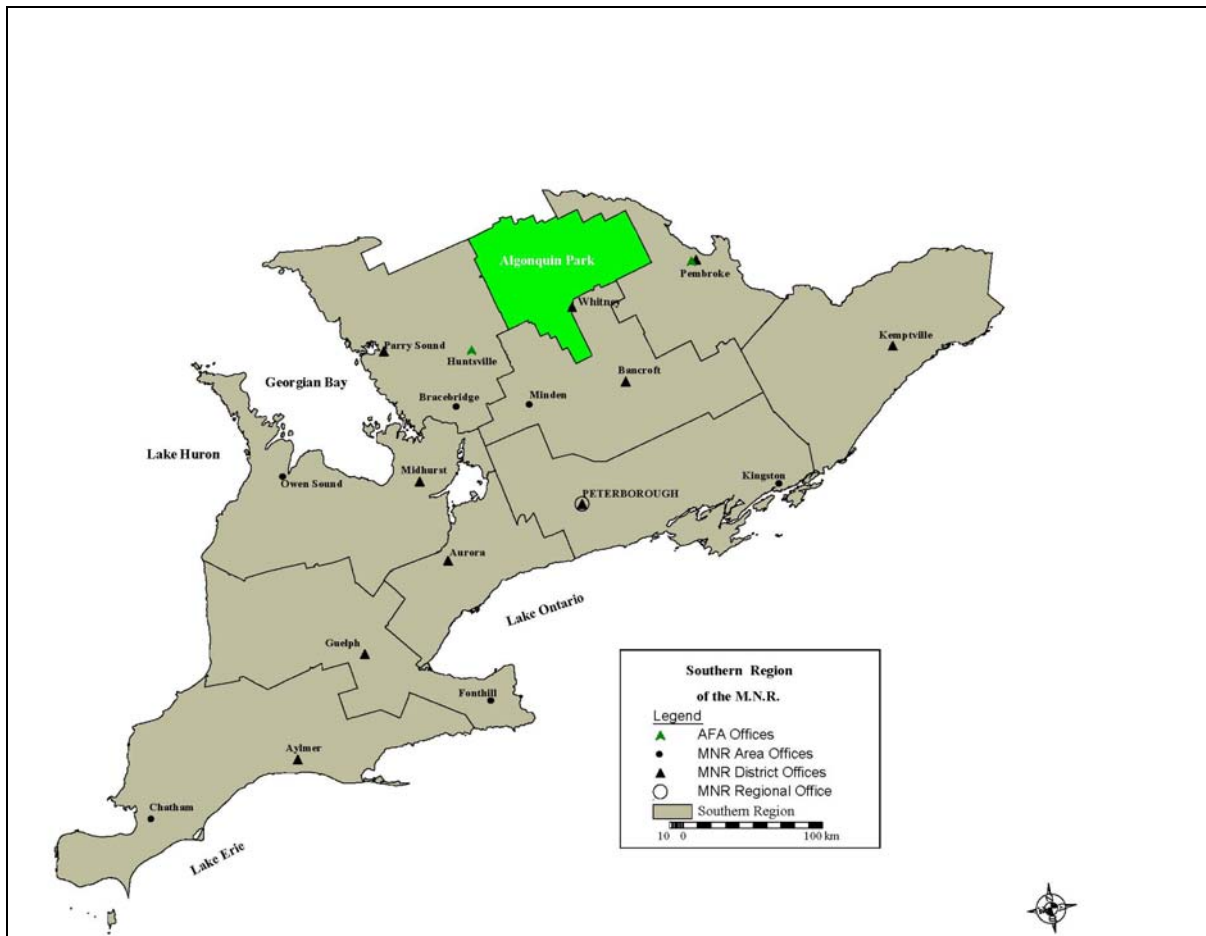


7.0 Summary of the 2010-2020 Forest Management Plan for the Algonquin Park Forest

Location

The Algonquin Park Forest Management Unit is located within Algonquin Provincial Park, part of the Southern Region Administrative Unit of the Ontario Ministry of Natural Resources (MNR) as depicted on the summary map below.

Map 1 Algonquin Park Forest and MNR Southern Region



An index to the environmental assessment components of this Forest Management Plan can be found prior to Section 1 at the beginning of the Plan. The index identifies the location in this Forest Management Plan of specific sections that address each of the environmental assessment components.

Public Contacts

The public contacts for the Plan are:

Joe Yaraskavitch, Ontario Parks, (613) 732-5550
Gord Cumming, AFA, (705) 789-9647 ext. 30
Tom Ballantine, Local Citizens Committee, (705) 447-3253

Management Responsibility

One of the major provisions of the 1974 Algonquin Park Master Plan relative to forest management, was establishment of the Algonquin Forestry Authority (A.F.A.) which is a Crown agency established by the authority of Bill 155 "An Act to Incorporate the Algonquin Forestry Authority". This act terminated Order-In-Council timber licences held by fourteen companies and vested in A.F.A. the responsibility of licensee. The Algonquin Provincial Park Management Plan (1998) establishes the framework for all activities within the Park and this Forest Management Plan (FMP) is written in accordance with this Plan and other relevant provincial guidelines and manuals.

Algonquin Provincial Park is administered by Ontario Parks, a branch of the Provincial Services Division (MNR). Map 1 illustrates the Park in relation to Southern Region of the Ontario Ministry of Natural Resources.

A.F.A. has offices in Huntsville and Pembroke and day-to-day relationship with the Ministry is with the Ministry's Ontario Parks Office at Whitney. The General Manager of the A.F.A. reports to a Board of Directors, whose Chair reports to the Minister of Natural Resources.

A.F.A. is party to the Algonquin Park Forestry Agreement with the Minister of Natural Resources which specifies that the Minister agrees to offer five-year licences to the A.F.A. for a twenty-year period commencing April 1, 2002. The agreement further specifies the companies to which the A.F.A. will sell Crown timber produced from the Algonquin Park Forest. These supply agreements are reviewed every ten years in conjunction with a new FMP and are based on what the Algonquin Park Forest can sustainably supply. The Minister of Northern Development, Mines and Forestry approves in writing the volume for each company. More details about the administration of the forest can be found in section 2.1 of the Plan.

Local Citizen's Committee Participation

A member of the local citizen's committee (LCC) has participated in the preparation of the FMP as a planning team member and LCC members attended all information sessions and formal issue resolution meetings. The proposed management strategy, long-term management direction and FMP were presented to the committee and input was requested on these products as well as the background information.

The LCC has prepared the following brief statement of agreement with the FMP:

"The majority of the LCC is in support of the FMP as developed, with one member having been engaged in issue resolution over sections of the LTMD related to wildlife habitat modeling, old growth and target setting decisions".

The LCC report can be found in the supplementary documentation section 6.1.16 of the Plan.

Long-term Management Direction Summary

The Long-Term Management Direction (LTMD) for the forest provides guidance for the levels of access, harvest, renewal and tending activities required to achieve the desired future forest and benefits. In the development of the LTMD, management objectives and indicators are identified and analytical methodologies, models and tools regarding forest regulation, social and economic assessment, wildlife habitat supply and landscape management are used. This is

discussed in Section 3 of the FMP, which references supporting details in the supplementary documentation to the Plan.

The long-term management direction provides a means of assessing the sustainability of the management strategy through the measurement and monitoring of indicators that have been developed for each management objective. It is expected that a balanced achievement of the quantitative and qualitative biological, social and economic objectives, will result in the desired long-term future forest condition and benefits.

Plan Objectives and Indicators

As required by the *Crown Forest Sustainability Act*, management objectives for the Algonquin Park Forest must be compatible with the sustainability of the Crown forest, and indicators of objective achievement must be identified. In addition, the *Crown Forest Sustainability Act* requires that each FMP contain management objectives relating to:

- (a) Crown forest diversity, including consideration for the conservation of natural landscape patterns, forest structure and composition, habitat for animal life and the abundance and distribution of forest ecosystems;
- (b) Social and economic factors, including harvest levels and a recognition that healthy forest ecosystems are vital to the well-being of Ontario communities;
- (c) The provision of forest cover for those values that are dependent on the Crown forest; and
- (d) Silviculture for the harvest, renewal and maintenance of the Crown forest.

Table FMP-13 (located in Section 9.0 of the FMP) summarizes management objectives, indicators, desirable levels and associated targets and presents an assessment of achievement of desirable levels for each objective, for those which can be assessed at this time. The management objectives, indicators, desirable levels and targets were developed with input from the Algonquin Park LCC (through the Desired Forest and Benefits meeting), the planning team, and MNR advisors. Sources of information considered in their development included, but were not limited to: the previous FMP; background information; forest management guides and policies; Reports of Past Forest Operations; the CSA Z809 SFM Plan for the Algonquin Park Forest; MNR forest management planning direction and training, and scoping investigations for the 2010 to 2020 FMP.

For each management objective, at least one indicator of objective achievement was developed, along with an associated desirable level(s) and target(s). Some objectives have multiple indicators to measure achievement. A desirable level is a specific number, a range or a trend for an indicator, to be achieved and maintained over time. As with desirable levels, targets are specific numbers, ranges, or trends, with a timeframe for achievement. The establishment of targets for each objective reflected a balancing of objective achievement and considered:

- (a) Social, economic and environmental considerations;
- (b) The associated indicator and its desirable level;
- (c) The current forest condition; and,
- (d) The short-term (10 years), medium-term (20 years) and long-term (100 years).

The rationale used in setting desirable levels and targets is summarized in the Analysis Package (section 6.1.6 of the supplementary documentation).

Modeling with the Strategic Forest Management Model (SFMM) assisted in quantitative scoping investigations and the development of the long term management strategy (see section 3.6 of the FMP) that balances the achievement of management objectives over time. There are a total of 39 objectives and 251 indicators in this FMP. Of the 251 desired levels established, 236 have been achieved, resulting in an overall 94% level of objective achievement.

The Long Term Management Direction

The Long-Term Management Direction is represented by the types and levels of access, harvest, renewal and tending activities required to manage forest cover, in a manner that balances the achievement of management objectives over time. The MNR approved Strategic Forest Management Model (SFMM) is used to develop the LTMD.

The development of the LTMD is an iterative process whereby results are examined and SFMM inputs adjusted as required to improve the model's ability to meet management objectives. This process commonly involves adjusting volume targets, harvest flow policies and targets for the forest diversity indicators – forest unit area, old growth, mature forest and wildlife habitat. As each case is run the resulting harvest volume, forest diversity indicators, silvicultural expenditures and the silvicultural treatment program are examined. The process continues until the planning team is satisfied that no further significant improvements can be made, that on balance objectives have been achieved, and that the solution is practical and can be implemented. The modeling process that led to the LTMD is described in section 3.6 and 3.7 of the Plan.

The outputs of forest modeling for the Management Strategy provide the source for the long term (100-year) projections of quantifiable objectives and are documented within the Plan in the following tables:

- (a) Projected Forest Condition for the Crown Productive Forest (Table FMP-7);
- (b) Projected Habitat for Selected Wildlife Species (Table FMP-8);
- (c) Projected Available Harvest Area by Forest Unit (Table FMP-9); and
- (d) Projected Available Harvest Volume by Species Group (Table FMP-10);

These tables can be found in section 9.0 of the FMP.

Planned Forest Operations for the 10-year Plan Term

Silvicultural Systems, Forest Units and Silvicultural Ground Rules

Silvicultural systems employed on this management unit are primarily selection and uniform shelterwood. Both of these systems rely heavily upon natural regeneration and the first and most important aspect to implementation of these management systems requires trained tree markers to identify the trees to be retained and removed, while taking into account other resource values such as wildlife habitat, aesthetics and species diversity.

In some instances, planting, spacing and releasing trees from competition is required. The majority of the artificial regeneration, site preparation and cleaning is carried out in the pine forest units.

The **selection system** is an uneven-aged silvicultural system where mature and/or undesirable trees are removed individually or in small groups over the whole area. Selection managed forests are often referred to as “continuous” forests since management can be conducted on regular cutting cycles. The cutting cycle is 25 years in Algonquin Park. Tree species managed under this system are generally shade tolerant such as sugar maple, beech or hemlock.

The **uniform shelterwood system** is a method of harvesting in which mature trees are removed in a series of two or more cuts for the purpose of obtaining natural regeneration under the shelter of the residual trees. Canopy openings are distributed fairly evenly throughout the regeneration area. Numerous mature trees per hectare are also retained after a final removal cut to provide structural diversity and important wildlife habitat. Shelterwood is also an appropriate management system for tolerant hardwood stands that, due to past cutting history or limited site potential, have insufficient quality to be managed under the selection system. Forest units managed under this system include white pine, mixedwood, hardwood uniform shelterwood, red oak, spruce-fir and lowland conifer.

The **clearcut system** is used for those tree species that are intolerant of shade and thus need abundant sunlight to regenerate and grow. This system involves the removal of the majority of the mature trees in a single harvest, and is necessary in order to maintain forest diversity and to emulate natural disturbance patterns. The Natural Disturbance Pattern Emulation Guideline requires the maintenance of some residual trees to be left after the harvest. Residual patches of uncut areas are often maintained as well. Species managed under the clearcut system are poplar, white birch, jack pine and black spruce. Red pine is managed under the seed tree system, which is a modification of the clearcut system.

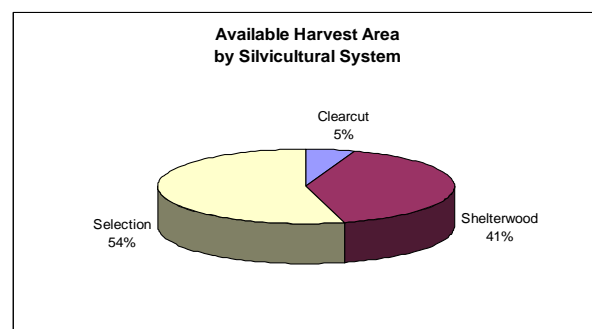
Each stand is assigned to a Forest Unit based on species composition, stocking and management history. A Forest Unit is a classification system that aggregates forest stands for management purposes that normally have similar species composition and develop in a similar manner (both naturally and in response to silvicultural treatments). All stands within a Forest Unit are managed under the same silvicultural system but may be managed with different treatments (e.g. planting, site preparation, tending) and may have different objectives in terms of future forest conditions. The management strategy for each Forest Unit is indicated through the Silvicultural Ground Rules (table FMP-5).

Each stand to be harvested is assigned a Silvicultural Ground Rule (SGR). Each SGR describes the components that make up an individual SGR, including a description of the current and future stand conditions, renewal treatment options and the regeneration standards that are to be met. Each SGR is intended to describe the harvest, renewal and tending activities that will be carried out on a given stand to allow the current Forest Unit, following harvest, to succeed to the Future Forest Unit, whether it is similar to the pre-harvest stand or a different Forest Unit.

Planned Harvest Operations

Results of the long term strategic planning were used to plan operations for the ten-year term of this Plan. The following table summarizes the harvest operations that are planned (i.e. in detail) for the first five-year term (2010-2015), and those which are proposed (i.e. less detail) for the second five-year term (2015-2020) of the FMP. The allowable harvest area and percentage of the total 10-year available harvest area for each of the 3 major silvicultural systems is listed below (See section 4.3 of the FMP for more details):

Silvicultural System (i.e. Harvest System)	10-year Available Harvest Area (ha)	% of 10-year Available Harvest Area
Clearcut	7,037	5.2%
Shelterwood	54,424	40.5%
Selection	72,758	54.2%
Total	134,219	100.0%



Harvest Area and Volume by Forest Unit and Species Group

The estimated available harvest area for the 10-year plan term summarized by principal forest unit, and the harvest volumes (m3) associated with these harvest areas by the principal species group are listed below:

Forest Unit	Available Harvest Area (Hectares)	Species Group	Available Harvest Volume (m3)
INTCC	5,561	PWR	2,038,133
PjCC	500	SPF	797,853
PrCC	620	TOL	2,957,165
SbCC	500	OC	653,807
HDUS	8,881	PO	1,000,135
MWUS	12,098	BW	389,046
LCUS	548	Total	7,836,139
OrUS	1,995		
PwUS	22,956		
SFUS	9,471		
HeSEL	10,384		
HDSEL	63,252		
Total	136,766		

Planned Road Access

The forecast (10 year) road construction summarized for the two main road classes (primary and branch roads) that are needed to access harvest and renewal operations over the 10-year term are listed below. Operational (i.e. tertiary) roads are not listed. (See section 4.5 of the FMP for more details).

Road Classification	New Construction (km)	Reconstruction of Old Road (km)	Total (km)
Primary	13.1	20.2	33.3
Branch	44.5	273.0	317.5
Total	57.6	293.2	350.8

Approximately 84% of the proposed primary and branch road construction is actually re-construction of old existing roads from previous harvest cycles. New primary road construction is required to relocate existing access from past harvest cycles in order to avoid ecologically or socially sensitive areas. The re-use of existing roads in areas of planned operations helps to minimize the impact of forest operations on the environment. Approximately 600 km of road was removed from active service during the previous plan (2005-2009).

The Road Use Management Strategies for each proposed Primary and Branch Road are located within supplementary documentation 6.1.12. Generally speaking, interior roads within Algonquin Park are closed for public travel in order to protect Park values. The proposed Primary and Branch Road locations associated with the 2010 FMP are also indicated on the Composite and Summary Map (supplementary documentation 6.1.2).

Planned Forest Renewal and Tending Operations

The forecast (10 year) renewal and maintenance activities that are required to meet the plan objectives are listed below by renewal activity type. These renewal activities will be carried out on the current planned harvest areas as well as areas harvested during past plan terms.

Artificial regeneration refers to tree planting and seeding. (See section 4.4. of the FMP for more details). Natural regeneration is by far the dominant treatment type and is practiced almost exclusively in selection management areas with high rates of success. Artificial regeneration is used to supplement natural regeneration where required in shelterwood and clearcut management areas. The majority of the proposed tending is stand improvement work planned for HDSEL Forest Unit harvest areas.

Renewal Activities	Forecast Treatment Area (ha)
Natural Regeneration	95,438
Artificial Regeneration	2,866
Total Regeneration	98,304
Retreatment	0
Supplemental	0
Total Tending	33,154

Area of Concern Prescriptions

The forest contains many timber and non-timber values. Some non-timber values have the potential to be negatively impacted by forest management operations. The areas around these values are termed *Areas of Concern*. An area of concern (AOC) may be used to protect a social value such as a canoe route or an archaeological site, or an ecological or environmental value such as a stream or significant wildlife habitat feature (e.g. a great blue heronry, a hawk nest or a moose aquatic feeding area). The FMP includes AOC prescriptions for many different values. These prescriptions may include a no-cut buffer zone (a reserve), an area with access restrictions, and/or a modified management area wherein there may be restrictions on the timing of harvest or silvicultural activity, the method of harvest, or the types of trees that can be harvested. Some prescriptions are developed from the direction in a forest management guide and others are developed at the planning team level. A few examples of the many AOC prescriptions follow. Refer to table FMP-14 for complete AOC prescription details and table FMP-23 for associated conditions on roads.

*Example 1: A **coldwater lake** receives a minimum 30 m no cut reserve with an additional 0-45 m modified zone (based on slope) with selection cutting only and restrictions on mechanical site preparation. In addition, no roads or landings are to be constructed within 120 m of waters without approval of Ontario Parks. Timing of stream crossings that involve in-water construction is also restricted to minimize risk to fish populations.*

*Example 2: A **portage** on a canoe route receives a 60 m no cut reserve on either side of the trail with another 60 metres of partial cutting only (selection or shelterwood) out to 120 m. In addition, no roads or landings are to be constructed within 120 m of portages without approval of Ontario Parks.*

*Example 3: An active **red-shouldered hawk nest** receives a 50 m radius no cut reserve with no new access roads allowed. Outside this 50 m radius is a further 150 m wide zone in which uniform canopy closure is maintained above 70%, road construction requires Ontario Park's approval and operations must occur outside the nesting period to avoid disturbing the young birds. Outside of this 200 zone an additional 150 metres of modified area exists where forest canopy closure must continue to be maintained above 70% but roads may be constructed.*

Operational prescriptions for areas of concern and silvicultural ground rules for regular operations have been prepared in accordance with the applicable forest management guides.

There are no AOC or silvicultural prescriptions that are exceptions to the guides. Operational prescriptions for areas of concern have been prepared consistent with the *Endangered Species Act* to protect habitat related to species at risk known to exist on the forest. (See section 2.2.5.1 and 4.2.1 of the FMP for more detail).

Issues

A summary of the major issues encountered and addressed during the preparation of this Plan to date can be found in supplementary documentation section 6.1.17 of the Plan, and includes the following:

- Direction was received on protecting preliminary priority areas from the “Lightening the Footprint” process (i.e. no forestry allocations within) – this required extra planning effort to accommodate. As this process continues to evolve at the time of FMP submission, more work will need to be completed to reconcile the FMP with the final LTF outcome.
- Nine of ten Algonquin of Ontario communities have been participating as members of the planning team. This has increased the size of the planning team and resulted in some delays in the planning process. At the beginning of the planning process there was a ‘learning curve’ for all related to the FMP process versus the Land Claim process. Significant time was spent discussing Steering Committee membership, Lightening the Footprint direction and non-derogation clause wording in the FMP Terms of Reference for this Plan.
- The main concern of the Algonquin representatives relates to access in Algonquin Park and the majority of communities’ wish for all roads to be left open after forestry operations are complete. Roads facilitate their hunting, fishing and cultural activities. Road access conflicts with Park objectives of remoteness, visitor solitude and protection of fragile resources (i.e. species at risk, brook trout) and there are safety and liability issues with watercrossings. Road access is however also necessary to accomplish forest management objectives, including silvicultural effectiveness monitoring and manual tending. Through discussions on Native values mapping and identification of priority roads, AFA and Ontario Parks have been working with each community on areas of importance to them. The primary road system is usually driveable and available for access for these activities. Branch and operational roads are only driveable for short periods of time but as access in one area closes, another area opens up.
- Significant time was spent by the planning team discussing area of concern prescriptions. Larger areas of concern for Species at Risk was a significant discussion item – timing and/or road restrictions over a large part of the landbase does cause concern for feasible/economic forestry operations. Meeting the requirements of the Endangered Species Act will be a major issue during plan implementation.

Public input has generally been light during the process and in many cases very positive in support of forest management in Algonquin Park. Many comments were received at the first Information Centre reminding the planning team of the economic importance of forestry to their communities.

There have been two Issue Resolution requests during development of this FMP. An environmental group requested Issue Resolution on a number of items associated with the LTMD component of the FMP. This group has proceeded through the Plan Author, District Manager and Regional Director stages of Issue Resolution. Their concerns relate to modeling of wildlife species habitat and natural benchmark trend levels (specifically pileated woodpecker), old growth levels and distribution (particularly white pine), and the planning team choice of

natural benchmark trend levels to be emulated (they are critical of the 75% desired level). On October 30th 2009, the Regional Director responded by providing further clarification on these issues and concluded that the requested alterations to the Plan would not be required. The Regional Director also advised that if they still have concerns they may pursue an Individual Environmental Assessment request with the Ministry of the Environment. Another individual has gone through District Manager and Regional Director stages of Issue Resolution during the Draft Plan review stage. Concerns were similar to the first request and included road density, SFMM modelling and Yield Comparisons, and financial motivations of the Draft FMP. On April 13, 2010 the Regional Director responded to this Issue Resolution request - again further clarification was provided on all topics raised. However the recommendations offered by the requester were not accepted. The Regional Director also advised that if the person still has concerns they may pursue an Individual Environmental Assessment request with the Ministry of the Environment. See supplementary documentation section 6.1.15 of the Plan for a more complete summary of these Issue Resolution requests.

Public Consultation

Public inspection of the MNR approved FMP is scheduled from late April to late May 2010. The public may submit an individual environmental assessment request during that 30-day inspection period.

Summary Map

Proposed harvest, renewal and tending operations, locations of existing and new primary and branch road construction for the 10-year term are shown on the attached map (Appendix 1). The map also contains an index map showing the location of the management unit within the province.

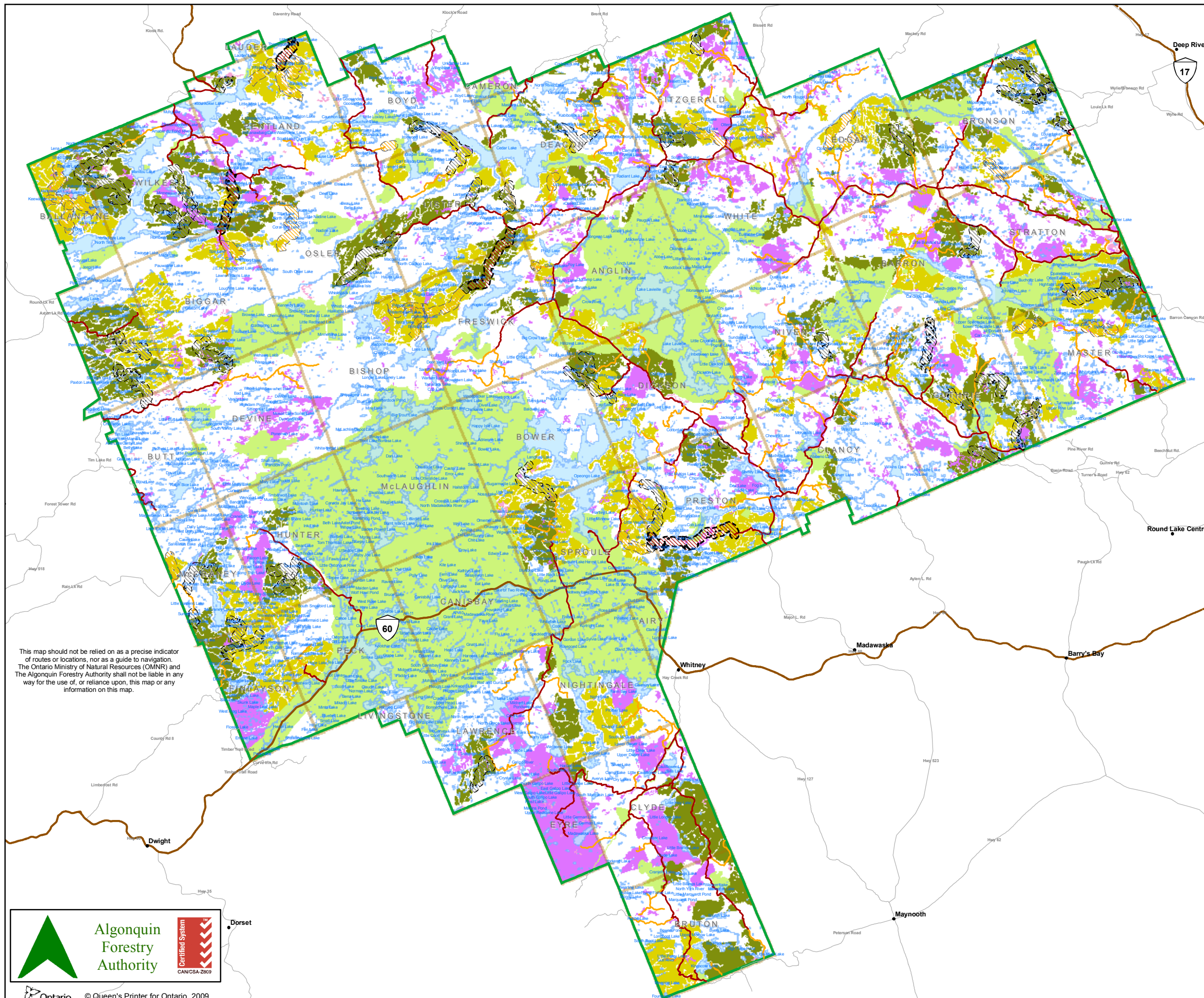
Appendix 1: Plan Summary Map

Algonquin Park Forest (MU #451)

2010 - 2020 Forest Management Plan

First Term

FMP Summary Map



Legend

Harvest

- Phase 1 Selected Areas (2010-2015)
- Phase 2 Proposed Areas (2015-2020)

Renewal and Tending

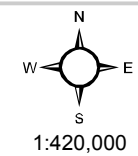
- Phase 1 Planned Areas (2010-2015)
- Phase 2 Proposed Areas (2015-2020)

* All areas planned/proposed for harvest and past harvest areas are also proposed for renewal and tending activities.

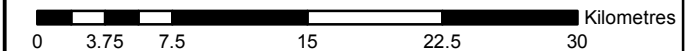
Roads

- Primary Road (Existing)
- Branch Road (Existing)
- Selected Primary Road Corridor (10 Year)
- Selected Branch Road Corridor (Phase 1)
- Selected Branch Road Corridor (Phase 2)

- Nature Reserve, Historical, Natural Environment, Wilderness and Development Zone
- Lakes



1:420,000



This map should not be relied on as a precise indicator of routes or locations, nor as a guide to navigation. The Ontario Ministry of Natural Resources (OMNR) and The Algonquin Forestry Authority shall not be liable in any way for the use of, or reliance upon, this map or any information on this map.

