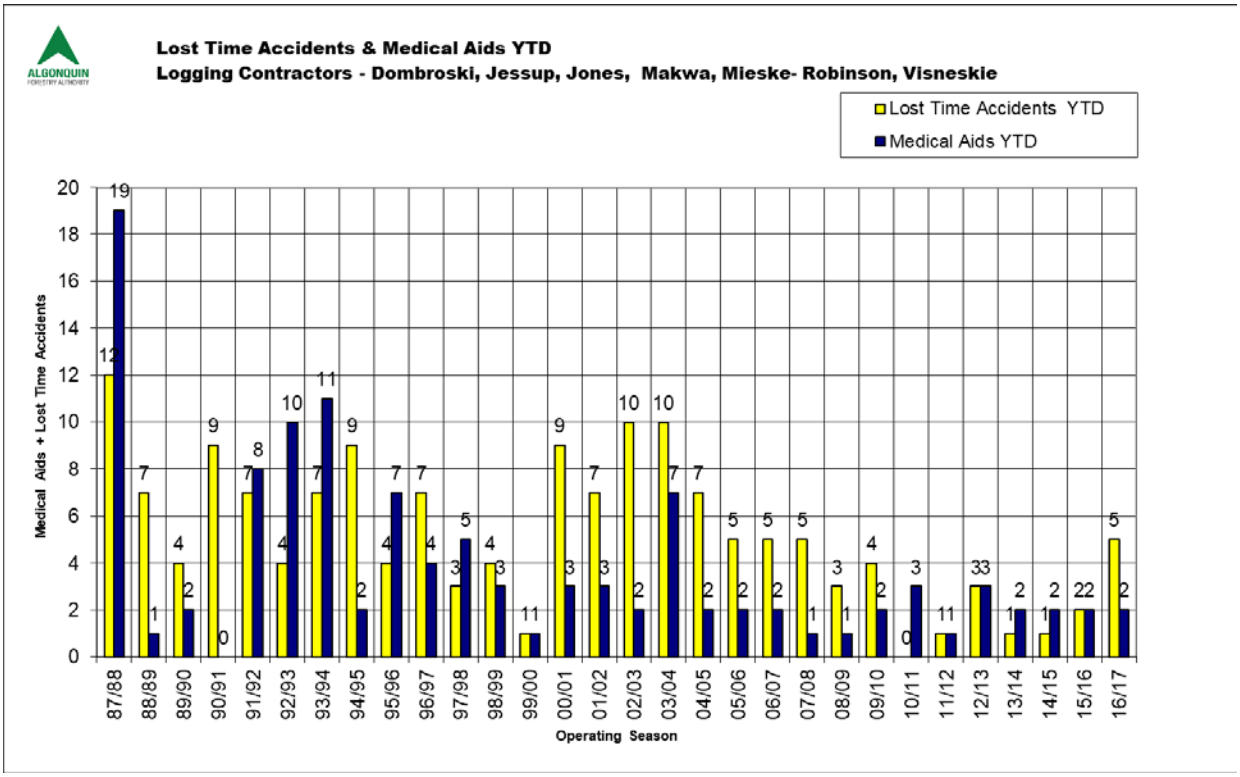

Figure 10: Safety Statistics

Management Strategies and Implementation
N/A

Research and Monitoring Plan
N/A

Comparative Assessment of Planned versus Actual Levels: N/A

CRITERION: 6. SOCIETY'S RESPONSIBILITY

ELEMENT: 6.4 Fair and effective decision-making

Demonstrate that the SFM public participation process is designed and functioning to the satisfaction of the participants and that there is general public awareness of the process and its progress.

VALUE: **6.4.1 SFM Public Participation Performance**

OBJECTIVE: 6.4.1.1. To implement a public participation process that is supported by the participants.

Indicator 6.4.1.1.1	Target	Variance
Level of participant satisfaction with the public participation process.	Achieve a satisfactory evaluation (75%) from a minimum of two-thirds of the Advisory Group members	0

What is this indicator and why is it important?
Public participation is a major requirement of the forest management system in Ontario. The ability of people to share information, discuss and solve problems, and set and meet objectives is key to achieving and maintaining meaningful participation.

Since forest management is conducted on Crown land, the public has the right to influence it. Algonquin Forestry Authority's mandate for Sustainable Forest Management arises from public influence as well as formal legislative and contractual arrangements with the government. These mechanisms ensure that the social and environmental values that benefit the province are respected. The Advisory Group is the mechanism that Algonquin Forestry Authority is using to maintain communication with the public and stakeholder groups. Public consultation is also undertaken during the development of forest management plans and through ongoing consultation with a Local Citizens Committee.

Status at SFM Plan Development
A total of 15 Advisory Group members responded to the Satisfaction Survey that was distributed in June 2012 at the 5th Advisory Group meeting. An overall satisfaction score of 90% was achieved from all members combined. No total individual scores of less than 79% were received.

Forecast
No forecast required.

2012-13 Status
No annual update. Next update scheduled for 2017.

2015-16 Status
In April of 2016 the Algonquin Park Forest Certification Advisory Group was recognized and presented with the Program for the Endorsement of Forest Certification (PEFC) Canada Stewardship Award for their leadership and personal commitment to Sustainable Forest Management in Algonquin Park.
The following positive aspect of the management system was also identified in the 2015 re-registration audit (Appendix 2): "*The positive comments received from the sample of FCAG members interviewed during the audit regarding the openness and support of the AFA*".

2016-17 Status Update
A total of 14 Advisory Group members responded to the Satisfaction Survey that was distributed in September 2017. An overall satisfaction score of 94% was achieved from all members combined. No total individual scores of less than 75% were received.

Management Strategies and Implementation
Ensure that members of the Advisory Group are included in all aspects of the forest management planning process. This can be done by confirming that required information is sent to them before each

meeting so that they can be prepared to take part. This assessment will be conducted every five years using a standardized survey.

Research and Monitoring Plan
Every five years, an assessment will be conducted in order to determine the satisfaction of the Advisory Group with the public participation process.

Comparative Assessment of Planned versus Actual Levels: N/A

CRITERION: 6. SOCIETY'S RESPONSIBILITY

ELEMENT: **6.4 Fair and effective decision-making**
Demonstrate that the SFM public participation process is designed and functioning to the satisfaction of the participants and that there is general public awareness of the process and its progress.

VALUE: **6.4.2 Forest worker capacity and opportunities**

OBJECTIVE: 6.4.2.1. Promote capacity development and meaningful participation in forest management in the Algonquin Park Forest.

Indicator 6.4.2.1.1	Target	Variance
Evidence of efforts to promote capacity development and meaningful participation in general and for Aboriginal communities.	Continue to develop and maintain the AFA website, including advertizing procurement opportunities to the public and aboriginal communities. Continue to advertize and provide consultation opportunities for FMPs and Annual Work Schedules.	0

What is this indicator and why is it important?
Promoting capacity development and achieving meaningful participation in general and for Aboriginal communities are important components of Sustainable Forest Management. An increase in Sustainable Forest Management knowledge by the public and DFA-workers will result in more meaningful consultation and participation.

Status at SFM Plan Development
The AFA website is maintained to provide factual information and to provide general public awareness of Sustainable Forest Management and updates on its progress on the Algonquin Park Forest. AFA has a procurement section on the website at http://algonquinforestry.on.ca/category/tenders/**.** Tender packages are made available which helps to promote capacity development and meaningful participation for any interested parties.

The Public Consultation Plan (Appendix C) outlines the consultation opportunities associated with this Sustainable Forest Management Plan. A summary of public consultation associated with the 2010-2020 FMP is also provided in supplementary documentation 6.1.15 of that plan.

Annual work schedule letters are distributed annually to the general public and to each Algonquin community. Algonquin community members interested in employment opportunities are encouraged to provide a list of people, including their skills and equipment available, to the Algonquin Forestry Authority

(AFA). Limited funding is also available for qualified community members to take one of the forestry courses offered annually by the MNR (tree marking, scaling, or compliance)

Advertizing of Sustainable Forest Management consultation opportunities is also provided in local newspapers.

Forecast
N/A

2013-14: Target met.
AFA launched a new website on March 17, 2014, with significant improvements to the design, content and functionality. The AFA website continues to include the advertizing of procurement opportunities to the public and aboriginal communities (for values greater than $25,000). This feature also includes an RSS feed which allows users to be automatically notified of all new tender and employment opportunities that AFA is posting. A total of 18 procurement opportunities were advertized on the AFA website during the 2013/14 season.
Phase 2 planning (2015-2020) was just beginning and letters of invitation to participate in the planning process were sent to the Algonquins of Ontario in April 2013. This invitation included having a community representative sit as part of the planning team, involvement in the development of the Aboriginal Background Information Report, and the identification of Aboriginal values.
Annual work schedule letters were distributed to the general public and to each Algonquin community in the spring of 2013. The letter to the Algonquin communities included maps showing the harvest areas, proposed road network, and water crossing installation and removals, along with an offer to discuss any specific concerns.

FMPs and Annual Work Schedules are available on the internet for public review and comment at http://www.ontario.ca/forestplans.

2014-15 Status
Target met.
AFA's new website (launched March 17, 2014), continues to include the advertizing of procurement opportunities to the public and aboriginal communities (for values greater than $25,000). This feature also includes an RSS feed which allows users to be automatically notified of all new tender and employment opportunities that AFA is posting. A total of 11 procurement opportunities were advertized on the AFA website during the 2014/15 season.
Phase 2 planning was in full swing and three information centres were held on May 6th (Pembroke) May 7th (Barry's Bay) and May 8th (Huntsville) to help develop the second five-year term (2015-2020) of the 2010-2020 Forest Management Plan (FMP) for the Algonquin Park Forest. Notifications for these information centres were sent out to the Algonquin Park FMP mailing list (approximately 500 individuals). Supplemental notices were also sent out just prior to the information centres in late April, 2014.
An additional information centre was also help on May 5, 2014 for the Algonquins of Ontario at the Makwa Community Centre in Pikwàkanagàn. Notification for this session was also sent out to all Algonquin communities. This notice included a request seeking Algonquin input for the Aboriginal Background Information Report which constitutes part of the Phase II FMP.

2015-16 Status
Target met.
The AFA website continues to include the advertizing of procurement opportunities to the public and aboriginal communities (for values greater than $25,000). This feature also includes an RSS feed which allows users to be automatically notified of all new tender and employment opportunities that AFA is posting. A total of 11 procurement opportunities were advertized on the AFA website during the 2015/16 season.

AFA also established a presence on social media in the fall of 2015 with an AFA Twitter feed @AFA_Algonquin. This tool is also being used to promote capacity development and meaningful participation with the public. As of the time of writing this report, this account had 336 followers and has been an effective tool to also promote sustainable forest management in the Algonquin Park Forest.
Annual work schedule letters were distributed to the general public and to each Algonquin community in the spring of 2015. The letter to the Algonquin communities included maps showing the harvest areas, proposed road network, and water crossing installation and removals, along with an offer to discuss any specific concerns.
FMPs and Annual Work Schedules are available on the internet for public review and comment at http://www.ontario.ca/forestplans.

2016-17 Status Update
Target met.
The AFA website continues to include the advertizing of procurement opportunities to the public and aboriginal communities (for values greater than $25,000). This feature also includes an RSS feed which allows users to be automatically notified of all new tender and employment opportunities that AFA is posting. A total of 9 procurement opportunities were advertized on the AFA website during the 2016/17 season.

AFA established a presence on social media in the fall of 2015 with an AFA Twitter feed @AFA_Algonquin. This tool is also being used to promote capacity development and meaningful participation with the public. As of the time of writing this report, this account had 428 followers and has been an effective tool to also promote sustainable forest management in the Algonquin Park Forest. An Instagram account was also established on social media in September 2016 and currently has 132 followers.

Annual work schedule letters were distributed to the general public and to each Algonquin community in the spring of 2016. The letter to the Algonquin communities included maps showing the harvest areas, proposed road network, and water crossing installation and removals, along with an offer to discuss any specific concerns.

FMPs and Annual Work Schedules are available on the internet for public review and comment at http://www.ontario.ca/forestplans.

Management Strategies and Implementation
N/A

Research and Monitoring Plan
N/A

Comparative Assessment of Planned versus Actual Levels: N/A

CRITERION: 6. SOCIETY'S RESPONSIBILITY

ELEMENT: **6.5 Information for Decision Making**
Provide relevant information to interested parties to support their involvement in the public participation process, and increase knowledge of ecosystem processes and human interactions with forest ecosystems.

VALUE: **6.5.1 SFM Education**

OBJECTIVE: 6.5.1.1. To maintain/increase the knowledge and awareness of SFM to the general public.

Indicator 6.5.1.1.1	Target	Variance
Number of people reached through educational outreach	>45,000 people per year	-10%

What is this indicator and why is it important?
An increase in Sustainable Forest Management knowledge by the public will result in more meaningful consultation and a greater awareness of the issues involved in the management of the Algonquin Park Forest.

Status at SFM Plan Development
In 2011-12, AFA estimates that 46,846 people were reached through educational outreach opportunities. The most significant educational outreach opportunity in Algonquin Park is the Logging Museum. It is estimated that an average of 42,000 people go through the museum each year to learn about the history of logging in Algonquin Park and current Sustainable Forest Management practices. In addition to this approximately 1,000 people participate in the annual Loggers Day event each July. Numerous other educational outreach opportunities are also untaken each year.

Forecast
No forecasting is required.

2016-17 Status Update
Target Met.
An estimated total of 91,270 people were reached through educational outreach in 2016-17.

In 2016-17 the following groups were provided information/tours on forest management activities in the DFA:

- AFA continues to sponsor Logger's Day at the Logging Museum in Algonquin Park which drew 985 people in 2016. The Logging museum also drew 64,902 visitors throughout the year.
- AFA continues to participate in the annual Meet the Researcher Day at the East Beach Pavilion in Algonquin Park which drew over 650 participants
- AFA continues to sponsor the Annual Canadian Ecology Centre Teachers tour which provided education on sustainable forest management to approximately 20 Ontario teachers from across the province
- AFA established a presence on social media in the fall of 2015 with an AFA Twitter feed @AFA_Algonquin. This has been an effective tool to maintain/increase the knowledge and awareness of SFM to the general public. As of the time of writing this report, this account had 428 followers. This has also been an effective tool to promote SFM in Algonquin Park and have meaningful participation with the public.
- An Instagram account was also established on social media in September 2016 and currently has 132 followers.
- AFA participated in the Renfrew County Forestry Connects Day at the Shaw Woods Education Centre
- AFA website continues generate traffic of over 8,000 hits per year
- AFA sponsored and participated in the Forests Ontario annual conference with over 250 attendees
- AFA also sponsors and supports Forests Ontario ItTakesAForest campaign which provides significant educational outreach across Ontario and beyond
- AFA also sponsored the North American Envirothon competition which saw approximately 10,000 students from across North America participate and learn about natural resource management and forestry

- AFA had a booth and made a presentation to the Ontario Professional Foresters Association annual conference in May 2016
- Sir Sanford Fleming College fall camp was conducted in Algonquin Park where about 20 students learned and participated in silvicultural activities
- Presentations and tours were conducted throughout the year in the Park for University of Toronto forestry students, Algonquin College forestry class and the Huntsville Nature Club
- AFA sponsored and participated in the SawTech Log Expo in Bancroft in June 2016 with over 200 attendees
- AFA participates on the Algonquin and Fleming College forestry advisory committees

AFA contributed sponsorship to the Loggers Festival weekend in Killaloe, Hagarty & Richards Township.

There were nine recipients of the AFA funded Forest Industry Bursary in 2016 ($5,000) to students attending secondary schools in communities around Algonquin Park.

Management Strategies and Implementation
Displays and information booths will be set up during the Logger's Day events which demonstrate and explain the forest management process in Ontario. The public will be encouraged to view the website for more information. Algonquin Forest Authority's participation in the Canadian Ecology Centre Annual Teacher's Tour program and annual Algonquin Park Meet the Researcher Day also contributes to this target.

Research and Monitoring Plan
N/A

Comparative Assessment of Planned versus Actual Levels: N/A

CRITERION: 6. SOCIETY'S RESPONSIBILITY

ELEMENT: **6.5 Information for Decision Making**
Provide relevant information to interested parties to support their involvement in the public participation process, and increase knowledge of ecosystem processes and human interactions with forest ecosystems.

VALUE: **6.5.1 SFM Education**

OBJECTIVE: 6.5.1.1. To maintain/increase the knowledge and awareness of SFM to the general public.

Indicator 6.5.1.1.2	Target	Variance
Availability of summary information on issues of concern to the public	Maintain/update AFA website. Ensure Algonquin Park forest management information continues to be publically available on the MNR eFMP website	N/A

What is this indicator and why is it important?
Organizations and the public provide and receive information through interactions with each other. Information on issues of concern is made available to both public advisory groups and the public in general. The sharing of learnings and opinions contributes to balanced, more acceptable plans and decisions.

Status at SFM Plan Development
A primary tool for information sharing is the internet and websites. The AFA website provides a significant amount of information on Sustainable Forest Management in Algonquin Park. Both the CSA Sustainable Forest Management Plan and the 2010-2020 FMP for the Algonquin Park Forest provide information on issues of concern to the public.

The 2010-2020 FMP is available on the internet at http://www.ontario.ca/forestplans. A Plan Summary is also available on the AFA website

Forecast
No forecasting is required.

2016-17 Status Update
Target met.
The AFA website continues to include the advertizing of procurement opportunities to the public and aboriginal communities.

The CSA Sustainable Forest Management Plan and the 2010-2020 FMP for the Algonquin Park Forest continue to provide information on issues of concern to the public.

The 2010-2020 FMP and Phase II 2015-20 FMP and associated annual work schedules and reports continue to be made available on the internet at http://www.ontario.ca/forestplans. A Plan Summary is also available on the AFA website.

AFA established a presence on social media in the fall of 2015 with an AFA Twitter feed @AFA_Algonquin. This has been an effective tool to maintain/increase the knowledge and awareness of SFM to the general public. As of the time of writing this report, this account had 428 followers. This has also been an effective tool to promote capacity development and meaningful participation with the public. An Instagram account was also established on social media in September 2016 and currently has 132 followers.

Management Strategies and Implementation
AFA will ensure that Algonquin Park forest management information, including issues of concern to the public continues to be publically available on the AFA website and the MNR eFMP website.

Research and Monitoring Plan
N/A

Comparative Assessment of Planned versus Actual Levels: N/A

CRITERION: 6. SOCIETY'S RESPONSIBILITY

ELEMENT: 6.5 Information for Decision Making
Provide relevant information to interested parties to support their involvement in the public participation process, and increase knowledge of ecosystem processes and human interactions with forest ecosystems.

VALUE: 6.5.1 SFM Education

OBJECTIVE: 6.5.1.1. To maintain/increase the knowledge and awareness of SFM to the general public.

Indicator 6.5.1.1.3	Target	Variance
Forestry research funding and/or in-kind assistance	$20,000 per year Evaluated on a 3 year rolling average.	- $5,000

What is this indicator and why is it important?
Research and development are necessary to support improvements and adaptive management. The trend in natural resource management has been toward an ever-increasing awareness of issues and values that require addressing. This can only be successful with the type of research that this funding will support. Algonquin Forestry Authority already participates on directed and integrated studies within Algonquin Park Forest.

Status at SFM Plan Development
In 2011-2012, $20,505 was spent on research. Projects undertaken were hardwood selection research, hemlock regeneration/recruitment research and seedling stock trial research.

Forecast
N/A

2012-13: Target met.
$16,300 was spent on research. Projects undertaken included research on long skidding, a visitor traffic study at the Big Pines Trail parking lot and seedling stock trial research.

2013-2014: Target met.
$10,620 was spent on research (3 year rolling average = $15,508). Projects undertaken included research on long skidding, pre-post harvest regeneration assessment program, species at risk road closure effectiveness study using a trail camera, preliminary research into the use of gravel screens and seedling stock trial research.

2014-15: Target met.
$23,587 was spent on research (3 year rolling average = $16,836). Projects undertaken included research on long skidding (including the production of three timber pad skidder bridges), pre-post harvest regeneration assessment program, assistance with an earth science research project, preliminary research into the use of gravel screens and seedling stock trial research.

2015-16: Target met.
$10,877 was spent on research (3 year rolling average = $15,028). Projects undertaken included research on pre-post harvest regeneration assessments, research and reporting on the use of gravel screens for road construction/maintenance and grading, support for wood turtle research, support of FP Innovations bio-pesticide research, and support for seedling stock trial research and thesis preparation.

2016-17 Status Update
Target met.
$20,210 was spent on research (3 year rolling average = $18,225). Projects undertaken included research on group selection plot remeasurements, pre-post harvest regeneration assessments, research and reporting on the use of gravel screens for road construction/maintenance and grading, permanent growth/sample plot remeasurements and support of FP Innovations engineered wood bridges study.

Management Strategies and Implementation
Resources will be provided to research projects of a high priority.

Research and Monitoring Plan

Financial information will be summarized regarding AFA research efforts.

Comparative Assessment of Planned versus Actual Levels: N/A

CRITERION: 6. SOCIETY'S RESPONSIBILITY

ELEMENT: **6.5 Information for Decision Making**
Provide relevant information to interested parties to support their involvement in the public participation process, and increase knowledge of ecosystem processes and human interactions with forest ecosystems.

VALUE: **6.5.1 SFM Education**

OBJECTIVE: 6.5.1.2. To recognize good forestry practices within the DFA

Indicator 6.5.1.2.1	Target	Variance
Certification status	Achieve registration to CAN/CSA Z809-08 SFM standard by April of 2013, and maintain.	+/- three months

What is this indicator and why is it important?
Certification ensures that planning and operations are conducted in a consistent, transparent, and sustainable manner. This is becoming an increasingly common practice, and will ensure that the Defined Forest Area is managed in accordance with the principles of sustainable forest management (environmental, economic and social).

Maintaining forest certification in Algonquin Park is important for the following reasons:

- To demonstrate to the public and its customers that the Algonquin Park forest is being managed on a sustainable basis.
- Allows AFA to promote the successful results of their SFM efforts using independent, third-party verification
- Voluntary participation in the requirements of the standard will provide AFA with the opportunity to continually improve forest management performance and engage interested parties in a focused public participation process.
- Certification verifies that forests are well-managed as defined by the standard.

Status at SFM Plan Development
The Defined Forest Area was certified to the CAN/CSA Z809-02 SFM standard.

Forecast
Re-certification is being sought for April of 2013, as per the target.

2012-13: Target met. A new certificate for registration to the CSA Z809-08 standard was issued in February 2013.

2014-15: Target met. The February 2015 S2 surveillance audit report concluded that the management system of Algonquin Forestry Authority (AFA) is suitable and effective, with the exception of the areas of non-conformance identified during the audit. Once the areas of non-conformance were resolved within the required 60 day timeframe, the AFA management system was recommended for continued registration to CAN/CSA-Z809-2008.

2015-16: Target met.
The December 2015 re-registration audit report (Appendix 2) concluded that the management system of Algonquin Forestry Authority (AFA) is suitable and effective, with the exception of one area of non-conformance identified during the audit. Once the non-conformance was resolved within the required 60 day timeframe, the AFA management system was recommended for re-registration to CAN/CSA-Z809-2008.

2016-17 Status Update
Target met. The March 2017 re-registration audit report (Appendix 2) concluded that the management system of Algonquin Forestry Authority (AFA) is suitable and effective, with the exception of four non-conformances identified during the audit. These non-conformances were resolved within the required 60 day timeframe and the AFA management system was recommended for continued registration to CAN/CSA-Z809-2008.

Management Strategies and Implementation
N/A

Research and Monitoring Plan
The CAN/CSA-Z809 SFM standard requires annual third party audits

Certification requirements are being monitored on a regular basis in accordance with the standard.

Comparative Assessment of Planned versus Actual Levels: N/A

CRITERION: 6. SOCIETY'S RESPONSIBILITY

ELEMENT: **6.5 Information for Decision Making**
Provide relevant information to interested parties to support their involvement in the public participation process, and increase knowledge of ecosystem processes and human interactions with forest ecosystems.

VALUE: **6.5.1 SFM Education**

OBJECTIVE: 6.5.1.3. Promote and market achievement of certification.

Indicator 6.5.1.3.1	Target	Variance
Efforts made to create awareness of certification designation on the DFA	1. Make information available to the public and document. 2. Advertise	N/A

What is this indicator and why is it important?
The general public is often unaware of efforts made by the forest industry to contribute to sustainable forest management. Making the public aware of SFM certification will assist in broadening public understanding of sustainable forest management in the DFA. It is important in order to increase the knowledge of the general public with respect to SFM practices in the DFA to enable them to develop informed opinions.

Status at SFM Plan Development

AFA currently provides information regarding sustainable forest management on its website at http://www.algonquinforestry.on.ca/. Information is also presented to the public during forest management plan open houses, annually at Logger's Day in Algonquin Park and during all other public outreach opportunities.

Forecast
Forecasting not required.

2012-13 Target met. Advertizing regarding the re-certification of the Algonquin Park Forest was conducted in the Working Forest, The Bancroft Times, and various other newspapers in communities surrounding Algonquin Park.

2016-17 Status Update
2016-17 Target met. Advertizing regarding the certification of the Algonquin Park Forest is featured on the AFA website and Twitter feed @AFA_Algonquin. Certification status is also promoted on the AFA display that was used at several events throughout 2016-17 (see VOIT 6.5.1.1.1). A presentation on CSA SFM certification in Algonquin Park was also made to registered professional foresters at the Ontario Professional Foresters Association annual conference in North Bay in May 2016.

Figure 11: SFM Certification Awareness at OPFA AGM

Management Strategies and Implementation
Build on existing mechanisms to provide information on SFM certification to the public.

Research and Monitoring Plan
Document advertising efforts and information made available to the public.

Comparative Assessment of Planned versus Actual Levels: N/A

6.0 SUMMARY

6.1 2016 Audit Summary

The November 2016 re-registration audit findings were: 4 non-conformances and 1 opportunity for improvement. Two positive aspects of the management system were also identified. The four non-conformances were subsequently cleared with corrective action. The detailed audit report can be found in Appendix 2 of this report and on the AFA website here.

6.2 Future Plans

Future plans are derived from responses to audits performed by the registrar and internal audits, and from the review that AFA conducts at the annual Management Review of the CSA Z809 system. Reports of non-compliance or concerns received from the public, or during joint workshops conducted with Ontario Parks, are also considered in future planning.

Management Review is conducted annually. It is at this time that audits, compliance to legal requirements, compliance trends, communication with external parties, environmental programs, suitability, adequacy and effectiveness of the Environmental and Sustainable Forest Management System from the past season are reviewed. It is from this comprehensive review that many future plans and up-coming training plans are developed.

On April 1st 2015 a new Phase II 2015-2020 Forest Management Plan was implemented for the Algonquin Park Forest. This FMP is the second phase of the 10 year 2010-2020 FMP prepared for the MNRF under the FMPM for Ontario. This Phase II plan is an operational plan, and is consistent with Long Term Management Direction of the 2010-2020 strategic FMP. As a result, this Phase II FMP did not impact many of the VOITs in CSA SFMP. The only impacts were related to some changes in AOCs and how they contributed to VOIT assessments as identified in this first Annual Report under this Phase II FMP for 2015-2016.

A revised/updated CSA Z809-16 standard was released in September 2016. This has necessitated a review and update of the current Algonquin Park SFM Plan to conform to changes in the standard. Additional meetings with the Advisory Group are being held to implement these changes.

A new Forest Resource Inventory (FRI) for the Algonquin Park Forest was received from the Ministry of Natural Resources and Forestry in 2016. This new FRI is being used for the upcoming 2020 Forest Management Plan, for which planning commenced in 2017.

6.3 Conclusion

There are 65 indicators within the 2012 SFM Plan that have associated targets, not all of which are reported on an annual basis. There are 23 long term indicators that are not updated on an annual basis; these will either be reported with the production of the 2020 Forest Management Plan or reported on a 5 year basis (in 2015 or 2017) - there are 10 of these 5-year VOITs that have been additionally reported in this 2016-17 Annual Report. There is one indicator to be determined by the Algonquin Treaty Chief negotiator that cannot be evaluated annually. There is one indicator and associated target that was completed in 2011-12. The remaining 40 indicators have an annual target. In addition, there is one indicator (5.2.1.1.1) that was evaluated last year (2013/14) as a result of the completed LTF Park Management Plan Amendment and is now reported annually, and one indicator (3.2.1.1.4) that was evaluated this year as it had a 2015 interim target associated with it (use of salted sand for road maintenance). This brings the total number of annual targets evaluated this year to 52.

Of these 52 indicators, 46 have had their targets achieved (88%). There are 6 indicators reported where the target has not been achieved, all of which are in criterion 5 Economic and Social Benefits.

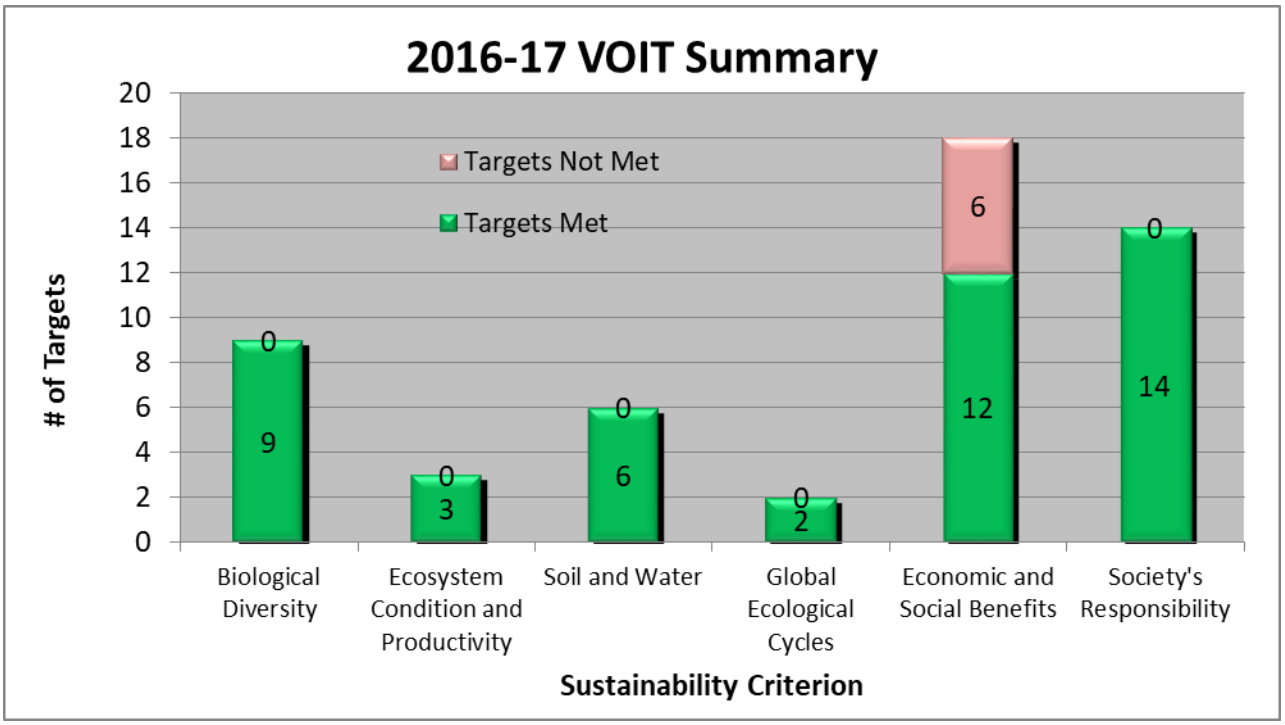

Figure 12: 2016-17 VOIT Summary

The 6 indicators where targets have not been achieved are:

5.1.1.1.1 Quantity and quality of timber benefits, products, and services produced in the DFA: Long-term projected available harvest volume by product. During the first seven years of this SFM Plan (2010-17) volume utilized was below the planned levels in all product groups primarily due to overall lower demand for forest products, inclement weather and an unanticipated shortage of workers and equipment.

5.2.1.1.1 Managed Crown Forest area available for timber production. The target is to maintain the total production forest area available for forest management within the DFA. A 2010 FMP benchmark level of 481,478 ha was set for this VOIT. The 2013 LTF amendment to the Algonquin Park Management Plan resulted in a 44,214 ha (9.2%) reduction in the total production forest area available for forest management, which exceeds the allowable 5% variance, and reduces this area to 437,264 ha. Refer to the 2013/14 discussion of VOIT 5.2.1.1.1 in the body of this report for further detail.

5.2.2.1.1 Level of investment in training and skills development. The target is to have 100% of Algonquin Park forest woodsworkers trained as per EMS training matrix, as assessed during EMS/SFM system registrar audits. One non-core training non-conformances was identified in the 2016 registrar audit.

5.2.3.1.1 Level of Aboriginal participation in the forest economy: Percentage of total volume harvested by Algonquins of Ontario communities/organizations/people. The target is to maintain/increase the total volume harvested by Algonquins of Ontario communities per year from a benchmark set in 2012 = 16%. This target was not achieved for 2016-17 as only 10.2% was completed by Algonquins of Ontario communities/organizations/people. Refer to VOIT 5.2.3.1.1 in the body of this report for further discussion.

5.2.3.1.2 Level of Aboriginal participation in the forest economy: Percentage of silviculture completed by Algonquins of Ontario communities/organizations/people. The target is to maintain/increase level of silviculture program completed by Algonquins of Ontario communities/organizations/people per year from a benchmark set in 2012 = 9%. This target was not achieved for 2016-17 as only 4% was completed by Algonquins of Ontario communities/organizations/people. Silviculture completed by Algonquins in 2016-17 consisted of tree marking and stand improvement work. Refer to VOIT 5.2.3.1.2 in the body of this report for further discussion.

5.2.3.1.3 Level of Aboriginal participation in the forest economy: Percentage of total direct program costs paid to Algonquins of Ontario communities/organizations/people. The target is to maintain/increase the total direct program costs paid to Algonquins of Ontario communities/organizations/people per year from a benchmark set in 2012 = 19%. This target was not achieved for 2016-17 as only 12.3% of total direct program costs were paid to Algonquins of Ontario communities/organizations/people. Refer to VOIT 5.2.3.1.3 in the body of this report for further discussion.

This is the fifth Annual Report for the 2012 SFM Plan. A slight reduction in target achievement (88%) has been realized in this report over last year, where 93% of targets were achieved (Figure 13).

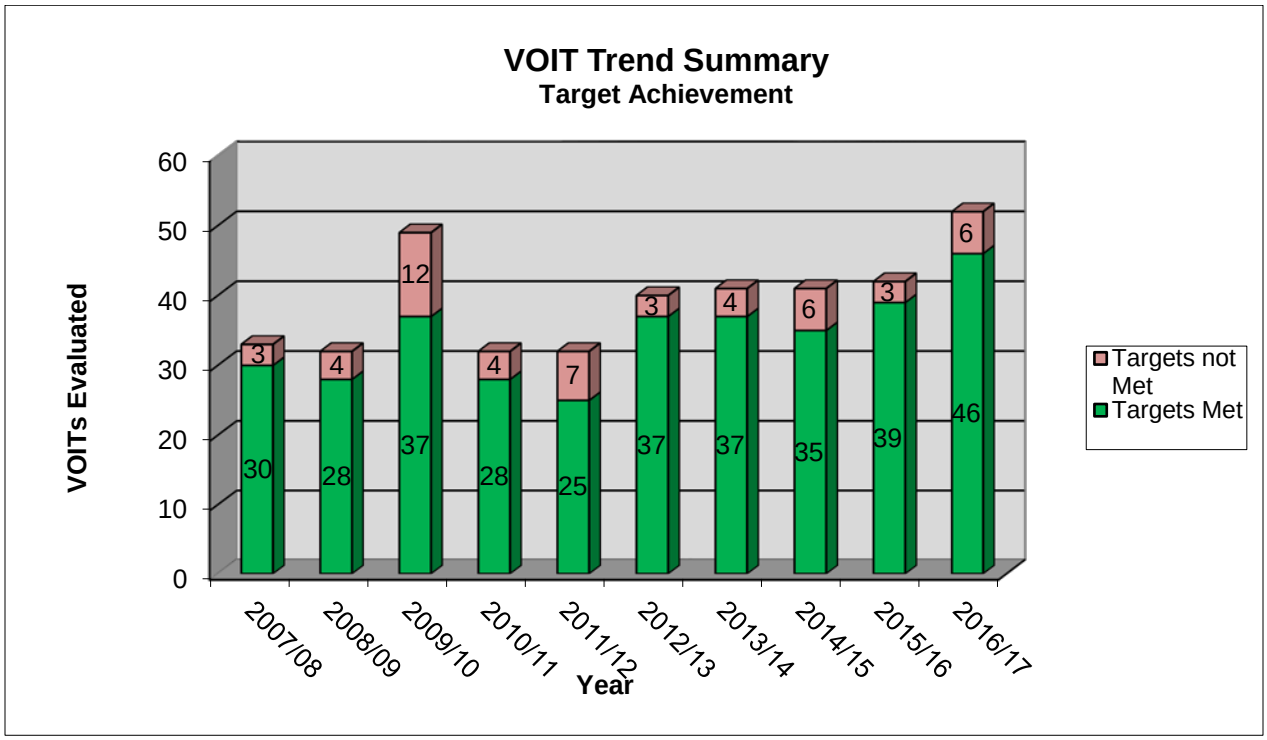

Figure 13: VOIT Trend Summary - Target Achievement

For those indicators that are assessed in this Annual Report it is concluded that, on balance, the majority of targets are being met and progress has been made to fulfill the commitments identified in the CSA SFM Plan. AFA and their partners are living up to the SFM requirements and commitments outlined in the SFM Plan and a commitment to continual improvement is being demonstrated.

Appendix 1
MNR District Report for Forest Management Declaration Order MNR-75; Condition 56

Appendix 2 – SAI Global 2016 Re-Registration Audit Report