

In both of these cases, property rights remained unchanged but citizens gained access to the decision-making process affecting adjacent forest resources and, in theory, to the benefits of a healthy forest.

See also: **Landscape and Planning:** Perceptions of Nature by Indigenous Communities. **Social and Collaborative Forestry:** Canadian Model Forest Experience; Common Property Forest Management; Joint and Collaborative Forest Management; Social and Community Forestry; Social Values of Forests.

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## Canadian Model Forest Experience

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## Introduction

As a partnership-based strategy, Canada's Model Forest Program (CMFP) provides an excellent case study of collaborative forest management (CFM). In model forests, the partnerships and their goals are expanded beyond the relationships usually associated with CFM that are between industry or government professional forest managers and local communities. Model forest partnerships include a broad array of participants from all levels of government, industry, academia, Aboriginal communities, and other groups representing a wide diversity of timber and non-timber forest values. Canada, through the Canadian Forest Service (CFS) and the Canadian Council of Forest Ministers (CCFM) initiated this approach in 1991 as part of a long-term, nationwide experiment in developing approaches to sustainable development in forestry. The scale of CMFP is representative of Canada's forest sector, its diversity of socioeconomic circumstances, and its variety of forest types; it is the largest such undertaking in the world.

## Origins of Canada's Model Forest Program

After the concept of sustainable development was introduced by the Brundtland Commission Report of 1987, it was clear that maximizing social, economic, or ecological goals independently through conventional management systems would not lead to sustainable development. To incorporate the concept of sustainable development, managers must integrate the goals of all three elements of development (social, economic, and ecological) and optimize these goals as a suite where balance is sought among all over time.

In developing an approach to sustainable development in forestry, Canada recognized the strengths demonstrated by CFM partnerships in integrating the goals of different partners, increasing awareness of forest values, improving knowledge to create potential solutions, and broadening the type of benefits derived from the forest and their distribution. By building on these strengths and increasing the constituency of participants in the partnerships beyond that of conventional CFM (which is generally

characterized by industry – community or government – community partnerships), Canada designed model forests to provide Canadians with an opportunity to participate in developing and demonstrating approaches to sustainable development in forestry, otherwise termed sustainable forest management (SFM). To date, model forests continue to be very active in Canada and have since expanded to many countries around the world.

### Purpose of Canada's Model Forest Program

Canada's Model Forest Program was developed to support Canadians interested in participating in partnerships that represent a broad array of interests for the development of approaches to sustainable development for the forest area of their choice.

In 1991, the Canadian Forest Service invited interested groups or individuals across Canada to form partnerships and to compete to become one of 11 model forests that would form a national network and receive federal government funding to support their work. Successful proposals would describe comprehensive and innovative approaches to SFM that would include the production of timber as well as other forest-based values as determined by the partnership. The partnership would focus its efforts on an area of forest of their choice that

would reflect the scale of Canada's forest sector and be no less than 100 000 ha. Figure 1 illustrates the forest type and location of Canada's model forests.

### What Is a Model Forest?

A model forest is a partnership of individuals and groups representing diverse forest values working together to develop and demonstrate approaches to SFM that are locally acceptable and nationally relevant. Model forests are designed as large-scale, living laboratories where people with an interest in the forest participate in decisions about how to manage the forest sustainably. They provide a process that helps participants recognize the impact of their activities on the land base, develop a shared understanding of SFM, and demonstrate this in operational terms. A model forest is of a size that includes the full range of forest uses and needs that are considered in the surrounding geographic region and which is representative of a broad ecosystem. In Canada, model forests are of a scale that is representative of the country's vast forest and range from 100 000 ha up to 7.7 million ha. The basic elements that describe Canada's model forests are provided in Table 1 including forest type, tenure, participants, governance, and objectives.

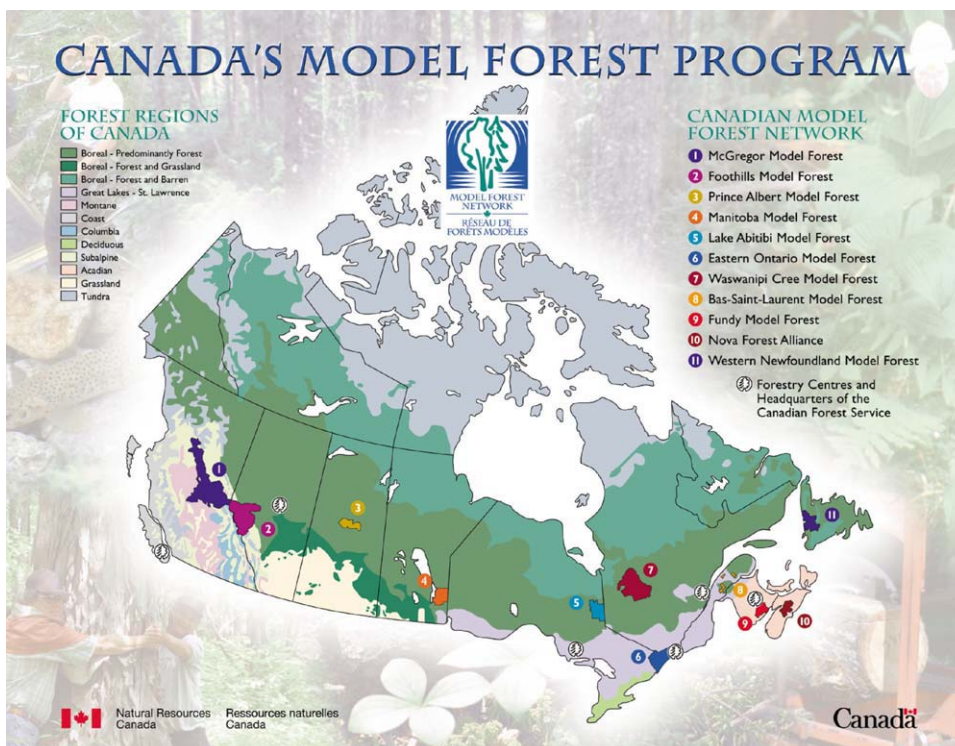


Figure 1 Major forest regions of Canada and the Canadian Model Forest Network.

**Table 1** Summary of model forest characteristics including forest type, tenure, participants, governance, and objectives

<i>Model forest</i>	<i>Forest type</i>	<i>Size (ha × 10<sup>3</sup>)</i>	<i>Tenure</i>	<i>Number of partners<sup>a</sup></i>	<i>Key partner types</i>	<i>Governance</i>	<i>Objectives</i>
Western Newfoundland	Boreal	923	Public, industry license, national park	17	Forest industry; federal and provincial government; communities; NGO; national park; trapper association; academia/research; education	Not-for-profit corporation; small Board of Directors; Management (Partnership) Committee; Scientific Advisory Committee; Executive Committee; two activity committees; issue- oriented working groups; consensus-based decision- making	1. Develop SFM systems and tools, and increase capacity for partners to implement approaches to SFM; 2. Communicate national, provincial, and local SFM priorities through the dissemination of acquired results and knowledge; 3. Increase public understanding of SFM and provide opportunities for effective participation.
Nova Forest Alliance	Acadian	458	Public, private (small land holdings), industry license	40	Large and small forest industry; federal and provincial government; First Nations; small landowner associations; NGOs; ENGOS; academia/ research; education	Not-for-profit corporation; Partnership Committee; sector-based Executive Committee; standing committees; project working groups; consensus-based decision-making	1. Develop and test a landscape-level SFM system; 2. Generate and transfer new knowledge on key SFM issues; 3. Design and test model processes to assist in forest certification; 4. Increase capacity of landowners to implement best management practices; 5. Facilitate transfer of SFM practices; 6. Increasing understanding of SFM; 7. Nurture local involvement in model forest.
Fundy	Acadian	419	Public, industry license and private, national park, private (small land holdings)	34	Forest industry; federal and provincial government; communities; First Nation; small landowner associations; NGOs; ENGOS; national park; academia/ research	Not-for-profit corporation; Partnership Committee; Executive Committee; Working Groups; consensus-based decision- making	1. Develop knowledge of ecosystem integrity and impacts; 2. Develop cooperative approach to research, monitoring, and planning; 3. Technology transfer of SFM tools and processes; 4. Provide education and training to forest professionals; 5. Collect and report on SFM and ecosystem information; 6. Provide a forum for discussion of SFM issues; 7. Increase public awareness.

Bas-Saint-Laurent	Boreal	113	Industry private, private (small land holdings)	40	Forest industry; federal and provincial government; small landowner associations; academia	Not-for-profit corporation; small Board of Directors; Partner Committee; Advisory Committees; consensus-based decision-making	1. Promote development and adoption of forest management models; 2. Help improve SFM systems; 3. Foster the development and application of new forest management techniques; 4. Communicate and disseminate results.
Waswanipi Cree	Boreal	3300	Public, industry license	18	First Nation; forest industry; federal and provincial government; academia/research; communities; NGOs	Administered under First Nation Band Council; Board of Directors (proponents); consensus	1. Develop and adopt SFM systems and tools based on Western science and Cree values and principles; 2. Disseminate results and knowledge at local, regional and national levels; 3. Increase local level (Cree) participation in SFM decision-making and implementation.
Eastern Ontario	Great Lakes-St Lawrence	1530	Public, industry license and private, national park, private (small land holdings)	>200 members	Forest industry; First Nation; federal and provincial government; small landowners and landowner associations; NGOs; ENGOs; academia; conservation organizations; communities	Not-for-profit corporation; open membership structure; 10-member Board with four permanent members; five standing committees; working groups; consensus-based decision-making	1. Increase quality and health of existing forests of eastern Ontario; 2. Increase forest cover to improve forest sustainability and biodiversity; 3. Increase awareness and understanding of SFM; 4. Increase transfer of SFM principles and practices; 5. Strengthen SFM efforts through equity generation, partnership building, and program evaluation.
Lake Abitibi	Boreal, claybelt	1100	Public, industry license	19	Forest industry; federal and provincial government; communities; NGOs; community groups; academia; First Nations	Not-for-profit corporation; Board of Directors; Executive Committee; Strategic Advisory Committee; standing committees; consensus-based decision-making	1. Effect positive change by building a legacy of SFM knowledge; 2. Effectively promote the adoption of model forest technical knowledge to forest practitioners; 3. Enhance local involvement in SFM; 4. Expand web of influence.

*continued*

**Table 1** Continued

<i>Model forest</i>	<i>Forest type</i>	<i>Size (ha × 10<sup>3</sup>)</i>	<i>Tenure</i>	<i>Number of partners<sup>a</sup></i>	<i>Key partner types</i>	<i>Governance</i>	<i>Objectives</i>
Manitoba	Boreal	1050	Public, industry license	26	Forest industry; Aboriginals; federal and provincial government; communities; academia; ENGOs	Not-for-profit corporation; Board of Directors (full partnership representation); Executive Committee; Advisory Committee; consensus-based decision- making	1. Facilitate opportunities for local level participation in SFM with emphasis on Aboriginal involvement, planning, and diverse economic opportunities; 2. Ensure that the value of forests and the results and knowledge gained were communicated to practitioners, forest users, and general public; 3. Increase development and adoption of innovative forest stewardship practices, systems, and tools; 4. Share knowledge and participate in joint ventures with other model forests and organizations.
Prince Albert	Boreal, parkland	360	Public, industry license, national park	11	Forest industry; federal and provincial government; First Nations; Metis; academia; NGOs; research institutions; national park; communities	Not-for-profit corporation; Board of Directors (full partner representation); Executive Committee; standing committees; consensus-based decision- making	1. Increase the development and adoption of SFM systems and tools among the partners; 2. Extend the Prince Albert Model Forest program through mentoring and partnerships; 3. Increase public awareness of results and knowledge gained through the practice of SFM; 4. Ensure that results and knowledge are disseminated broadly; 5. Increase opportunities for local level participation in the development of SFM systems and tools; 6. Strengthen model forest network activities in support of Canada's SFM priorities.

Foothills	Boreal, montane, subalpine	2750	Public, industry license, national park	81	Forest industry; federal and provincial government; mining, and oil and gas sectors; NGOs; communities; First Nations; national park; academia	Not-for-profit corporation; Board of Directors; Executive Committee; Program Implementation Team; Activity Teams; Scientific/Technical Committee; partner categories (sponsoring, management, program, project, other) consensus-based decision-making	1. Demonstrate SFM; 2. Develop and implement mechanisms that result in wider understanding and application of SFM; 3. Deliver communications and outreach programs that improve understanding of and support for SFM; 4. Support and influence policy that improves the practice of SFM.
McGregor	Boreal, montane, subalpine	7700	Public, industry license	41	Forest industry; federal and provincial government; communities; First Nations; academia; NGOs; consultants	Not-for-profit corporation; Board of Directors (based on membership classes); Technical Steering Committee; consensus-based decision-making	1. Build a legacy of ecological knowledge and management expertise applicable to SFM; 2. Foster the implementation of knowledge and expertise to SFM planning and decision-making, improving forest practices, and maintaining environmental values; 3. Enhance local understanding of, participation in, and support for SFM; 4. Expand influence through local, provincial, national and international networks, organizations, associations, and institutions.

ENGOS, Environmental Non-Governmental Organizations; NGOs, nongovernmental organizations; SFM, sustainable forest management.

<sup>a</sup>Some partnerships have increased since the time of writing of the Action Plans.

*Source:* Information derived from the 2002–2007 5-Year Action Plans developed by each model forest.

## Introduction to Stages of the Collaborative Partnership Process: Form, Storm, Norm, Perform, Reform

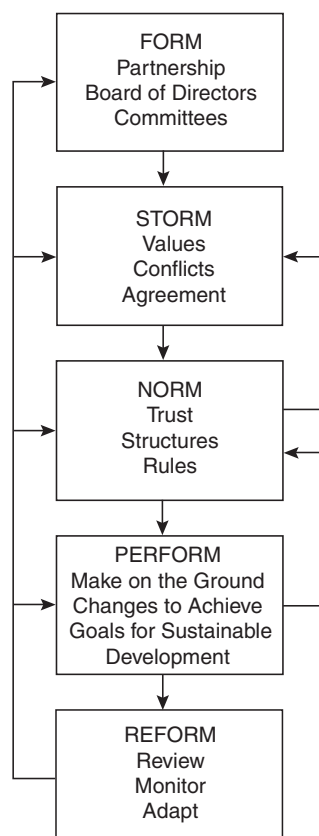
Collaborative forest management is both a process and a learning environment. Experience shows that the process of CFM consists of recognizable stages through which participating groups continually journey. To effectively participate and support the collaborative process, all stakeholders must be aware of the purpose and the role of the partners in each stage. The group begins with the 'Form' stage where it agrees on who will be involved, how they will be selected, and the purpose for which they will work. After the group is formed it then faces the 'Storm' stage where the participants explore their limits and boundaries and agree in how they will operate the partnership and work together. Storm is followed by the 'Norm' stage where the group comes to agreement on what it can and will do. Next is the 'Perform' stage where the group's ideas are actually put into action. After performing, the partnership goes through a 'Reform' stage that has two aspects. One is where their performance is evaluated, the circumstances are revisited, and based on the new information and experience gained in the preceding round(s), the partners undertake to return to the appropriate stage and continue the process at the point deemed necessary. The other aspect is where a partner changes its practices based on the lessons learned from the 'model' developed by the partnership. Figure 2 provides an outline of the various stages.

The stages of CFM will be used as a framework to present the model forest approach. Where applicable, specific examples from model forests will be included to illustrate the change in practice brought about as a result of collaborative forest management.

### Stage 1: Form

In this stage, usually catalyzed by an individual or small group, the potential partners are brought together to determine who should and who is able to participate, what forest tenure(s) will be involved, and the ground rules governing involvement.

Initiators of model forests seek to establish a voluntary, broadly based group open to views of interested parties who can identify an area of forest land of mutual interest and who ensure that their group includes, on a voluntary basis, those having land management authority and others with an interest in the SFM of that forest area. Typically model forest partnerships include stakeholders such as land users, land managers, industry, community groups, government agencies, nongovernmental environmental and forestry groups, academic and



**Figure 2** Overview of the stages of the collaborative partnership process.

educational institutions, national parks, Aboriginal groups, private landowners, and others as appropriate. The character of each model forest partnership is a function of the local conditions including who is present, who is interested in participating and is available, and local issues. The number of partners can change over time but has generally increased.

Model forests are managed in an integrated manner for all forest values identified as important by the partnership. Model forest management is a transparent, democratic, and usually consensus-based process where the ground rules for the group are defined by all the participants. The governance structure is designed to reflect the cultural, social, political, and economic realities of the region, allow for greater empowerment of people who often have little or no say in the decision-making processes, and ensure consideration of each identified value in the management planning process. Typically, model forests have an 'open seat' policy to provide for and encourage new perspectives at the table. It is not uncommon for new members to be invited to participate and contribute their expertise as the model forest explores additional and more complex SFM issues. The fundamental challenge of the

partnership is to discover how they can continue to move forward together which often requires extensive discussion.

Because each model forest organization is founded on collaboration and establishes a self-governance structure, according to the standards and norms that apply in the model forest's region their management structures create unique relational frameworks that promote vertical, horizontal, and cross-sectoral linkages over time. In general, a model forest partnership will constitute itself as a legal, not-for-profit public association where overall accountability rests with the Board of Directors who seek input from the broader partnership, management committee, staff, technical committees and advisory boards.

**The partnership group** At the center of each model forest is the partnership group. It is composed of key land users and other stakeholders of the region who volunteer to work together towards the common goal of SFM. Generally there is a core group of partners who manage model forest activities; typically these include the tenure holders (forest industries), government, environmental specialists, Aboriginal and other local communities, nongovernmental organizations, and academia.

**The board of directors** Each model forest has a body to which model forest staff report and receive direction and authorization on substantive issues. The partnership generally elects a president or chair, and board of management (directors) from among its members, who are charged with ongoing program oversight and ensuring implementation of annual plans as endorsed by the partnership group. The size of the body is highly varied and ranges from as few as four members to nine or more. In the case of the Manitoba Model Forest in Canada, the Board of Directors comprises over 30 members – one representative for each partner. In that instance, the Board and the Partnership Group are the same.

**Technical committees** Model forests attract a wealth of professional expertise and benefit greatly from the input and guidance of these specialists. Expert input is often structured around formal or informal technical or advisory committees. Generally, there is at least one permanent technical committee that operates in an advisory capacity to both the board and management.

**Demonstrating Diversity in Governance** Model forest structures depend on local circumstances and choices. For example, the Eastern Ontario Model Forest (EOMF) has a population base of over

1 million people and 88% of its 1.5 million ha land base is made up of small, privately owned land holdings. To provide access to the EOMF organization, the EOMF established a membership program whereby individuals can join the model forest for a small annual fee. Membership provides regular newsletters, access to special events, and the right to stand for election and to cast a vote for members of the Board of Directors over and above the four 'seats' on the board that are reserved for the founding organizations (Canadian Forest Service, Ontario Ministry of Natural Resources, Domtar Communication Papers, and the Mohawk Council of Akwesasne).

### **Stage 2: Storm to Norm**

During the 'storm' stage, model forest participants generate ideas, express values, bring knowledge and science into play to support decision-making, and enhance their understanding of each other and local SFM issues. Agreement is reached on how the partnership will operate and the activities to be undertaken – the 'norm' stage.

The common goal of the new partnership is also decided at this stage. For model forests, while this is sustainable forest management, the partnership must define their vision for SFM for the area selected within which they will operate. This can take time as the participants must begin to understand each other and each other's perspectives before a common vision can be articulated and agreed upon.

Inherent within model forest partnerships is the ability for the participants to have access to a wide range of expertise, technology, and information. Scientists have participated on various committees and brought their scientific perspectives, knowledge, and other capacities to activities within the model forest governance. Model forests and their partners develop computerized decision-support systems which greatly strengthened the ability of planners and managers to analyze information accurately and quickly along both spatial and temporal scales. They also engage in research activities that lead to a greater understanding of ecological processes, the impacts of various anthropogenic and natural disturbances on forest ecosystems, wildlife habitat and population dynamics, silvicultural applications, biological control mechanisms, and the socioeconomic dimensions of SFM.

Activities that will assist in achieving the vision are also discussed and decided upon during the 'storm' stage. A model forest's objectives include a range of sociocultural, economic, and environmental needs that are considered in an integrated manner by all

partners with respect to the overall goal of SFM. Therefore, as the partners identify, develop, and test activities that reflect the values and needs at the community, regional, and national levels, they are supported by a combination of pure and applied research, and undertake to report formally on outcomes, assess impacts, and modify new approaches to SFM. Activities are wide ranging and have included: research on riparian buffers, natural disturbance regimes, and wildlife habitat; development of best management practices; production of guidelines on minimizing soil disturbance; development and implementation of local level indicators of SFM; examining certification schemes and their applicability to small landholders; and thousands of others.

**Creating new norms of local involvement in integrated resource planning at the provincial level** Starting in 1998, the Prince Albert Model Forest (PAMF) initiated development of an ecosystem-based integrated resource management plan for the PAMF region. The entire PAMF partnership, including three levels of Aboriginal government and three levels of non-Aboriginal government, participated in the process. The interests and diverse values of First Nations, industry, government, area residents, and others were weighed over a 2-year period. The development of the initial plan has resulted in a planning process that is currently being implemented in six additional areas in the province by the Saskatchewan government.

### **Stage 3: Perform**

In this stage, the partnership takes the ideas it has generated, conducts any research needed to confirm the ideas, and tests the ideas on the ground to create its 'models' of practice. It undertakes technology transfer and outreach to inform its partners and others of the results of the partnership's work.

An important characteristic of model forests is that the model forest organization itself does not and can not exercise decision-making authority over the land base. Instead, the model forest includes in their partnership those with legal tenure and management responsibilities over the land. Without jurisdictional responsibility, a model forest becomes a forum within which the partners can feel free to discuss a wide range of issues and approaches to solutions without feeling either powerless to do something (those without responsibilities) or under intense pressure to make immediate changes on the ground (those with jurisdictional responsibilities). Changes occur because those with management

authority see the benefit to initiate such changes. The model forest provides the information on alternatives that is created through the joint effort of the partners working within their shared commitment to SFM.

**Sustaining rural infrastructures through forest employment** The forest tenant farmer system of the Bas-Saint-Laurent Model Forest exemplifies an innovative approach to collaborative forest management. Forest tenant farming is a land leasing system defined as: 'Allocation of a unit of land to an individual, called a forest tenant farmer, who agrees to manage it in a sustainable manner and to share the ensuing revenues with the landowner.' Abitibi Consolidated Inc., a major forest industry, is providing the land and the model forest has hired staff to assist the landowners with both direct technical assistance and in building linkages with others. Planning of forest management activities is based on a multi-resource management plan developed by consensus among the diverse model forest partners. In addition, forest tenant farmers cooperate on a landscape level with respect to joint management of hunting, fishing, and recreational and tourism activities. An evaluation concluded that tenant farms are viable enterprises and that the socioeconomic impacts are tangible and concentrated at the local and regional levels.

### **Stage 4: Reform**

This stage refers to the decisions that are made based on the wisdom gained by the partners and the group as a whole as a result of going through the previous stages in the process. There are two aspects to this stage. One is a change in practice by a given partner as a result of the model forest's demonstrations. In addition, the partnership decides to re-examine their outputs and, based on new knowledge and experiences, return to any one of the previous stages and redo the process.

**Successfully managing endangered species within an industrial forest landscape** The pine marten is an endangered mammal in Canada's eastern province of Newfoundland and Labrador. The majority of the estimated 300 animals left on the island of Newfoundland are mainly found on the west coast in an area that has important timber resources for the island's pulp and paper industry. The area was the site of the longest environmentally based conflict in the province and was a key factor in selecting the area as a model forest. The Western Newfoundland Model Forest (WNMF) was instrumental in bringing together 22 organizations, including government

departments, forest industry, mining interests, environmental groups, national parks, trappers, and others, to discuss the issue and develop a unified strategy for the protection of the marten. The WNMF supported research and facilitated an exchange of views which finally led to the establishment of a reserve area to protect the marten's critical habitat by provincial authorities.

### **Networking: A Defining Activity of Canada's Model Forests**

Local model forest participation in a broader, national network was part of the original design of Canada's Model Forest Program. The premise for the need for a network came from the realization that each participant and model forest group would be breaking new ground and, being in such a unique situation, would benefit from having a 'peer group.' The network is a structure within which the individual model forests collaborate and share information and experiences and, by learning from each other, reduce duplication of efforts, and create synergies that can be applied to larger challenges. The network facilitates communication of ideas and cooperative efforts among the model forests, development of linkages with other organizations at the national level, and engagement in projects to further accelerate the advancement of SFM at each site and throughout Canada. The network and its activities are supported by a national Secretariat within the Canadian Forest Service.

Where the network identifies issues or needs of major importance to SFM in Canada and to model forests, a network strategic initiative is developed. To date strategic initiatives have been created to enhance Aboriginal involvement in SFM, to develop local level indicators of SFM (or measures of progress towards SFM), carbon accounting, and managing private woodlots for SFM.

### **The International Model Forest Network**

The International Model Forest Network (IMFN) was announced by Canada at the UNCED Summit in Rio in 1992 to pilot the model forest concept outside of Canada. The IMFN has since grown from three sites in two countries (outside of Canada) in 1994 to 19 sites in 11 countries, in addition to numerous additional sites proposed and at early stages of development. The IMFN is supported by a Secretariat established in 1995 and housed with the International Development Research Center located in Ottawa, Canada. In 2002, a Regional Model Forest

Center for Latin America and the Caribbean was established to provide additional support for the establishment of model forests throughout that region. A similar regional center is under development for Asia.

### **Lessons Learned**

**Based on Experiences with the Model Forest Concept to Date in Canada, the Following Key Lessons can be Suggested**

1. Collaborative forest management as manifested through the model forest concept has proven to be well suited to address a wide range of SFM and development issues in a broad range of circumstances that are important to participants as well as observers interested in emulating the approach. These issues include governance, environment, biodiversity, natural resource management and conservation, and economic development.
2. The collaborative approach adopted by model forests has been beneficial in successfully providing an open forum through which all interested parties, in particular marginalized and indigenous peoples, are able to become involved in the forest management decision-making process and generate tangible benefits to improve and sustain the forests upon which their livelihoods depend.
3. Inherent in the model forest concept is the recognition that there was no one solution to SFM. By facilitating the development of bottom-up approaches, the model forest concept, by design, allows for the development of local solutions within broader contexts that are innovative in the design of sites and in approaches undertaken to advance SFM.
4. A model forest is not a project, rather it is a process. Both individual model forests and national and international model forest networks and programs are continually in a learning phase within which participants learn to adapt as conditions and issues change and evolve and as challenges emerge or fade.
5. If forests are to be managed in a sustainable fashion then real benefits must be apparent for the full range of values that forests offer (e.g., water, biodiversity as well as forest products both timber and non-timber in nature). Model forests and the networks that have developed have demonstrated that real benefits are accrued that far exceed individual partner inputs and that duplication is reduced by collaborating in the

- exchange of information and focusing efforts and resources on common goals.
6. Through local partnerships and national and international networking, model forests facilitate both global to local and local to global linkages that are important to creating effective SFM strategies.
  7. The combination of broad-based partnerships working together in a respectful forum towards common goals, the use of science and technology to aid in decision-making within increasingly complex issues, and enhancement of participant capacities allows model forests to be highly adaptable to situations and issues beyond just forests.
  8. By collaboratively addressing the identified issues and sharing information, the education and expertise of both individual partners and the partnership as a whole is substantially increased contributing to the long-term sustainability of the partnership. Over time, an integrated process of decision-making develops within which participants cannot only envision how their interest or value fits into the framework but also where others fit in. The mutual learning and understanding which take place within this process (and partnership) builds a synergy between the participants allowing the development of a much broader vision than the individual visions of the participants. SFM requires this broader vision that cannot be achieved through an isolated, individualistic sectoral approach.
  9. Partnerships may create new challenges and increase the complexity of current ones, but they also offer the chance to create a learning environment rather than conflict to share information, to make trade-offs between conflicting objectives, and to develop better and more effective solutions to resource management issues. Model forests illustrate that the partnership (collaborative forest management) approach, although demanding of time and patience, leads to better and more sustainable decisions.
  10. Successful collaborative relationships for SFM developed within the model forest partnerships creates the springboard for continued collaborative approaches in other sectors and spheres of activity.
  11. Not having the capacity to ensure that each element of collaboration (i.e., full participation; the consideration of multiple values and a scientific basis for decision-making) are at play within the model forest has been shown to compromise their long-term success. Despite having done much valuable work, one model forest in Canada did not continue beyond the second 5-year phase as it was unable to demonstrate its capacity to fulfill each of these elements.
  12. One very important role in collaborative forest management is that of the interventionist or champion. The interventionist is defined as any individual or group that undertakes to initiate change. In getting CFM started, the interventionist must fill two roles: first as the facilitator of the collaborative process, and second as a stakeholder in that resource management system. To do this the interventionist must establish a role of 'honest broker' with interests that accord with the provision of SFM. The interventionist must also be able to both understand and solve problems and be able to negotiate effectively with the full spectrum of stakeholders. Once the initial interventionist has established the collaborative group it is crucial for the success of the process that all participants take on interventionist characteristics.
  13. Perhaps the most important lesson to be learned from the model forest experience is that collaborative forest management as a process must become the 'norm' to achieve SFM rather than just a series of individual projects.
  14. Model forests are tackling the complex issue of SFM through a partnership process that is based on an expanded approach to CFM. The successful establishment of model forests around the globe further demonstrates the flexibility, versatility and utility of the model forest concept in helping interested individuals and organizations participate in the challenge of SFM. However, there are a number of factors that frustrate success in working towards SFM. These include and are not restricted to circumstances where there is insufficient political support, there is a history of unresolved conflict, there is a lack of clear purpose, goals or deadlines are unrealistic, the distribution of benefits is unsatisfactory, and partnerships are not managed in an equitable, respectful, and transparent manner.

### Concluding Remarks

Resource managers are dealing with increasingly complex issues in sustainable forest management such as endangered species, landscape-level forest values, and an increasing demand for forest products. These complex issues require both diverse information and cooperation among a wide range of

interests, organizations, and agencies. Collaborative forest management aptly provides for these needs.

Since its inception in 1992, the model forest concept has grown from an original 10 sites in Canada to over 30 sites in 11 countries (in 2003) with more sites in the planning stages. Clearly this demonstrates that collaborative forest management can be applied and can often flourish in a wide range of geographic, institutional, and cultural settings where the model forest approach is taken. This growth also attests to the relevance and still unrealized potential of collaborative forest management to make lasting and significant contributions to critical internationally shared challenges to achieving SFM in practice.

From the experience of the model forests, resource managers should, with confidence, apply CFM elsewhere in order that CFM increasingly becomes a normal operating procedure rather than the exception.

*See also: Social and Collaborative Forestry: Forest and Tree Tenure and Ownership; Joint and Collaborative Forest Management; Social and Community Forestry; Social Values of Forests.*

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## Public Participation in Forest Decision Making

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### Introduction

Over the last few decades, the formal practice and supporting science of public participation have emerged as key components of forest management and decision-making in many countries. The Montreal Process and virtually all certification systems call for appropriate public participation in decisions on forest management. Some cultures and traditional practices have incorporated what we would now term participatory decision-making for centuries. The formal methods and structures used more recently to make decisions in forestry, particularly in western nations, have evolved considerably, with a trend towards more public involvement in decision-making. This can be seen at both the local level (increasing control over use of local resources) and the global level (in terms of public opinion affecting policies and practices at the level of the global marketplace).

This article briefly describes potential benefits of applying public participation in forestry, and identifies some key theoretical concepts and broad empirical reviews of practice which inform the field. General findings and emerging principles for public participation are summarized, and criteria for assessing the performance of public participatory techniques and processes are identified. Selected techniques in use in forest decision-making are described briefly, together with indications of their performance where information is available. The article concludes with general guidance from current knowledge on the design of good processes for public involvement in forestry.

This article focuses on the scientifically documented aspects of public participation in forest planning, rather than in the broader arenas of public education and governance. Much of the literature reviewed comes from the democratized and more industrially developed nations, especially applying to the public forests of temperate countries. Many of the principles apply more broadly, however, including to private lands in western nations and forest management in developing countries or nations in transition. Readers should also consult the related articles on community forestry and collaborative management (*see Social and Collaborative Forestry: Canadian*