

# INNOVATIONS

THE CANADIAN MODEL FOREST NETWORK NEWSLETTER



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## SPECIAL NATIONAL FORESTRY CONGRESS EDITION

## CANADA'S MODEL FORESTS — 15 YEARS OF BUILDING TRUST AND PARTNERSHIP

*If imitation is the sincerest form of flattery, then the creation of 30 Model Forests in more than 20 other countries around the world says something about the success of a uniquely Canadian experiment — the Model Forest concept.*

For 15 years, Canada's Model Forests under the umbrella of the Canadian Model Forest Network has promoted sustainable forest management and innovation in Canada.

Members of the Canadian Forest Service who created the Model Forest Program coined the term "model forest" in 1992 to capture the idea of constructing a local level partnership model that would include representatives from industry, government, Aboriginal organizations, environmental groups, academia and local community organizations. By bringing social, economic and environmental values together, they hoped the Model Forest approach would create an informed and collaborative sustainable forest management (SFM) process that would be a model for others to follow.

Since then, Canada's Model Forests have been at the forefront of research and programs that have significantly moved public policy landmarks in many jurisdictions. Whether it is riparian zone management, wildlife and ecosystem studies, socio-

economic planning, alternative harvesting and tenure options — Canada's Model Forests have appreciably contributed to the

shifting of attitudes and introduction of new approaches to SFM. On the following pages is a sampling of some of these successes.



*Members of the Canadian Model Forest Network gather in Rimouski, Quebec in April 2006 to set in motion the formal incorporation of the Canadian Model Forest Network (CMFN) as a not-for-profit corporation. As it moves into the future, the CMFN will continue to strive towards creating an integrated approach to land management in Canada.*

## SUSTAINABLE LAND MANAGEMENT IN THE BOREAL

*Canada's broad stretch of boreal forest, from Newfoundland and Labrador to the Yukon Territory includes seven of Canada's Model Forests (Western Newfoundland, Waswanipi Cree, Lake Abitibi, Manitoba, Prince Albert, Foothills and McGregor).*

Much of the boreal's human population works in natural resource sectors, and it is home to many of Aboriginal communities. Model Forests have integrated several boreal forest themes and considerations, such as harvesting with regeneration protection, old-growth forest and biodiversity, multi-cohort forest management, social science and community approaches, and habitat protection for specific species, into their research agendas.

- Western Newfoundland is working to determine the influence of landscape fragmentation on Newfoundland pine marten populations.
- Waswanipi Cree Model Forest continues its mandate of enhancing Cree peoples' participation in forest management planning through an integrated approach called Ndoho Istchee that will help to sustain the Cree way of life while contributing to today's economic needs.

- Lake Abitibi Model Forest served as one of two test sites for a new Carbon Budget Accounting Model and continues work on a multi-cohort system in coniferous and mixed wood forest types.
- Manitoba Model Forest continues its longstanding work on woodland caribou, emulating natural disturbance patterns, and engaging First Nations youth in its stream monitoring.
- Prince Albert Model Forest completed a study on climate change effects on levels of sustainable timber harvest in central Saskatchewan.

- Foothills Model Forest is examining public values and attitudes about land management activities and ways to facilitate public involvement in decision-making.
- McGregor Model Forest is researching on the impacts of natural disturbances on boreal landscapes and communities.



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# MANAGING THE ECOSYSTEM IN A SUSTAINABLE MANNER

Over the last 15 years, Canada’s Model Forests have been building stakeholder confidence in biodiversity forecasting, creating strategic planning tools for biodiversity management, and developing and testing new technology to assess biodiversity.

- The Western Newfoundland Model Forest’s Biodiversity Assessment Project helps forest managers predict the future of Newfoundland and Labrador’s forests 210 years into the future and offers species-specific habitat suitability analysis and natural disturbance simulation.
- In 2004, the Nova Forest Alliance and the Province of Nova Scotia published *Forest Ecosystem Classification of Nova Scotia’s Model Forest*, a valuable planning tool for landowners and forest managers. The project’s partners are now using this model to develop a forest ecosystem classification for the entire province.
- In 2004 Bas-Saint-Laurent Model Forest published its *Guide to Wildlife Habitats at the Watershed Scale*, aimed at managing wildlife habitats within watershed boundaries. Intended for private woodlot owners, this guide contains general information on watershed level biodiversity values, mapped illustrations and specific details on private woodlots. It helps owners establish priorities for the successful management of wildlife habitats on their properties.
- McGregor Model Forest and its partners have developed Wildlife Habitat Assessment Tools to help forest managers and field practitioners identify important wildlife species and habitat elements throughout the different ecosystems of the central interior of British Columbia.
- Fundy Model Forest has, for the past 11 years, supported the monitoring of vascular plants and bryophytes (mosses and liverworts) in the Hayward Brook watershed. Researchers are gaining a better understanding of the structure and diversity of these “understory” plants and a clearer picture of how they respond to different forest management interventions.

# UNDERSTANDING WILDLIFE ON THE LANDSCAPE

From habitat research on large mammals, such as caribou and bear, to investigating the distribution and numbers of songbirds and amphibians, Model Forests and their partners undertake research examining the needs of Canada’s diverse wildlife species.

- Since 1999, Foothills Model Forest has created the most comprehensive grizzly bear research program in North America. The program gives land managers, road builders and resource industries information and planning tools designed to conserve Alberta’s grizzlies and has also sparked changes in provincial government policy.
- The Cape Breton Canada Lynx Pilot Project, initially funded by Nova Forest Alliance, continues to collect data on the endangered animal’s dispersal, home range and habitat in order to help lynx recovery efforts and guide forest management in the area.
- Prince Albert Model Forest has assisted the re-establishment of 800 Elk to the Montreal Lake area of northern Saskatchewan. The released elk have adopted their new surroundings as their home range and have mixed well with resident elk.
- The Waswanipi Cree Model Forest is continuing to couple the traditional knowledge of Cree hunters and trappers with scientific research to improve understanding of the Moose.
- For more than a decade, the Manitoba Model Forest’s Eastern Manitoba Woodland Caribou Advisory Committee has been combining the most up-to-date technology with traditional ecological knowledge and scientific research to understand the habitat and needs of the area’s woodland caribou.
- The Bas-Saint-Laurent Model Forest was instrumental in the development of a beaver habitat enhancement and management handbook for Quebec.



# EXCELLENCE IN GRIZZLY BEAR RESEARCH

In recognition of its innovative and leading edge research, the Foothills Model Forest Grizzly Bear Research Program won a 2004 Emerald Award for Environmental Excellence from the Alberta Foundation for Environmental Excellence.

# WORKING WITH COMMUNITIES

Each Model Forest brings communities and other partners together to work towards common goals in forest land management. This has often led to innovative approaches and new solutions from the people who know the region best.

- The Foothills, Prince Albert and Manitoba Model Forests have built on the FireSmart program, by helping communities fireproof their urban-forest interface, through fire prevention workshops and on-the-ground cleanup, sanitation and fireproofing activities.
- The size and intensity of the mountain pine beetle epidemic prompted McGregor Model Forest to establish working partnerships with northern BC communities, the Omineca Beetle Action Coalition and the Carrier-Sekani Tribal Council. McGregor has worked with each community to establish resource committees, organize conferences and hold workshops.
- During the 1998 ice storm, the communities within the Eastern Ontario Model Forest (EOMF) used the Model Forest organization as a neutral forum to raise questions, share information, ideas and options. EOMF brought together resources, information and response efforts and played a strong role in communicating technical advice and information ensuring clean-up activities were consistent with forest sustainability.
- In 2003, the Nova Forest Alliance brought together provincial stakeholders from governments, the forest industry and environmental communities to prioritize areas for protection, transfer technology and share information, leading to the development of a protected areas network for Nova Scotia.

“The Manitoba Model Forest has facilitated effective cross-stakeholder communication which has greatly benefited all organizations in local decision making. The diverse representation on the Board of Directors has meant that no one has been left out.”

— Stuart Jansson,  
Manitoba Trappers Association

- In 2004, Lake Abitibi Model Forest integrated its Community Development Impact Models into a single Regional Community Constellation Impact Model providing communities with a better understanding of their economic interdependence and more opportunity for input into resource management planning processes.
- CMFN’s Climate Change Strategic Initiative, created in response to increased concerns about the effects of climate change on forest-based communities, is sponsoring development of a guidebook to help forest communities assess vulnerability to climate change and find ways of adapting and mitigating effects.



The Prince Edward Island (PEI) Model Forest Network Partnership was honoured as one of this year’s recipients of a 2006 Prince Edward Island Environment Award. Pictured (left to right) are Environmental Advisory Council Chair, Sherra Profit; PEI Minister of Environment, Jamie Ballem; PEI Model Forest Network Partnership Chair, Denny Hopping; and Lieutenant Governor, Léonce Bernard (photo: Brian Simpson).



# NEW APPROACHES TO LANDSCAPE MANAGEMENT

Model Forests carry out their work on defined landscapes that are not only affected by human-induced changes but also subject to ecological processes. Understanding ecological processes is integral to the development and implementation of successful landscape management plans. Over the past 15 years, Canadian Model Forests have implemented many projects contributing to advancing landscape-level management.



- Foothills Model Forest's 70,000-hectare Highway 40 North Demonstration Project integrates a full suite of natural disturbance patterns into one operational plan including all possible human disturbances, such as forestry, prescribed burns, roads and gas exploration.
- McGregor Model Forest developed a powerful, integrated sustainable forest management approach through a participatory and cooperative planning suite of procedures, technologies and tools including scenario planning, strategic and operational planning support, and indicators and adaptive management.
- Forest Management Guidelines to Protect Native Biodiversity in the Fundy Model Forest, published in 1997, outlines broad, landscape-level considerations such as provisions for mature forests; patch sizes; corridors; buffer strips; and fine filter considerations, such as snag retention; coarse, woody debris; and ecologically significant sites.
- Since 2000, the Nova Forest Alliance's 4,200-hectare Pollett River Watershed management project brings together landowners who have committed to managing their woodlots in an ecologically sustainable way for biodiversity, wildlife habitat, soil and water quality, conservation of ecologically sensitive forested areas, and protection of rare, threatened, and endangered species, while generating economic benefits.

# INNOVATIVE FORESTRY PRACTICES

Researching, evaluating and developing innovative technology, approaches, and procedures for sustainable forest management practices is a fundamental goal of most Model Forest projects. Model Forests have influenced forestry practices and policies throughout Canada, at all levels from local to national.

- The Stand Density Management Diagrams Software developed and piloted in the Fundy Model Forest has since been applied throughout the Acadian forests of Eastern North America.
- In the mid 1990s, Lake Abitibi Model Forest and its partners developed a way of modifying harvesting operations in black spruce stands located on peat-dominated soils, through adoption of a corridor selection system. This careful logging timber removal method is now widely used by the forest industry in Ontario and Quebec.
- The Nova Forest Alliance has created a best management practices manual and training program for forest contractors and woodland owners. Best management practices have measurably increased among forest contractors since the manual was distributed and it is the standard training tool for Nova Scotian forest companies working to become certified.
- The Bas-Saint-Laurent Model Forest has developed a different approach to replanting harvested areas that accommodates the ecological characteristics of sites where mixed stands generally grow leading to increased biodiversity on the landscape.

“Before Canada’s Model Forest Program, issues like the mountain pine beetle would have divided us and created conflict; today they unite us and generate proactive, timely cooperation to protect forest health across the landscape.”

— Ron Hooper, Superintendent, Jasper National Park

# WORKING TOWARDS CERTIFICATION

Certified sustainably managed forests cover more than 120 million hectares of Canada’s forested land.



Much of Canada's Model Forest Program's Phase II work (1997–2002) was dedicated to developing criteria and indicators for sustainable forest management (SFM). Canada's Model Forests engaged in selecting, measuring and reporting on indicators designed to suit local and regional conditions.

In 2000, the CMFN published *A User's Guide to Local Level Indicators of Sustainable Forest Management: Experiences from the Canadian Model Forest Network*. The comprehensive how-to guide has since been used in countries around the world by practioners interested in developing local level indicators for SFM.

Canada's Model Forests have contributed both knowledge and tools to certification efforts. The Fundy and Western Newfoundland Model Forests, and the

Nova Forest Alliance have directly supported certification efforts by local landowners.

In 2002, the Groupement forestier de l'est du lac Temiscouata, a group of 436 landowners managing 35,000 hectares of land, received Forest Stewardship Council certification after working under the leadership of the Bas-Saint-Laurent Model Forest.

As well, the Eastern Ontario Model Forest (EOMF) Forest Certification Program brought woodlot owners representing more than 14,000 acres together to receive group certification in 2002. More recently, EOMF has helped the Town of Oakville, Ontario and the LaRose Forest in Eastern Ontario with their successful certification efforts.

# OPERATIONAL SCALE CARBON BUDGET ACCOUNTING MODEL DEVELOPED

The Canadian Model Forest Network and Natural Resources Canada-Canadian Forest Service launched new technology in 2005 to help researchers and forest managers monitor the carbon-based greenhouse gas emissions. The operational-scale, computer-based CBM–CFS3 Carbon Budget Model can track and predict the amount of carbon stored in managed forests. Forest managers can now use the model to assess the effects of forestry operations, including deforestation, on carbon stocks, so they can evaluate the pros and cons of different practices. The model can also be adapted for use by other countries. Canada's Model Forests and their partners tested the model over three years.



# TRANFERRING KNOWLEDGE TO FAMILY FOREST OWNERS

The CMFN created the national Private Woodlot Strategic Initiative in the late 1990s to deal with issues specific to private woodlots. A cooperative workplan was developed with the participation of the Canadian Federation of Woodlot Owners, as well as regional woodlot associations and family forest owners. In 2004, the CMFN published Private Woodland Owners - Meeting the Stewardship Challenge to highlight private woodlot owners' contributions to woodland stewardship across the country. The Network has also published a range of print and electronic material for private woodlot owners, and helped support several national woodlot conferences.



# LESSONS FOR THE FUTURE

*The Canadian Model Forest Network, comprising over 600 partners, can be proud of its many achievements. By far, its greatest legacy is its role in bringing together working partnerships of diverse stakeholders to develop and apply innovative tools and practices to better manage Canada's forest resource.*

*As we prepare for the future, the Network is mindful of the serious adjustment challenges facing the forest sector and forest-based communities across Canada. Continual*

*innovation in forest land management, processing and new product development is key to meeting this challenge.*

*Through its research and outreach activities, the Model Forests are looking forward to new and expanded partnerships at the forest landscape level — working with rural communities, resource sector industries, Aboriginal groups, governments and all other stakeholders who have an interest in the future of the forest resource.*

## PARTNERING WITH ABORIGINAL COMMUNITIES

*Canada's Model Forests have had extremely successful collaborations with Aboriginal partners. It's an opportunity for Model Forests and Aboriginal communities to share centuries-old traditional ecological knowledge and harness modern modeling tools in order to make more informed decisions about the future of the forest.*

- Canada's first Aboriginal-led Model Forest, the Waswanipi Cree Model Forest, has created innovative leadership and decision-making opportunities related to land management questions using scientific research and traditional Cree knowledge. For example, a study was created at the Waswanipi Cree Model Forest to document current and projected land use including changes over time on three traplines with the goal of creating a hunting ground management plan.
- CMFN's Aboriginal Strategic Initiative leads cross-cultural and collaborative workshops and other learning opportunities on sustainable forest management in an Aboriginal context.
- Since 2002, the Foothills Model Forest has expanded its unique Aboriginal Involvement Program to gather and provide access to information on sites important to Aboriginal communities. The approach gives government and industry an opportunity to ensure Aboriginal interests are respected.
- The Prince Albert Model Forest is supporting the development of a 13-hectare Paspiwin Cultural Heritage Site inside Prince Albert National Park. Paspiwin (meaning survival in Cree) will become an honoured gathering place where Aboriginals can teach others about their cultural traditions.
- Through its partnership with the Akwesasne Mohawk community, the Eastern Ontario Model Forest adopted and applied the principles of the Naturalized Knowledge System which has led to stronger, more responsible and empowered communities, and helped establish credibility among Model Forest partners.
- In a cooperative partnership between the Innu Nation, the Newfoundland and Labrador Department of Natural Resources and local resource managers the Western Newfoundland Model Forest is facilitating a new, sustainable *Strategic Forest Management Plan* covering 2.27 million hectares of Labrador/Nitassinan.

## CANADA'S MODEL FOREST PROGRAM

*Each of the 11 Model Forests in the Canadian Model Forest Network provides a unique forum where partners can gain an understanding of other stakeholders' views, share their knowledge, and combine their expertise and resources to develop innovative techniques, tools and approaches to sustainable forest management. Model forests act as giant, hands-on laboratories in which leading-edge techniques are researched, developed, applied and monitored. The network also has the mandate to transfer the knowledge and techniques it develops so the benefits derived from its work can be shared with other forest stakeholders.*

This newsletter contains just a small sampling of the activities undertaken by Canada's Model Forests. For more information:



## EDUCATION — A KEY ROLE FOR CANADA'S MODEL FORESTS

*Since inception, Model Forests have played a large part in supporting and educating students and youth from pre-school to post-doctoral levels.*

- In 2005, Manitoba Model Forest launched a provincially accredited Grade 10 curriculum unit on sustainable forest ecosystems.
- The Western Newfoundland Model Forest has been building educational activities for the past 13 years through provincial curriculum development, teachers' workshops, Envirothon competitions, and ongoing schoolyard naturalization projects.
- Each year, Lake Abitibi Model Forest runs an interpretative program on sustainable forest management (SFM) for Grade 4 students. So far, LAMF has taught more than 2,100 students about natural resource and SFM.
- McGregor Model Forest and its partners work in Far-East Russia to train college instructors in wood-frame housing technologies.
- Since 1999, Manitoba Model Forest and Mexico's Monarch Butterfly Model Forest have worked to save critical butterfly habitat through education, ecotourism and agroforestry initiatives.
- McGregor Model Forest has established linkages with the Gassinski Model Forest in eastern Russia to help with protected area establishment, value-added entrepreneurship and wood-frame housing technologies.
- Bas-Saint-Laurent Model Forest was involved in the development of the initial proposal for Calakmul Model Forest in Mexico and has closely collaborated with the Reventazon Model Forest in Costa Rica.
- Prince Albert Model Forest helped mentor the start of Sweden's Vilhelmina Model Forest partnership and develop relations with the Saami people.

## INTERNATIONAL CONNECTIONS

*Canada's Model Forests reach out to other Model Forests and sustainable forest management practitioners and researchers around the globe. The Model Forest Concept was recognized at the Twelfth World Forest Congress in Quebec City in 2003 as a leading example of social forestry in action.*

Canada's Model Forests are frequent stops for international visitors and delegations researching sustainable forest management in Canada. Between 2002 and 2005, Canadian Model Forests hosted delegations from every continent while Canadian Model Forest representatives traveled internationally to collaborate and share their expertise.



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