



# Forest Management Planning in Canada

Prepared by: Karen Saunders, HBScF, MES

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## **Introduction**

The forest management planning process in Newfoundland and Labrador was identified by the partners of the Western Newfoundland Model Forest (WNMF) as a priority research consideration. The provincial government of Newfoundland and Labrador – as with other provinces - is always considering potential improvements to and changes in the current approach to forest management planning in the province.

In Canada, forest management falls under provincial jurisdiction, and as such, we are fortunate to have a variety of planning models to examine. Each province's approach to forest management differs from the next, although similarities do exist between jurisdictions with respect to the individual elements of forest management planning. It was agreed by our partners that an exercise comparing the forest management planning processes of each of Canada's provinces would be useful.

The following report provides details of the forest management planning processes for the provinces of British Columbia, Alberta, Manitoba, Ontario, New Brunswick, and Newfoundland and Labrador. It is important to understand that this report does not seek to compare processes, nor does it seek to evaluate the merits or faults of any of the provinces' approaches to forest management. What this report does attempt is to provide a non-biased and factual account of each province's current forest management planning process.

Throughout the report, textboxes have been used to raise issues and questions (of the author and others) surrounding the different approaches to forest management. This report does not attempt in any way to provide answers to these questions, however, the questions may be of use for provoking discussion among people charged with reforming existing forest management planning processes.

It is also important to note that forest management planning is a dynamic entity. Processes are constantly evolving to reflect current research results, and social, economic and political trends. The contents of this report should thus only be considered current as of February 2003.

## Methods

The report author drew upon her experiences with forest management to date to create a template of categorical groupings of questions (Appendix A). The template was reviewed by representatives of government and industry in Newfoundland and Labrador to provide an opportunity for additions and/or deletions. The template was then sent out to representatives from each of the provinces' governments as well as representatives from model forests via e-mail. Any template answers that could be provided through consultation with websites and other documents were filled in by the report author. Responses varied from province to province and after a reasonable amount of time and effort had been spent attempting to solicit responses from all provinces, completed templates were submitted from British Columbia, Alberta, Manitoba, Ontario, New Brunswick, and Newfoundland and Labrador. Saskatchewan submitted a template after the completion of the report (Appendix B). As such, Saskatchewan's process is not included in the main body of the report.

Through the above process, contacts were established with representatives in each province. These representatives were extremely helpful and made themselves available to answer questions, provide clarification, and seek missing information. Information submitted with the completed templates was synthesized into the following report.

## **Determination of the Allowable Annual Cut (AAC)**

The determination of an allowable annual cut (AAC) is one component of forest management planning in almost any jurisdiction. It is also one of the most important steps since it determines the maximum amount of timber that can be sustainably harvested each year for the term of the forest management plan. The method of determining AACs is complex and varies significantly across Canada. AACs are not static numbers; they are revised periodically to reflect changing conditions and improvements in data and knowledge. Furthermore, there is no one "correct" harvest rate for a forest, but rather a range of rates that correspond to various public policy options, such as creating protected areas or controlling forest fires. In this way, AACs reflect society's values, as well as the biological and economic conditions of the forest. The calculations are based on estimates of the extent of the forest landbase; the growth rate of trees; losses due to fire, insects, and disease; accessibility; economic conditions; environmental considerations; silvicultural investment; degree of protection; and management objectives (CCFM 2002).

Across Canada, one of the standard components incorporated into the determination of an AAC is computer modeling. Computer modeling allows us to project the results of our present actions into the future. Modeling allows us to take into consideration the growth rate of trees as well as the effects of various management actions (e.g. silviculture) on the future availability of wood fibre. Using computer modeling, it is possible to examine the repercussions of an endless variety of combinations of activities. Each of the provinces examines several scenarios before finalizing an AAC value. While computer modeling is used by each of the provinces to help determine an AAC, the software used often differs, as do the parameters entered, the spatial scale of determination, and the level of public input into the process.

### **Computer Modeling Software**

In British Columbia, the Forest Service Simulator is used for timber supply modeling. In Alberta, the choice of software is up to the discretion of the Forest Management Agreement (FMA) licence holder. Often the FMA holders will choose Complan or Woodstock. Manitoba, New Brunswick, and Newfoundland and Labrador use Woodstock. Although not mandatory, all licensees in Ontario use the Strategic Forest Management Model (SFMM).

## Modeling Parameters

The parameters used in the AAC determination are too numerous to mention for each province. Common parameters can include: timber supply calculations; land-use classifications; forest dynamics; silvicultural options; ecological considerations; and objectives relating to the desired future forest (including social, economic and biological).

**What are the positive and negative issues surrounding having the licensee responsible for modeling and AAC determination?**

## Spatial Scale of AAC Determination

In most jurisdictions, the AAC is determined at the scale of the Licence Agreement. The exception to this is Newfoundland and Labrador where a separate AAC is calculated for each tenure at the forest management district scale. Licence sizes (and thus in most cases, the area upon which AAC is determined) can vary greatly from province to province as well as within a single province (Table 1).

**How does the spatial scale of AAC determination affect the ability to address landscape-level considerations?**

**Table 1.** Size of landbases upon which AAC is determined for a selection of provinces.

Province	Range of Landbase Sizes Upon which AAC is Determined (km <sup>2</sup> )	
BC	84 to 132,000	(Source: BCMF 2002a)
AB	2,677 to 58,000	(Source: ForestWatch Alberta 2001)
MB	Not available	
ON	1,718 to 20,163	(Source: Wildlands League 2001)
NB	718 to 5,642	(Source: NBFPA 2002)
NL	2,053 to 7,905	(Source: English 2003)

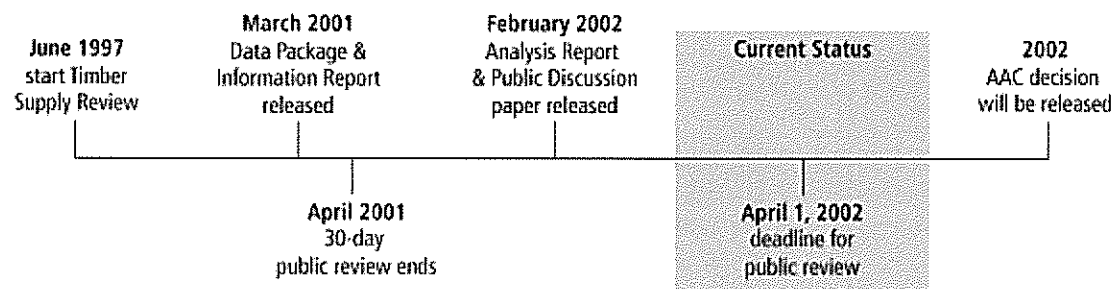
## Public Participation in AAC Determination

In British Columbia and Ontario, the AAC is not determined until after a public review has been carried out. In these provinces, public input is sought for the identification of objectives and management alternatives in the first planning stages (Figure 1 and Figure 2).

In Alberta, it is up to the FMA holder to develop a Public Involvement Plan. Although these plans vary in content and rigour, it is standard that the Public Involvement Plan involves public input into the setting of objectives prior to choosing the preferred alternative and determining the AAC (Stokes 2002). Conversely, in Manitoba, New Brunswick, and Newfoundland and Labrador, no

public input is sought prior to AAC determination. In New Brunswick, while there is no public input into the setting of objectives (or AAC), licensees must inform the public on how objectives were met. In Newfoundland and Labrador, a public announcement is made by the Minister once the AAC is determined.

Should government representatives' duty to represent the public be considered an effective form of (indirect) public involvement?



**Figure 1.** Example of steps in the timber supply review process for the Morice Timber Supply Area (TSA), British Columbia (Source: BCMF 2002b).

PUBLIC CONSULTATION STAGE	STANDARD CONSULTATION SCHEDULE	STEP IN PLANNING PROCESS
	Organizing for planning	Assembly of Background Information
STAGE 1	Invitation to Participate	Assembly and Analysis of Background Information, Analysis of Management Alternatives, Identification of Optional Areas for Harvest
	Notice of 1 <sup>st</sup> Info Centre	
STAGE 2	First Information Centre	Public Review of Analysis of Management Alternatives and Optional Areas for Harvest
	Public Response Due	
STAGE 3	Notice of 2 <sup>nd</sup> Info Centre and Native Consultation Forum	Analysis of Responses and Identification and Evaluation of Alternatives for Five-Year Operations (Including determination of available harvest)
	Second Information Centre & Native Consultation Forum	Public Review of Evaluation of Alternatives for Five-Year Operations
	Public Response Due	Analysis of Responses and Preparation of Draft Plan (Including <b>Determination of Available Harvest Area</b> )
	Submission of Draft Plan for MNR Review	
STAGE 4	Notice of Draft Plan Review	MNR Review of Draft Plan
	Information Centre & Native Consultation Forum	Public Review of Draft Plan and Preliminary List of Alterations
	Public Response Due	Completion of MNR Review and Final List of Alterations
	Final list of Alterations to District Manager, Company, Affected Persons	Preparation of Revised Plan
	MNR Plan Approval	MNR Review of Revised Plan
STAGE 5	Last Opportunity for EA Bump-up Request...Decision by MOEE on Request	Public Inspection of MNR-Approved Plan  <b>Operations Commence</b>

Figure 2. Stages of the public consultation component of Ontario's forest management planning process (Source: OMNR 1996).

## The Forest Management Plan

Once the AAC has been determined, the next step is almost always the preparation of a Forest Management Plan (FMP). Again, despite the fact that this step is carried out by all of the provinces, the FMP requirements differ from one jurisdiction to another. There are variations in the plan authors, frequency of the development of new FMPs, the time-frame that plans cover, the length of time taken to write a plan, the variety of participants in the development of plans, and the values considered in planning.

### Responsibility for Writing the Plan

In B.C., Alberta, Manitoba, Ontario, New Brunswick, and Newfoundland and Labrador, licensees are responsible for the preparation of FMPs. Most provinces have handed over forest management responsibilities to industry through various forms of licence agreements. Generally, in provinces with un-alienated Crown land (land for which the government still maintains management responsibility) the provincial government is responsible for plan development.

### Frequency of Plan Development

The utility of comparing the forest management plans of different provinces is questionable given the large degree of variation in provincial requirements. Each province undertakes planning at both the strategic and the operational level. Some provinces will incorporate both aspects into one plan, while others will require two or more plans. The following summarizes the forest management plan requirement(s) for each province.

Forest Management planning in B.C. is complicated. Strategic level plans include land use plans, high level plans, forest management plans for area-based tenures called tree farm licences (TFLs), and the newly recommended (but not required) Sustainable Forest Management Plans. Regional and sub-regional land use plans prepared in the 1990s each took two to five or more years to prepare with extensive public input, and this is unlikely to be repeated. They defined resource management zones and general objectives for them that in some cases are clarified and made more explicit in more localized high level plans. Forest management plans for TFLs are prepared by licensees every five years, take approximately 20 months to prepare and require public input. They address a 20-year time frame, consider timber supply for 200+ years and provide the technical basis for the chief forester's determination of AAC. The government prepares a

**How do land use plans  
(and associated  
planning processes)  
impact the development  
and contents of forest  
management plans?**

similar timber supply analysis for 200+ years for timber supply areas (TSAs) that collectively cover a much larger area than TFLs, but does not prepare a 20-year forest management plan for them. Operational planning includes Forest Development Plans (FDPs), silviculture prescriptions and range use plans. FDPs are landscape-level operational plans that must be consistent with higher level plans, and require public input. FDPs cover a five-year period, are typically prepared every two years (overlapping the last three years of the previous plan), take approximately 6-12 months to prepare and are required for TFLs and all major (volume-based) licences in TSAs. Most licensees have general road and cutblock development planning for a 20-year horizon that is not required but provides a useful basis for developing FDPs. A silviculture prescription is required for every cutblock before road construction and harvesting begin, and covers site-specific management until a free-growing stand is established. Silviculture prescriptions take the place of what in most jurisdictions would be the annual operating plan, but are specific to the site rather than an operating year. The silviculture prescription for each cutblock takes approximately one week to prepare.

In Alberta, a Detailed Forest Management Plan (DFMP) is prepared no later than 10 years after the previous submission. A DFMP covers a 20 year time frame although timber supply considerations are for 140 to 200 years. General Development Plans (GDP) and Annual Operating Plans (AOP) are prepared yearly. GDPs cover a 5-year period.

**How do temporal timber supply considerations impact the sustainability of a forest management plan?**

In Manitoba, FMPs are prepared every 10 years and cover a 10-year time frame incorporating both strategic and operational considerations. Annual operating plans are also required and must contain projections for at least two years beyond the operating year of the plan.

In Ontario, FMPs are renewed on a 5-year planning cycle. Plans cover a 20-year time period with timber supply considerations of 100+ years. Plans include strategic considerations and also incorporate detailed operational prescriptions for a 5-year period. The operational prescriptions are then translated into a yearly annual operating plan.

**How do the time-frames covered by forest management plans (strategic and operational) impact on the sustainability of the resource?**

In New Brunswick, plans are in effect for, and are renewed every five years, although harvest is mapped for 25 years and timber supply considerations cover 80 years. These plans incorporate both strategic and operational planning considerations including prescriptions. Detailed annual operating plans are required and are derived from the management plan.

In Newfoundland and Labrador, plans cover a five-year period though timber supply considerations are for a 160-year period. The provincial government produces a 20-year strategic plan that guides all other forest management planning. Five-year operational planning is carried out separately but must abide by the strategies outlined in the 20-year plan. Annual operating plans are also required as separate documents.

**Table 2.** Renewal frequencies and time frames covered by several provinces' forest management plans.

Province	Type of Plan	Time-frame	Timber Supply	Renewal frequency
BC	Forest Management Plans – <i>Strategic</i>	20 years	200+ years	Every 5 years.
	Forest Development Plans - <i>Operational</i>	5 years	n/a	Every 2 years.
	Silviculture Prescriptions - <i>Operational</i>	5 years	n/a	As required.
AB	Detailed Forest Management Plan - <i>Strategic</i>	20 years	140 to 200 years	Every 10 years.
	General Development Plan - <i>Operational</i>	5 years	n/a	Every year.
	Annual Operating Plan - <i>Operational</i>	1 year	n/a	Every year.
MB	10-Year Forest Management Plan – <i>Strategic and Operational</i>	10 years		Every 10 years.
	Annual Operating Plan - <i>Operational</i>	3 years	n/a	Every year.
ON	Forest Management Plan – <i>Strategic and Operational</i>	20 years strategic, 5 years operational	100+ years	Every 5 years.
	Annual Work Schedule	1 year	n/a	Every year.
NB	Forest Management Plan – <i>Strategic and Operational</i>	25 years strategic & operational	80 years	Every 5 years.
	Annual Operating Plan	1 year	n/a	Every year
NL	20-Year Strategy Document - <i>Strategic</i>	20 years	160+ years	Every 5 years.
	5-Year Plan - <i>Operational</i>	5 years	n/a	
	Annual Plan - <i>Operational</i>	1 year	n/a	Every year.

### Time Taken for Plan Development

As with the wide variety of plan types and durations, the length of the planning process varies from province to province. It can take anywhere from 6 to 60 months to complete a forest management plan (Table 3).

At what point does the length of time taken to write a plan become detrimental to the effectiveness of the planning process?

**Table 3.** Time taken for plan development.

Province	Type of Plan	Approximate Length of Time for Plan Development (months)
BC	Forest Management Plan	20
	Forest Development Plan	6-12
AB	Detailed Forest Management Plan	24-48
	General Development Plan	
MB	10-Year Forest Management Plan	24-60
ON	Forest Management Plan	24-27
NB	Forest Management Plan	24
NL	20-Year Strategy Document	6
	5-Year Operating Plan	

### Values Identified in Forest Management Plans

Forest management plan development generally involves participation of a variety of groups including employees from relevant government departments, licensees, timber operators, consultants, First Nations, NGOs, and the public. Throughout the course of plan development, a wide variety of social, economic and ecological values are usually identified including (but not limited to): fish and wildlife habitat, tourism, outfitting, timber, recreation, old growth, economic environment, and landscape processes. While most provinces involve similar groups in their management planning processes and address similar values in their plans, the authority that is formally responsible for the identification of values differs from province to province (Table 4).

**Table 4. Responsibility for identification of values for forest management plans.**

<b>Province</b>	<b>Responsibility for Value Identification</b>
BC	All participants in the planning process.
AB	All participants in the planning process.
MB	Primarily, industry.
ON	The government will produce a values map. The planning team and the Local Citizen's Committee will contribute. The public will contribute.
NB	The government.
NL	The planning team.

## Public Participation

It should come as no surprise that forest management planning public participation requirements also vary from province to province. In fact, the differences in each province's approach are significant. Arnstein's ladder (Figure 3) is a common tool used to measure the level of public involvement in a particular process. This ladder will be referred to throughout the following section.

Degrees of Citizen Power	8.	Citizen Control	Guarantees that participants can govern a program/institution and be in full charge of managerial and policy aspects.
	7.	Delegated Power	Citizens achieve dominant decision-making authority over a plan or program.
	6.	Partnership	Allows citizens to negotiate and engage in trade-offs with traditional power-holders.
Degrees of Tokenism	5.	Placation	Citizens have some degree of influence, but retain for the power-holders the right to decide.
	4.	Consultation	Citizens may hear or be heard, but they lack the power to ensure their views will be heeded by the powerful.
	3.	Informing	One way flow of information with no channel provided for feedback and no power for negotiation.
Non-Participation	2.	Therapy	Enables power-holders to "educate" or "cure" participants.
	1.	Manipulation	Distortion of public participation into a public relations vehicle by power holders.

**Figure 3.** Arnstein's ladder of public participation (Source: adapted from Arnstein 1969).

Given that each province gives the responsibility for the final decisions in forest management planning to a representative of government, it follows that no province is able to achieve higher than 5 on Arnstein's ladder. In British Columbia, Alberta, Manitoba, Ontario, New Brunswick and Newfoundland and Labrador, the final decision lies with the provincial government. In B. C., the final decision regarding land use lies with Cabinet, the final decision regarding AAC lies with the Chief Forester, and the final decision regarding the approval of forest operations lies with the District Manager. In Ontario, plans are approved by the Regional Director of the

**Is it possible / desirable to have a public participation process for forest management that ranks a 6-8 (level of citizen power) on Arnstein's ladder? What are the social, economic and ecological implications of such a process?**

Ministry of Natural Resources. If a bump-up has been requested, the Minister of the Environment decides if a full environmental assessment is required for specific proposed management activities. There are also requirements under the provisions of the *Environmental Bill of Rights (EBR)*, as amended from time to time, for separate Environmental Registry notices to be placed on the provincial EBR Environmental Registry. These notices are required at the Invitation to Participate, Draft Plan Review; and Plan Inspection stages.

### **Responsibility for the Public Participation Component of Planning**

Licensees are responsible for carrying out public participation in relation to forest management planning in B. C., Alberta, Manitoba and New Brunswick. In Ontario, the provincial Ministry of Natural Resources (MNR) is responsible for conducting public consultation. In Newfoundland and Labrador, the licensee is responsible for public participation related to plans for their limits. The provincial Department of Forest Resources and Agrifoods (DFRA) is responsible for public participation on un-alienated Crown land. If both the provincial government and industry have management responsibilities in the same district, they may choose to take joint responsibility for the public participation process.

### **Use of Advisory Committees**

Advisory Committees are used in B. C., Manitoba, and Ontario. In Alberta, New Brunswick, and Newfoundland and Labrador, the use of such committees is optional; although in New Brunswick committees are in place for most licences.

### **Level of Public Participation**

The most thorough public participation requirements appear to be present in B. C. and Ontario. In B. C. there are several different opportunities for public participation. Many of these are associated with higher-level plans that are not specific to forestry. Public

**Does an extensive public participation process increase the probability that the views of the public are considered in forest management plans?**

participation in forest management planning is solicited for strategic planning and operational planning. The timber supply review process, for example, takes between twenty-two and thirty months and incorporates two opportunities for public review. The first public review involves review of the Information Report and Data Package. The second public review involves review of the Analysis Report and Public Discussion Paper. Following the second review, a Rationale Statement is drawn up and released to the public. In the case of operational planning in B. C., proposed forest development plans, five-year silviculture plans and access management plans must be available for public review at least once a

year. Public concerns must be expressed in writing and responses must be delivered by licensees describing actions taken or rationale for no action.

Ontario makes use of a five-stage process that is designed to identify concerns early in the process. Steps one and two focus on the identification of strategic concerns while step three addresses operational concerns (Figure 2). Local Citizens Committees (LCCs) are established and are made up of local citizens appointed by the District Manager from nominations provided by local interest groups. The LCC operates as a standing advisory committee that ensures that all local interests are effectively communicated. Ontario also has a Forest Management Native Consultation Program through which First Nations may choose additional consultation and documentation opportunities. Despite the extensive process, Ontario's public participation measures between a four and a five on Arnstein's ladder.

In Alberta, the public participation strategy is up to the discretion of the FMA holder. All FMA holders must submit a Public Involvement Plan to be approved by the Regional Director. It may include a public component for any, some, or all of the planning stages. It must include a conflict resolution mechanism and a clear indication of how the results of public participation will influence management strategies. There must be performance measures and an evaluation component. Depending on the extent of the Public Involvement Plan, Alberta's process ranks anywhere from three to five on Arnstein's ladder.

In Manitoba the proponent is encouraged to develop a public participation plan. The plan should include: goals and objectives for public consultation, the planning stages when consultation will occur, a list of stakeholders to be consulted, and explanation of how results will be reported and incorporated into the plan. The results of public consultations must be reported in the plan including: how concerns have been addressed, how public consultation will continue during plan implementation, and mechanisms for future involvement. Significant public review and comment is also solicited during the EA process that applies to all developments of 5000 m<sup>3</sup> per year or greater (see next section for more detail on EA). Additionally, public consultation is achieved for Annual and long-term Forest Management Plans for forestry companies in Manitoba, through the use of company-specific Stakeholder Advisory Committees. The use of Stakeholder Advisory Committees to solicit public input is a requirement in Manitoba, and a specific clause in each company's Manitoba Environment Act Licence. The public participation process in Manitoba would likely rank a five on Arnstein's ladder.

In New Brunswick, the public participation component of planning is minimal. There is no public input into the setting of objectives or the AAC. Several (three to five) meetings are held around the time the plan is finalized to inform the public as to how objectives - set by the provincial government – are being met. Most of New Brunswick’s licensees also make use of on-going advisory committees. On Arnstein’s ladder, New Brunswick’s process would likely rank a three or four.

**Do the public's views of the sustainability of forest management differ in jurisdictions with less-extensive public participation processes?**

In Newfoundland and Labrador, public consultation is used throughout the planning process with the exception of AAC determination. Meetings are held bi-weekly for a period of approximately six months. The public may attend any and/or all meetings while the process is in progress. Advisory committees are sometimes used, although not required. On Arnstein’s ladder, this process would rank a four.

### **Conflict Resolution and Opportunities for Negotiation**

In B. C., conflicts are resolved through negotiation and many opportunities exist throughout the process to negotiate values. In Alberta, conflicts are resolved according to a pre-determined process as outlined in the Public Involvement Plan. This process will vary from licensee to licensee. Opportunities for negotiation will also be dependent on specific allowances of the individual licensees’ Public Involvement Plan. In Manitoba, there are no opportunities for negotiation within the plan. Conflict resolution is addressed during the plan approval process (including EA), when plan revisions may be required.

In Ontario, the five-stage process provides many opportunities for negotiation. An Issue Resolution Process is outlined in the Forest Management Planning Manual for Ontario’s Crown Forests (1996). This process involves strict timelines and documentation requirements. The plan may also be “bumped-up” to an individual EA at which point conflict resolution will become the responsibility of the Ministry of the Environment.

**How effective are extensive conflict resolution processes in ensuring the satisfaction of all parties?**

In New Brunswick, there are no opportunities for negotiation of public concerns since all negotiation is carried out in advance of public information sessions. It follows that conflict resolution does not become an issue.

In Newfoundland and Labrador, negotiation may occur throughout the process, however the industry and/or province have the final decision-making power. Conflict resolution processes vary and often take the form of side-bar meetings at the planning table. In Labrador, the provincial government and the Innu Nation have entered into a co-management agreement. The planning process in this jurisdiction will thus be unique.

## Forest Management Planning and Environmental Assessment

Environmental assessment (EA) is a comprehensive and systematic process designed to identify, analyze and evaluate the environmental effects of proposed projects. Since forest management is under provincial jurisdiction, provincial environmental assessment legislation applies. This legislation predictably differs in approach from province to province – particularly with respect to forest management.

In B. C., the Forest Practices Code governs strategic and operational forest management planning and timber harvesting, road construction, silviculture and other operations in the field. It was specifically designed to incorporate most aspects of EA, thereby making separate EA processes unnecessary. The same can be said for the newly adopted Forest and Range Practices Act.

In Ontario, there exists a special type of EA called Class EA. Class EAs are designed for projects that are carried out routinely, and have predictable and mitigable environmental effects. Forest management is one type of activity that has been approved for Class EA status. With a Class EA, a specific process is set up and must be followed (OEA 2003). In the case of Ontario, this process has been incorporated into the requirements of the Forest Management Planning Manual for Crown Lands in Ontario. A separate Table of Contents must be submitted

**What are the advantages and disadvantages of incorporating EA into the forest management planning process vs. conducting a separate EA process?**

with each plan that outlines where the EA requirements can be located within the plan. Class EAs incorporate the option of a Part II Order (formerly known as “Bump-up Provision”) which allows individuals to submit a request to the Minister for an individual EA to be carried out. The current Class EA approval expires in May 2003, and the MNR has submitted its request to the Minister of Environment and Energy to renew the approval (OMNR 2002).

In Alberta and New Brunswick, forest management plans are not subject to EA.

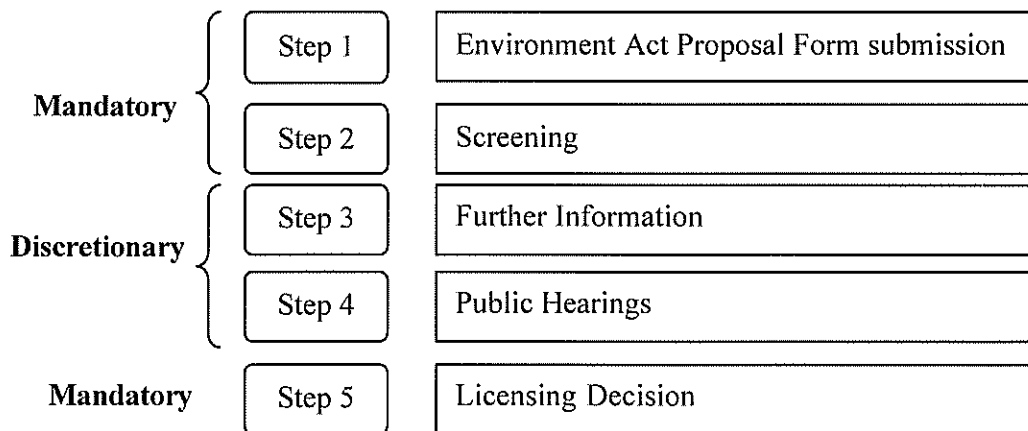
In Manitoba, forest developments greater than 5000 m<sup>3</sup> per year are considered Class II Developments under the Manitoba Environment Act. This means that an Environment Act Proposal Form (Step 1) must be submitted to the Environmental Approvals Branch prior to plan implementation (Figure 4).

Once submitted, the proposal is screened by the public and a Technical Advisory Committee (TAC) (Step 2) to determine the need for more information, a full Environmental Impact Statement (EIS), and/or in some cases a public hearing. The TAC consists of representatives from various provincial and federal government departments. The public review is conducted through media advertisements. Proposal material is placed in public registry files located in government offices and public libraries across the province.

Step three is discretionary and consists of further information gathering if the proposal is deemed deficient. The proposal will then be screened again.

Step four is also discretionary and gives the Minister the right to call a public hearing.

Step five is the mandatory licensing decision whereby the department decides to issue a licence with limits, terms and conditions, or to refuse a licence. A licence is required to begin implementing the forest management plan. It should be noted that while some steps in Manitoba's process remain discretionary, in practice, since the inception of the Manitoba Environment Act in 1988, *all* forestry companies preparing long-term Forest Management Plans in Manitoba have also been required to prepare an EIS and undergo multi-day public hearings in various parts of the province, chaired by the Manitoba Clean Environment Commission.



**Figure 4.** Manitoba's EA process for Class II Developments.

In Newfoundland and Labrador, EA is carried out in a similar fashion to Manitoba. All five-year Operating Plans are subject to EA. The steps in the EA process (Figure 5) are also similar to those in Manitoba.

Step one involves the registration and review of the undertaking. A registration document must be submitted to the EA Division of the Department of the Environment. This document is reviewed by the public and by government. A recommendation is then given to the Minister.

Step two involves the Minister's decision. The Minister may choose to: a) Release the undertaking from further EA, b) Require an Environmental Preview Report (EPR) containing additional information about the undertaking, c) Require an Environmental Impact Statement (EIS) in cases where the possible negative environmental impacts or public concern is significant, or d) Reject the undertaking. In the case of both an EPR and an EIS, an assessment committee is formed composed of technical experts from provincial and federal government. This committee will recommend guidelines for the preparation of the EPR/EIS. The EPR/EIS will be reviewed and evaluated by the public and the committee and recommendations will be made to the Minister who will then make a decision.

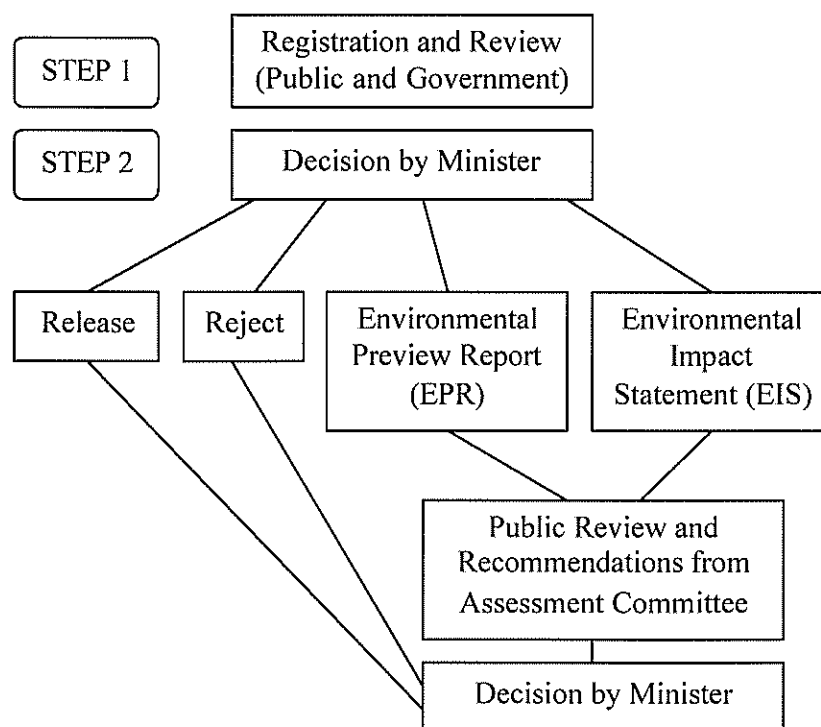


Figure 5. Newfoundland and Labrador's EA process.

## Monitoring and Evaluation

### Monitoring of the Implementation of the Plan

Once implemented, to ensure effectiveness, a plan must be monitored. In British Columbia, the Ministry of Forests has an extensive program of compliance and enforcement consisting of over 40,000 scheduled inspections a year to ensure compliance with the Forest Practices Code. The Forest Practices Board provides independent audits of ministry and licensee operations and responds to public requests/complaints about forest practices. The Ministry of Forests also monitors field forestry through: the effectiveness of enhanced forest management, the effectiveness of specific FPC requirements, and “adaptive management”.

In Alberta, plan performance is reviewed annually as per criteria established in the plan (annual performance report). This is reported to the public every five years with the submission of a Stewardship Report that includes reporting on criteria and indicators, performance indicators, objectives, sensitivity analysis of timber supply, and cumulative effects.

**Do monitoring provisions adequately address non-timber values (water quality, wildlife populations, etc.)?**

In Manitoba, there is annual reporting and five-year reporting. Operations are inspected regularly by Conservation Officers and provincial forestry staff.

In Ontario, a five-year monitoring program is planned and documented in the plan. Much monitoring is associated with MNR’s Forest Operations Inspection program. In addition to the Forest Operations Inspection program, Annual Reports are also produced. A Report of Past Forest Operations is produced every five years. An Assessment of Forest Sustainability must be produced at the end of a five-year period. This includes an examination of measurable indicators (criteria and indicators), forest condition, and socio-economic condition. An assessment of the achievement of objectives must also be carried out at the end of each five-year period.

**How important is second- and third-party (independent) monitoring and assessment of forest management plan implementation?**

Independent Forest Audits are conducted the (fiscal) year after a planning term ends. This usually coincides with the approval of a new plan. The IFA looks at everything: was the plan implemented as stated; were operations conducted properly; were results (e.g. renewal success) as expected; was the proper process

followed; record keeping (company and MNR); public involvement; payments to and receipts from the Renewal Trust. In addition to site and office visits, the auditor interviews Company & MNR staff and LCC members, and holds an information session to receive input from the public. The audit makes recommendations on forest management (planning and implementation) and extension (or not) of the Sustainable Forest Licence (FMA in other jurisdictions).

In New Brunswick, regional staff monitors all operations.

In Newfoundland and Labrador, there is no written process in place for monitoring the plan.

### **Evaluation of the Planning Process**

The Forest Practices Code of British Columbia has been subjected to ongoing evaluations since 1995. Several pilot projects for evaluating alternative approaches were implemented under 1999 legislation. The Forest Practices Board does ongoing evaluation of forest management as required under the FPC. An extensive consultation process for review of a proposed new "Results-Based Code" was completed in summer of 2002. On December 17, 2002, streamlined amendments of the Forest Practices Code of British Columbia Act and regulations came into effect. These amendments give licensees immediate relief from regulatory burden, which licensees can enjoy through the two-year transition period until the new Forest and Range Practices Act is fully implemented in April, 2005.

**Do different provinces' forest management planning process evaluations deliver similar results/concerns?**

In Alberta, no formal evaluation has been conducted.

In Manitoba, no formal evaluation has been conducted, however, new processes for compliance and auditing have been considered.

In Ontario, the MNR has recently completed an eight-year review of the EA Act Approval and the results are now being considered by the Minister of the Environment. A 90-day period for public review and comment has been provided. The Forest Management Planning Manual will be revised to reflect any new terms and conditions of the EA Act Approval.

In New Brunswick, every five years a set of evaluation criteria is established and a review is conducted at the end of the five years. Failure to meet the criteria will cause the FMA to be shortened by five years.

An evaluation of the planning process in Newfoundland and Labrador is currently being carried out by Dr. Tom Beckley of the University of New Brunswick. Results are pending.

## Future Directions

Provincial jurisdiction over forest resources has clearly resulted in a variety of approaches to forest management planning processes in Canada. This report highlights and explains some of the elements of these processes. After reading such a report, however, the inquisitive mind can't help but want more. A follow-up report would effectively include an analysis of the merits and limitations of each approach to each element of the forest management planning process. Such a report would require a significantly larger amount of resources. It would, however, have the potential to provide answers to some of the questions posed in the side-bars of this report.

Despite the lack of a comprehensive analysis of each province's processes, this report does serve as a reference tool for forest managers. It can introduce them to new options for forest management as well as allowing them to learn from each other. The utility of this report could be greatly increased if the contents could be available on-line and updated regularly by the appropriate provincial governments. A web-based forest management planning discussion forum could also serve to provide some perspectives on some of the questions posed in the side-bars.

**What combination  
of forest  
management  
planning process  
elements ensures  
the most  
sustainable  
management of  
Canada's forests?**

As mentioned in the introduction, forest management planning is constantly evolving. It is important for forest managers to be able to learn from the successes and failures of others. This report provides a basis for such learning.

# Appendix A

## Forest Management Planning Processes

<b>ALLOWABLE ANNUAL CUT CALCULATION</b>	
Who calculates the AAC?	
What parameters are used for calculation?	
At what stage of the process is the AAC calculated?	
What program (software) is used to calculate the AAC?	
What is the spatial scale of calculation? (district, SFL, province)	
Is there public input into the AAC?	
What form of public input is used? (describe or see Arnstein's ladder)	
Are alternative scenarios examined?	
<b>MANAGEMENT PLAN</b>	
Who is responsible for writing the plan(s)?	
How often are plans written?	
What time- frame do plans cover?	
How long does it take to write a plan?	
Who participates in plan development?	
Who is responsible for identification of values?	
What values are considered?	
<b>PUBLIC PARTICIPATION</b>	
What level of public participation is used? (describe or see Arnstein's ladder)	
Who is responsible for the public participation component?	
How is it advertised? (where, when, how often)	
How many public participation opportunities exist?	
How often does public participation occur? (length of meetings, number, etc.)	
What is the structure of the process?	
Are Advisory Committees or special groups used?	
What is the structure of the meetings?	
What are the legislated public participation requirements?	
Are management scenarios/options/alternatives used? At what stage(s)?	
What opportunities exist for trading-off/compromise/negotiation?	
How are conflicts resolved?	
Who is responsible for the final decision?	

How much room is available for site-specific adaptations of the process?	
<b>ENVIRONMENTAL ASSESSMENT</b>	
Is EA incorporated into the planning process?	
How is EA carried out?	
At what stage is EA carried out?	
<b>MONITORING AND EVALUATION</b>	
What type of plan monitoring is in place?	
Has an evaluation of the planning process been conducted? When? How often?	
What are the results of evaluations?	
Has the planning process received any criticism (negative or positive)? (media, environmental groups, etc.)	

## Appendix B – Saskatchewan

<b>ALLOWABLE ANNUAL CUT CALCULATION</b>	
Who calculates the AAC?	- FMA holder, approved by FEB
What parameters are used for calculation?	- depends on the FMA holder
At what stage of the process is the AAC calculated?	- depends on the FMA holder
What program (software) is used to calculate the AAC?	- depends on the FMA holder (we use Woodstock for internal calculations)
What is the spatial scale of calculation? (district, SFL, province)	- FMA area or Land Use Plan area
Is there public input into the AAC?	- not specifically – public input used in land use planning may affect areas available for harvest, and hence AAC
What form of public input is used? (describe or see Arnstein's ladder)	- local stakeholder advisory committees (LSAC), FMA Forest Management Advisory Committee (FMAC)
Are alternative scenarios examined?	- I have no idea
<b>MANAGEMENT PLAN</b>	
Who is responsible for writing the plan(s)?	- FMA holder
How often are plans written?	- every 10 years
What time-frame do plans cover?	- 20 years
How long does it take to write a plan?	- depends, generally has been 2 – 3 years
Who participates in plan development?	- FMA holder, LSACs, FMAC, interest groups, first nations, public, various government departments
Who is responsible for identification of values?	- all participants
What values are considered?	- any that are raised by participants
<b>PUBLIC PARTICIPATION</b>	
What level of public participation is used? (describe or see Arnstein's ladder)	- LSACs, FMAC, interest groups, general public, individual stakeholders, first nations
Who is responsible for the public participation component?	- FMA holder
How is it advertised? (where, when, how often)	- newspapers, mailouts, whenever appropriate
How many public participation opportunities exist?	- depends on the circumstances
How often does public participation occur? (length of meetings, number, etc.)	- generally at the beginning of the process, and when draft plan is ready (before submission to

	government)
What is the structure of the process?	- not sure what this is asking
Are Advisory Committees or special groups used?	- yes
What is the structure of the meetings?	presentation followed by Q&A, open house before and after
What are the legislated public participation requirements?	- must consult before plan is submitted; include issues raised and how they were handled
Are management scenarios/options/alternatives used? At what stage(s)?	- depends
What opportunities exist for trading-off/compromise/negotiation?	- depends
How are conflicts resolved?	- depends
Who is responsible for the final decision?	- government approves plan, may set conditions on approval
How much room is available for site-specific adaptations of the process?	- no single prescription
<b>ENVIRONMENTAL ASSESSMENT</b>	
Is EA incorporated into the planning process?	- required by legislation
How is EA carried out?	- done by FMA holder
At what stage is EA carried out?	- concurrent with plan development
<b>MONITORING AND EVALUATION</b>	
What type of plan monitoring is in place?	- 5 year audit of FMA holder
Has an evaluation of the planning process been conducted? When? How often?	- no
What are the results of evaluations?	
Has the planning process received any criticism (negative or positive)? (media, environmental groups, etc.)	- generally, public involved are very supportive of the process

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