

# STRONGER PARTNERS

ADDING VALUE | CREATING IMPACT

2006 ANNUAL REPORT



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## ADDING VALUE | CREATING IMPACT



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## Accomplishments 2002-2006

*Through the use of  
SFM Network research results:*

**Abitibi-Consolidated Inc.** increases its practical knowledge of sustainable forest management through links with university-based forest science researchers, other partners, and SFM Network products to continually learn new ways to improve its forestry practices.

**Alberta-Pacific Forest Industries Inc.** verifies and refines the implementation of a natural disturbance model, enhances management strategies for older forest attributes, and better understands the cumulative effects of human activities on the Boreal Plain.

**Alberta Sustainable Resource Development** incorporates world-class science into the new Alberta Forest Management Planning Standards (2005) and other forest related management policies.

**British Columbia Ministry of Forests and Range** approves a regulation to the Tolko/Riverside Tree Farm License 49 to validate a results based approach to sustainable forest management. The SFM Network provides substantial support in designing a research and extension program for this project.

**Canadian Forest Products Ltd. (CANFOR)** develops and monitors sustainable forest management frameworks to guide planning and operational practices.

**Ducks Unlimited Canada (DUC)** develops stronger working partnerships among industry, governments and First Nations. Network research results help DUC to develop more effective multi-partner initiatives to conserve wetlands and waterfowl habitats throughout the Boreal Forest. The SFM Network continues to provide a sound research knowledge base for DUC to use in educating its personnel on forest management issues.

**The Heart Lake First Nation** assesses economic development opportunities and works more effectively with resource development organizations operating in Heart Lake traditional lands.

**J.D. Irving, Limited** gained considerable new knowledge on the thresholds for habitat structures important to key vertebrate species, patterns of natural disturbance regimes in the areas that JDI manages, and the contribution to habitat and biodiversity from intensively managed stands.



**The Kamloops Indian Band** collaborates with the SFM Network to develop research priorities that are accredited, independent, objective and consistent with research methodology to identify key knowledge gaps relevant to the Band's forest management and economic development objectives and goals, particularly in the face of the Mountain Pine Beetle epidemic.

**The Kaska Tribal Council and the Carrier Sekani Tribal Council** continue to identify the key features of Aboriginal tenure systems and the various opportunities and challenges associated with changing existing tenure arrangements.

**The Little Red River Cree First Nation** of northern Alberta creates its own sustainable forest management framework and continues to implement a model of traditional use conservation through a GIS-based management support system.

**Louisiana-Pacific Canada Ltd.** develops its 20 Year Sustainable Forest Management Plan (2006) including a watershed risk ranking system, multi-scale indicators of biodiversity, spatial landscape assessment models and enhanced monitoring procedures.

**Manitoba Conservation** uses Network synthesis documents and research notes to deliver new knowledge and introduce alternative practices to resource planners and managers involved in the development and revision of forest management guidelines for Manitoba forest operations.

**The Moose Cree First Nation** of northern Ontario collaborates with other SFM Network constituents to develop its Community Land Use Plan, incorporating information about carbon values and traditional land use into forest development and management planning.

**Natural Resources Canada–Canadian Forest Service** views the Network as both credible and objective, and regards its rigorously peer-reviewed science products as critical to informing public policy debates surrounding the use of Canada's forests.



**The Newfoundland and Labrador Forest Service**

acknowledges the SFM Network as the only national research network committed to delivering a strong knowledge transfer program to its end-users.

**The Ontario Ministry of Natural Resources** uses Network publications to put new science in the hands of its practitioners, resource managers, and policy makers resulting in world leading natural disturbance guidelines.

**The Québec Coulombe Commission** assesses forest management practices in Québec and in 2005 recommended sweeping changes to the province's forest management system that were, in part, supported by Network research results.

**Tembec Inc.** builds effective science-based relationships with university researchers and other industry, government and Aboriginal partners across Canada; obtains a window into perspectives and knowledge that the company would not otherwise have had access to; and, as a result, improves forest management strategies and operational practices in the four Canadian provinces in which the company operates.

**Tolko Industries Ltd.** develops a sustainable forest management framework for Tree Farm License 49, variable retention plans for its Okanagan Regional Woodlands and Tolko-High Level's next 20 year forestry plan.

**Weyerhaeuser Company Ltd.**, as a result of contributing to the Network's research direction and research priorities, receives reliable scientific data on such issues as natural disturbance, variable retention, and a variety of wildlife conservation projects.

**The Yukon Department of Energy, Mines and Resources** works with the Network and the Kaska Nations to develop best forest management practices for the southeast Yukon.

# The Sustainable Forest Management Network

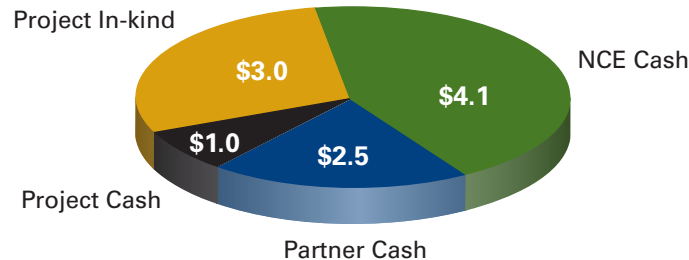


The SFM Network is a national leader in sustainable forest management research and knowledge dissemination. The Network supports collaborative research, trains graduate students and professionals, provides important networking opportunities, encourages knowledge exchange among its partners, and works with its partners to implement the results of the research.

The Network's 33 forest industry, government, Aboriginal, and NGO partners derive significant benefit from the impartial, internationally-recognized research that the Network undertakes in order to assist resource managers to address the challenges and opportunities of managing multiple values within Canada's forests.

The value-added benefit from a network approach starts with the balance sheet. The federal Networks of Centres of Excellence Program, through NSERC and SSHRC, contributes \$4.1 million annually. Industry, NGO, Aboriginal, and government partners contribute approximately \$2.5 million in cash annually, plus another \$1 million in cash directly to Network research projects. They also provide an additional \$3 million of 'in-kind' contributions each year. The total support to SFM Network research projects across Canada exceeds \$10 million a year.

**SFM Network Research Support (\$ millions)**



During 2005-2006, the Network collaborated with 188 researchers and more than 275 highly qualified personnel at 35 universities across Canada. The results of their research work appeared in 121 publications including 52 peer-reviewed journal articles.

Since 1995, the Network has fostered an ongoing discussion supported by rigorous peer-reviewed research that has helped to significantly refine Canada's understanding of sustainable forest management.



## Vision for the Future

*The Network's research program, by the very nature of the problems it addresses, crosses research disciplines and stakeholder communities. This program is unique in the forest sector. Few other research organizations in Canada, or in the world, conduct their research in this way.*

The SFM Network is continuing to enhance sustainable forest management in Canada by:

- providing **national leadership** in the development of theoretical and operational concepts of sustainable forest management that integrate the views of the sectors, regions and organizations concerned with Canada's forests;
- supporting **synthesis** research to affirm or redefine and articulate **concepts central to sustainable forest management (SFM)**. This work is laying the foundations for future research conducted by the Network or other organizations;
- supporting a **program of excellent and innovative research** aimed at creating the knowledge required to more effectively implement sustainable forest management (SFM) in Canada;
- enhancing and refining Network **training programs** to meet the needs of partners for highly qualified personnel with a good understanding of SFM and the skills required for its implementation; and
- enhancing and refining Network **knowledge and technology transfer** mechanisms aimed at the partners and the public while strengthening relationships among researchers and partners.

To accomplish this, the Network will focus on the following research themes which its partners have indicated are the most important to them:

- **integrated landscape management:** Policies, institutions, and practices required to properly implement the concept including effective land tenure policy, the assessment and comparison of multiple forest values, and the development of effective trade-off and decision-making processes;
- **sustainability and restoration of ecosystem productive capacity:** Policies and practices to sustain productivity, restore and reclaim degraded terrestrial and aquatic ecosystems, and enhance regenerative capacity in intensively managed forests;
- **conservation of biodiversity:** Practices and processes to ensure that biodiversity is sustained on managed lands, in waters, and within protected areas;
- **sustaining Aboriginal and forest-dependent community cultures:** Policies and institutions for sustaining communities and livelihoods, integration of diverse value systems into decision-making and development of culturally sensitive governance models;
- **technologies for sustainable landscapes:** Including integrated forest and watershed modeling, the development of indicators of ecological, social and economic sustainability, innovative products and services, decision support technologies and approaches, environmental and biodiversity effectiveness monitoring technologies.



## 2005-2006 Research Program Highlights

The 2005-2006 research program consisted of 31 projects involving researchers and partners across Canada. Network research is changing forest research, management practices and policy in Canada and beyond. A complete research project list, by project title and principal investigator, is included at the end of the report.



# CLIMATE CHANGE AND CARBON MANAGEMENT: consequences and opportunities



In collaboration with Natural Resources Canada – Canadian Forest Service, Daishowa Marubeni International Ltd., Moose Cree First Nation, the Little Red River Cree Nation, and the BIOCAP Canada Foundation, a research team led by Dr. Glen Armstrong is taking a comprehensive look at the potential for carbon credit trading. The project is providing insights into effective policy options relating to forest-carbon through the combination of legal analysis, experimental economics and landscape-level modeling.

Dr. Van Lantz and his research team are evaluating the effect of insect outbreaks on forest carbon dynamics and the cost-effectiveness of investing in pest management to enhance forest carbon sequestration. The project is also exploring the long-term costs and benefits of an institutional arrangement involving carbon credit purchase by companies to generate revenues used for pest management activities. Partners collaborating include the Government of Newfoundland and Labrador, Government of Alberta, Government of Québec, J.D. Irving, Limited, Government of New Brunswick, Natural Resources Canada – Canadian Forest Service, and the BIOCAP Canada Foundation.

Through a research collaboration including the Government of Newfoundland and Labrador, Natural Resources Canada – Canadian Forest Service, Abitibi-Consolidated Inc., Bowater Inc., J.D. Irving, Limited, and the BIOCAP Canada Foundation, Dr. Dave MacLean and his research team are integrating carbon budget and sequestration objectives into strategic forest management plans. They are working on case studies to quantify the outcomes of integrated pest management of several major insect species on defoliation, plant growth rate, and carbon sequestration.



## INTEGRATED LAND MANAGEMENT (ILM):

reducing the cumulative effects of the competing uses on Canada's forests through innovative modeling and forest management approaches



With support from the Governments of Alberta and British Columbia, Natural Resources Canada – Canadian Forest Service, Alberta-Pacific Forest Industries Ltd, CANFOR, Weyerhaeuser Company Ltd., Ducks Unlimited Canada, and the BIOCAP Canada Foundation, Dr. Vic Adamowicz is leading an interdisciplinary team of ecologists and economists to develop a dynamic modeling framework that will generate integrated indicators of economic and ecological sustainability to evaluate the outcomes of alternative policies. This project will provide the most accurate picture to date of the ability of forests on the Boreal Plains to produce multiple values from forest harvest and energy production while maintaining their integrity.

Through a research collaboration including Bowater Mersey Paper Company Limited, Nova Scotia Natural Resources, the Nova Forest Alliance/Model Forest Network, and the BIOCAP Canada Foundation, Dr. Peter Duinker and his research team are assisting forest managers in the conservation of old-growth forest and its associated values through set-asides and active silvicultural intervention. At study sites in Ontario and Nova Scotia, researchers are working to determine how rural people, urban people, and environmental advocates perceive and value old-growth forest and its management. They are also identifying the objectives and activities that forest managers can apply in developing comprehensive, detailed and well grounded old-growth management strategies that will satisfy both wood supply and biodiversity conservation needs.

Dr. Jay Malcolm and his team are using the TRIPLEX ecosystem model to examine tradeoffs by investigating the implications of alternate scenarios for woody debris retention and biomass harvesting so they can more effectively model biological diversity, carbon supply and fluxes, and ecosystem productivity. The project is supported by the Government of Ontario to address aspects of its Environmental Assessment Approval process; by Abitibi-Consolidated Inc. because of its desire for quantitative retention and monitoring guidelines; by the Forest Engineering Research Institute of Canada (FERIC) because of its ongoing interest in bioenergy and biomass harvesting and recovery from the forest, and by the BIOCAP Canada Foundation.





Dr. Christian Messier and his research team are developing a new SFM Modeling Toolkit by linking various modeling and sub-modeling tools across scales and disciplines. This research work is being derived from seven diverse landscapes in Canada, Finland, and the United States. The toolkit will be tested in Labrador since this region has neither forestry operations nor any existing computer planning models in use. Researchers will be free to ask all the relevant research questions and then pick and choose the most relevant modeling tools, either in whole or in part, to uniquely answer a particular forest management question. The Government of British Columbia is interested because of the Mountain Pine Beetle epidemic. The Government of Newfoundland and Labrador is interested because of its need to create an ecosystem-based management plan for Labrador. Abitibi-Consolidated and the Innu Nation of Labrador are also interested.

Dr. John Nelson is heading a research team to establish a set of criteria and indicators and a decision support system in order to evaluate a proposed TRIAD approach on lands owned by Tolko Industries Ltd. located near Kelowna, British Columbia. Researchers will identify and test ecological indicator species focusing on birds and the stand and ecosystem characteristics that they favour. They will develop social indicators based on visible measures of stewardship by using visualization techniques with local and non-local people to test perception of zoning and management scenarios. They will also identify and incorporate economic indicators for timber production and estimate the economics of non-timber outputs, then develop and apply a decision support system that can forecast impacts of stand-level management practices and landscape-level zonation strategies on the indicators to help assess tradeoffs. Tolko Industries Okanagan Regional Woodlands has already used some of the preliminary data results for its ongoing retention planning process.



## SUSTAINABLE ABORIGINAL COMMUNITIES



Dr. Iain Davidson-Hunt and his team are identifying and documenting the indicators used to monitor changes in boreal forest ecosystems, working in collaboration with Pikangikum First Nation elders in northern Ontario. The research team, along with Ojibway elders and trappers, is working to identify Aboriginal values and indicators in the integrated management of the Whitefeather Forest Planning Area. This work is also integrating lessons learned from First Nation experiences with criteria and indicator processes. The project, supported by Natural Resources Canada – Canadian Forest Service, Government of Ontario, and the National Aboriginal Forestry Association, has the potential to fill in numerous knowledge gaps about Aboriginal forest use and inform the development of Pikangikum Land Use Strategy. The project's results will also have broad relevance across Canada.

Dr. Dave Natcher is heading a research team that is assessing a variety of forest tenures held and negotiated by Aboriginal groups. The project is investigating the relationships between Aboriginal communities, governments, industry, and other stakeholders. Research results will identify the types of institutional relationships required for successful forest tenures and provide a yardstick to measure progress. The methodology is also helping to inform future forest policy and is of particular value to First Nations in Canada who are seeking tenure reforms within their traditional territories. Project partners include the Kaska Tribal Council, Innu Nation, Carrier-Sekani Tribal Council, Government of Newfoundland and Labrador, Department of Natural Resources, Yukon Department of Energy, Mines and Resources, and CANFOR.

In collaboration with CANFOR, Tembec Inc., Weyerhaeuser Company Ltd. and the National Aboriginal Forestry Association, Dr. Ron Trosper is examining and evaluating the performance of different institutional arrangements under which First Nations correctly participate in the forestry sector in Canada. The researchers are working to identify the appropriate criteria and indicators by which Aboriginal communities measure the performance of those institutions. The research team is also working to identify the essential characteristics of successful arrangements, aid Aboriginal communities in developing appropriate institutions to help them best achieve their goals, and inform policy makers in the development of forest management policies to facilitate successful arrangements that satisfy economic, social, and environmental criteria.



## SUSTAINABILITY THROUGH EFFECTIVE MEASUREMENT: developing better indicators



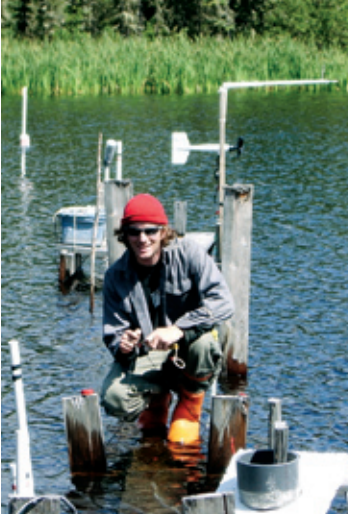
Environment Canada, Natural Resources Canada–Canadian Forest Service, Government of Newfoundland and Labrador, Alberta-Pacific Forest Industries Inc., Tembec Inc., and Tolko Industries Ltd. are collaborating with Dr. Tom Beckley and his research team to identify the key elements that contribute to community and social sustainability. The research team is conducting surveys to examine the relationships between values, social networks, socio-demographic factors, and satisfaction with forest management. Research work is being conducted in several communities in British Columbia including Vancouver and Kelowna, in northwest Saskatchewan Métis communities, in several communities in the Yukon, and in several forest communities in Newfoundland. Knowledge synthesis documents are being developed to better define effective public participation and assist corporate decision-making and policy development.

In collaboration with Environment Canada, Government of Manitoba, Government of Ontario, Louisiana-Pacific Canada Ltd., and Ducks Unlimited Canada, Dr. Keith Hobson's research team is providing data and generating risk assessment models for boreal forest birds. Researchers are comparing the riparian habitats with differential degrees of human disturbance at three study sites in Alberta, Manitoba and Saskatchewan. They are investigating the cumulative effects of roads, seismic activity, forestry, and agriculture on the riparian bird community and comparing riparian bird communities in shoreline areas subjected to different harvesting methods. The research team is studying whether or not there may be alternatives to leaving forested buffers along the shorelines of wetlands, rivers and streams if forests are to be managed at the landscape level in a manner that reflects natural processes.

Through a research collaboration involving CANFOR, Tembec Inc., and Weyerhaeuser Company Ltd., Dr. Paul McFarlane and his research team are developing novel and patentable Chain-of-Custody (CoC) tracking technology. This new technology is linking performance-based forest certification schemes to claims made by labeled products in the marketplace and by a variety of raw materials certified by different sources, and enabling optimal management of products in mills that process certified and uncertified raw materials.



## WATER: forest input and priceless output



The Government of Ontario, Natural Resources Canada – Canadian Forest Service, Abitibi-Consolidated Inc., Louisiana-Pacific Canada Ltd., Tembec Inc., and the Lake Abitibi Model Forest are collaborating with Dr. Jim Buttle and his research team to enable forest companies to more effectively incorporate hydrological principles into their management practices. This work is assisting partners in obtaining certification by developing criteria and indicators for determining harvesting impacts on water quantity. The team will produce a planning tool for predicting the effects from forest management plans and illustrate the cumulative effects of harvesting across spatial scales over longer timeframes.

The Government of Alberta, Alberta-Pacific Forest Industries Inc. (Al-Pac), and Ducks Unlimited are collaborating with Dr. Kevin Devito and his team to define the landscape units that control the storage and movement of water in the Western Boreal Forest. Their work will improve our ability to predict hydrologic response to land disturbance in the region, and provide a tool to evaluate the importance of riparian areas in reducing the impacts of forestry on water quantity and quality. This project forms the core of Al-Pac's Boreal Conservation Project, and the backbone of Ducks Unlimited's conservation approach in the Boreal. Results to date have shown that landforms (geologic deposits) and climate are the major factors governing surface hydrology on the Boreal Plains.

In collaboration with Natural Resources Canada–Canadian Forest Service, Government of Alberta, Government of Ontario, Abitibi-Consolidated Inc., Louisiana-Pacific Canada Ltd., Tembec Inc., Ducks Unlimited, and the Forest Engineering Research Institute of Canada (FERIC), Dr. Paul Sibley and his research team are developing a science-based decision support framework that helps evaluate and balance competing values for riparian use. This support framework can be used by the forest industry in Ontario as well as across Canada as part of an effective strategy for sustainable shoreline forest management.



## ECOSYSTEM-BASED MANAGEMENT: learning from nature



Natural Resources Canada – Canadian Forest Service, Parks Canada, the Governments of British Columbia, Manitoba, Ontario and Québec as well as Abitibi Consolidated Inc., Canadian Forest Products Ltd., Louisiana-Pacific Canada Ltd., Tembec Inc., and the Lake Abitibi Model Forest are working with Dr. Sylvie Gauthier and her team in assessing the applicability of the eastern boreal natural disturbance-based management model to other fire-affected regions. Her research team is helping partners to develop a better understanding of gap and patch dynamics under varying circumstances and disturbance types including insect outbreaks and natural tree mortality.

With support from the Government of Alberta, Alberta-Pacific Forest Industries Inc., and Weyerhaeuser Company Ltd., Dr. Vic Lieffers and his team are devising and testing a model to improve silvicultural practices that encourage the growth of white spruce in boreal mixedwood stands. At present, site factors that control spruce recruitment and growth are not well understood, making it difficult to predict where white spruce natural regeneration can be found.

## CREATING INCENTIVES IMPROVING POLICY EFFECTIVENESS



The Governments of Alberta, British Columbia, Newfoundland and Labrador and Québec as well as Tembec Inc., Tolko Industries Ltd. and Weyerhaeuser Company Ltd. are collaborating with a research team headed by Dr. Ilan Vertinsky in developing proposals and implementation strategies for new land tenure arrangements to regulate access to forest resources.

In collaboration with the Governments of Alberta, British Columbia, Québec, and Newfoundland and Labrador, Tembec Inc., Tolko Industries Ltd., and Weyerhaeuser Company Ltd., Dr. Marian Weber and her research team are determining how to use incentive-based instruments to achieve environmental objectives in the boreal forest. The research team is considering the institutional feasibility of various incentive programs, including legal constraints, requirements for implementation, integration of Aboriginal rights and obligations, and identifying opportunities for Aboriginal communities to use incentive programs to develop new markets and/or livelihoods from environmental services. Dr. Weber is also exploring public preferences between outcomes of different incentive programs and developing recommendations on integrating natural capital indicators into policy objectives and instruments.

## Knowledge Exchange and Extension



The SFM Network significantly increased its activity related to knowledge exchange and extension over the past year by completing its SFM Network Knowledge Exchange Strategy (2005-2009). The strategy encompasses three primary activities:

- **Extension documents:** Two different document types are produced, including synthesis reports and research notes. Synthesis documents provide syntheses of in-depth, analytical and integrated summaries of pertinent scientific information, including implementation recommendations and management implications. Research notes are written in non-technical language for wide distribution to forest managers and practitioners. During 2005-2006, the Network produced five new synthesis documents and 15 technical research notes summarizing Network research findings and implementation strategies. The Network also organizes workshops to assist research teams with the integration and implementation of synthesis documents and extension planning. The various documents are available at: [www.sfmnetwork.ca](http://www.sfmnetwork.ca).
- **Enhanced researcher and partner linkages:** Enhanced linkages promote and facilitate opportunities for knowledge exchange on an ongoing basis. Examples include the various research development proposal workshops the Network holds each year. During 2005, sessions concerning forest dynamics and succession, institutions and policies, future forest conditions, and managing riparian and wetland ecosystems were held. The primary objective is to provide ways for researchers and partners to collaborate and develop research projects, interpret results, and jointly develop and manage recommendations or decision support tools. This is in contrast to the traditional model of one-way extension – a researcher providing a report regarding research findings – that typically occurs after completion of a research project. Enhanced interactions between researchers and partners enables both groups to better understand management issues or problems, the complexities of potential solutions, and additional means of one-on-one technology transfer. The SFM Network promotes direct exchange by providing various networking opportunities, such as regional workshops where researchers and practitioners share ideas to create a fully integrated research proposal.
- **SFM framework development:** An SFM framework enables an organization to identify its own research priorities or knowledge needs as they move towards SFM, and promotes the dissemination and implementation of research results within the organization. This enables each partner to maximize returns from the Network partnership through communication of research questions and knowledge exchange needs during the Network's annual research priority-setting exercises. Each organization develops its own strategy according to its own unique set of circumstances.



During 2005-2006, Alberta-Pacific Forest Industries Inc., Tembec Inc., Government of British Columbia, Tolko-High Level, and Little Red River Cree First Nation developed their own frameworks. The Network also had discussions with the Kamloops Indian Band regarding the development of an SFM framework.

The Southeast Yukon Best Management Practices Project was launched in the fall of 2005. Initial steps included the development of a community engagement strategy and an overview and needs assessment. A national survey of best forest management practices will soon be developed. The project is guided by a broad based Advisory Team including the participation of the Yukon Government, Kaska Nations, Kaska Forest Resource Stewardship Council, SFM Network, Parks Canada, and Environment Canada.



Two additional staff were hired to meet the Network's ongoing knowledge exchange commitments. Ms. Jane Stewart is the Network's new Knowledge Exchange Coordinator and Dr. Nathalie Perron is serving as an extension specialist in eastern Canada.



## Value-added Training:

*training Canada's next generation of  
forest managers and researchers*



The challenge of understanding and implementing the ecological, economic, and social dimensions of sustainable forest management requires people in research, management, and policy-making who have special skill sets. The SFM Network recognizes that students and professionals trained in an environment that encourages collaboration and understanding across disciplines and sectors play a vital role in addressing key research questions as well as implementing results in new practices and policies in the future.

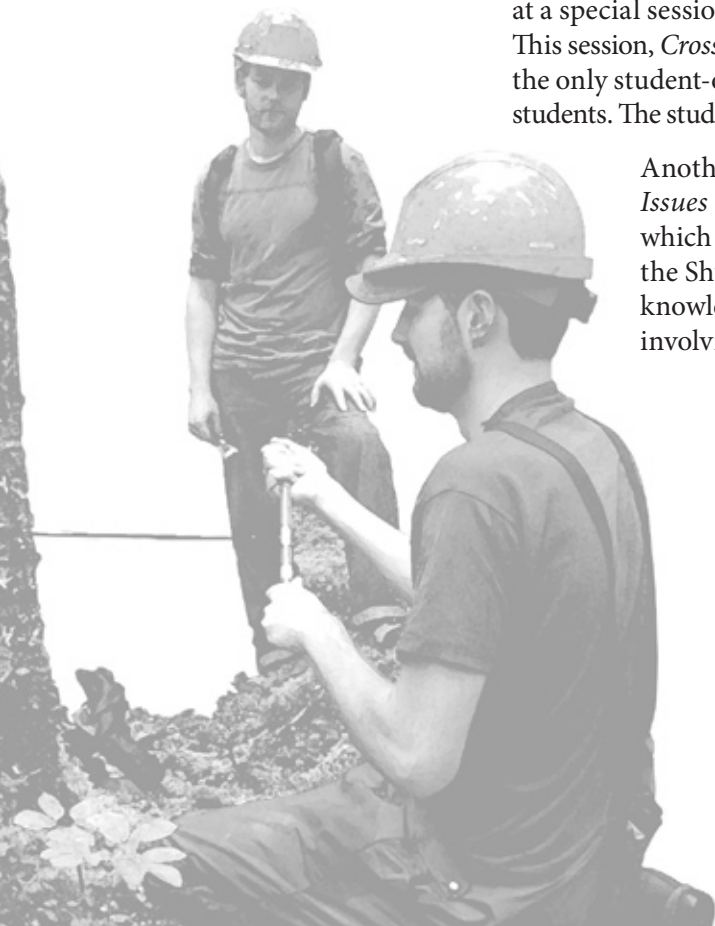
Since the Network's inception in 1995:

- 28 Network students have taken academic positions at universities in Canada. They are now training the next generation of multidisciplinary researchers;
- 80 Network students are working for federal and provincial/territorial government departments bringing their unique cross disciplinary experience to bear on the challenges facing governments;
- more than 60 Network students are working in industry and consulting.

In 2005-2006, 106 Masters and 64 Ph.D. students worked on research projects funded by the SFM Network. In addition, 13 post-doctoral fellows and more than 100 undergraduates, research associates, and technicians were involved in projects. Of those who graduated this year, four found employment with universities or decided to continue their education, three were employed by industry, and five found employment with various government agencies. This commitment to training the next generation of researchers and managers to answer key partner research questions represents a significant value-added benefit.

During 2005-2006, seven SFM Network students gave presentations or presented posters at a special session at the August 5-12, IUFRO World Congress, Brisbane, Australia. This session, *Crossing borders: international perspectives on interdisciplinary research*, was the only student-organized session at the event. Three of its organizers were Network students. The students' papers were also published in a special issue of the Forestry Chronicle.

Another 11 students from New Brunswick to British Columbia took part in *Issues in Cross-Cultural Research: A SFM Network Student Training Workshop*, which took place in Chase, B.C. This event was held in collaboration with the Shuswap Tribal Council and was designed to introduce students to the knowledge and skills they will need to effectively conduct research projects involving Aboriginal communities.



# Network Management



The work of the many dedicated members of the Board of Directors, Research Planning Committee, Partners Committee, Executive Committee, Strategic Planning Committee and Management Team guided the SFM Network through another successful year.

Some of the notable highlights, changes, and accomplishments achieved during 2005-2006 included:

- Successful Networks of Centres of Excellence Mid-Term Review resulted in \$12.3 million in continued federal funding for the SFM Network through 2009.
- Five Board of Directors meetings focused on the Mid-Term Review and the process for establishing the foundations on which to develop strategies required to ensure continuation of key Network programs and services beyond 2009.
- At four Research Planning Committee meetings, members formulated research directions and priorities, finalized the Call-for-Proposals, guided the competitive review process and selection of new projects, consolidated the concept of a new state-of-knowledge initiative, and provided input into the Network's Mid-Term Review process.
- Three Network Partner Committee meetings brought partners together to identify and prioritize research areas for the coming year.
- More than 80 researchers, partners, affiliates, board members, research planning committee members, and staff participated in a Biodiversity Monitoring workshop held in conjunction with the Network's annual meeting.
- Four research development workshops, held during Summer 2005 in conjunction with the Call For Proposals, focused on criteria and indicators, value trade-offs, riparian systems, and Aboriginal forestry.
- The Network participated in the "Thin Green Line" conference in Thunderbay, Ontario; Forest Leadership Conference in Toronto, Ontario; and Canadian Institute of Forestry's annual meeting in Prince Albert, Saskatchewan.
- The Network co-moderated, together with ArcticNet, three sessions at the NCE annual meeting to explore innovative means through which the social sciences might be more effectively integrated into both the NCE program and specific networks.
- The Network participated in the Annual General meeting of the National Forest Strategy Coalition held in Victoria, BC. This national coalition is responsible for the development and implementation of the fifth National Forest Strategy.

## Corporate Communications



The Network continued its efforts to explain its research mandate, activities, and the significant partnerships it has fostered through various print, audio and video initiatives.

The SFM Network was a lead sponsor for the 34th Annual Canadian Science Writers' Conference, held in Jasper, Alberta, June 17-21, 2005. The following SFM Network personalities participated as presenters or panel moderators: Dr. Jim Fyles (Scientific Director/McGill University); Drs. Vic Adamowicz, Peter Boxall, Cliff Hickey, Fiona Schmiegelow, U of A; Mr. Gary Stewart, Ducks Unlimited Canada; Drs. Phil Burton and Mike Flannigan (NRCAN-CFS); Dr. Ed Johnson (U of C); as well as HQP: Brock Simons and Piyangi Jayasinghe, UBC, Eric Neilson, UNB, and Kinga Uto, U of A.

- *The Montreal Gazette* on July 18, 2005 featured an article about SFM Scientific Director Dr. Jim Fyles, who discussed controlled burning of forests.
- *The Fredericton Daily Gleaner* on July 25, 2005 printed an article about the Fundy Model Forest (FMF) collaboration with the SFM Network.
- *The Moncton Times and Transcript* on August 3, 2005 featured an article about Alberta-Pacific Forest Industries Inc. and its research collaboration with the SFM Network.
- A one hour SFM Network documentary produced in 2004, entitled *Harder than Rocket Science? Sustaining Canada's Forests* was aired on cable (Canadian Television Network) and satellite (Alberta Access Network) nationwide on October 19 and 20, January 25, February 20 and 22, and April 19. The documentary features partners Abitibi-Consolidated Inc., J.D. Irving, Limited, Louisiana-Pacific Canada Ltd., and Tembec Inc., as well as the Network's involvement in the EMEND project in northern Alberta.

Through our continuing partnership with Innovation Alberta, eleven more audio interviews were broadcast province-wide in Alberta and archived on the Innovation Alberta website. This website is updated weekly and accessed by people in over 130 countries.





Network sponsored articles appeared in:

- *Le Monde Forestier* featuring Dr. Dan Kneeshaw, Université du Québec à Montréal;
- *The Edge: Forest Business* featuring the Integrated Landscape Management research work of Dr. Fiona Schmiegelow, Dr. Mark Boyce, Dr. Stan Boutin at the University of Alberta (U of A), and Dr. John Innes at the University of British Columbia (UBC) and featuring Network partners Alberta Environment, Al-Pac, Weyerhaeuser Company Ltd., Government of British Columbia, CANFOR, Tembec Inc., Ducks Unlimited, Natural Resources Canada – Canadian Forest Service, and the Little Red River Cree Nation;
- *Logging and Sawmilling Journal* featuring the work of Dr. Kathy Martin and Environment Canada.

Six articles published in the Canadian Institute of Forestry's *Forestry Chronicle* presented overviews of the Network's various research initiatives, its KETE strategy, Aboriginal synthesis reports, and new Research Note series. Articles featuring the SFM Network were also published in the *Commonwealth Forestry News* (U.K.) and *The State of Canada's Forests* (Natural Resources Canada – Canadian Forest Service).

Two issues of the Network's newsletter, *Tomorrow's Forests*, were produced. The Spring 2005 issue focused on training of the next generation of researchers in conducting multi-disciplinary science. Shortly after publication, the Network's corporate identity was updated. The Winter 2005 issue was the first to undergo the transition. It featured Network accomplishments as cited in the National Roundtable on the Environment and the Economy (NRTEE) Boreal Futures Report. Work then began on a comprehensive redesign of the Network's website, including a new web address: [www.sfmnetwork.ca](http://www.sfmnetwork.ca).

[www.sfmnetwork.ca](http://www.sfmnetwork.ca)



SUSTAINABLE FOREST  
MANAGEMENT NETWORK



RÉSEAU DE GESTION  
DURABLE DES FORÊTS

Welcome  
ENTER

Bienvenue  
ENTREZ



## Chair's Message



Over the past year, the Board and its various committees dedicated significant time and effort to considering the Network's future through and beyond its 2009 NCE mandate. There is much yet to be done regarding our understanding of Canada's forested landscapes. Aspects still to be better understood include the adaptation of forests, economies, and societies to climate change; effective engagement of Aboriginal peoples in policy-making, land management, and knowledge creation; and the global economic, social, and ecological drivers that influence regional and local decision-making and practice. By the completion of its NCE mandate, the

SFM Network will be ideally positioned to take on these important and complex issues. We are focused on adding even more value to our various partners' investments by preparing for the future today.

Several planning scenarios were developed for the SFM Network over the past year by dedicated senior staff and partner volunteers. I would personally like to thank them for their commitment, energy, and vision. I would also like to thank the various volunteers and our dedicated staff for success in our second NCE Mid-Term Review. This was a critical milestone in our history as a Network and it could not have been achieved without their passion and commitment.

The Research Planning and Partners Committees are important components of the Network. Partners' technical representatives identify broad research needs that might be addressed by the Network. Network researchers and partners work together to set

and coordinate research priorities in a way that will meet the rigor of scientific peer review. I wish to express my appreciation to Dr. Samantha Song, Environment Canada for becoming the Partner Committee Chair. My sincere thanks to her predecessor, Mr. George Bruemmer, for his many years of committed and dedicated service.

I also wish to sincerely thank the Executive, Strategic Planning, and Research Planning Committee members for their hard work in ensuring the Network's present and future success, and as well our diligent Network staff.

Sincerely,

A handwritten signature in dark ink, appearing to be 'B. Waito', written in a cursive style.

Barry Waito, Board Chair

## Scientific Director's Report



The SFM Network has over a decade of research experience, extending across the many dimensions of sustainable forest management. The knowledge created in this experience resides in the expertise of the researchers and professionals involved, as well as in Network publications, scientific journal articles and book chapters that report the research. As knowledge grows, however, its value is enhanced if it can be drawn together to make it easily accessible to those who can use it.

The Network's Research Planning Committee has spent the past year exploring best ways to synthesize accumulated knowledge in areas important to sustainable forest management. The goal is to capture the

current state of thinking that has emerged from the diverse research conducted over the past decade. Such synthesis can provide direction for the development of future government policy and industry practice as well as lay the foundation for future research.

To meet the knowledge synthesis goal, the Network has launched a new program to support 'State of Knowledge' projects. These projects will compile and integrate insights from published literature and expert opinion in important areas, such as the role of protected areas in sustainable forest management and strategies for managing forests for caribou conservation.

Many of the challenges facing our country and our forested landscapes are large and complex, driven by many different factors which interact in ways that are difficult to predict. Change is certain but the directions and implications of change are not. Synthesis that can help predict the unpredictable is beyond the scope of a

single 'State-of-Knowledge' project, so the Network is preparing to embark on another new program of 'Scenario Analysis'. In this program we hope to draw on the breadth of expertise in universities, industry, government, and in the Aboriginal and NGO communities to define a set of plausible futures and to explore their implications for the many benefits society expects from Canadian forested landscapes. The program will involve regional consultations with many stakeholder groups to incorporate their perspectives on the future forest.

I would like to thank Dr. Terry Veeman, who this year succeeded Dr. John Stager as Chair of the Research Planning Committee. Dr. Veeman was largely responsible for keeping the development of the new aspects of the Network's research on track. The committee was also very active in the Network's Mid-Term Review. Thank you Terry, and all your committee members, for your ongoing leadership.

Sincerely,

A handwritten signature in dark ink, reading "Jim Fyles". The signature is fluid and cursive, with the first letters of the first and last names being capitalized and prominent.

Jim Fyles, Scientific Director

# AUDITOR'S REPORT

## **To the Directors of the Sustainable Forest Management Network**

I have audited the balance sheet of the Sustainable Forest Management Network as at March 31, 2006, and the statements of revenues and expenditures and changes in net assets and cash flows for the year then ended. These financial statements are the responsibility of the Network's management. My responsibility is to express an opinion on these financial statements based on my audit.

I conducted my audit in accordance with Canadian generally accepted auditing standards. Those standards require that I plan and perform an audit to obtain reasonable assurance whether the financial statements are free of material misstatement. An audit includes examining, on a test basis, evidence supporting the amounts and disclosures in the financial statements. An audit also includes assessing the accounting principles used and significant estimates made by management, as well as evaluating the overall financial statement presentation.

In my opinion, these financial statements present fairly, in all material respects, the financial position of the Sustainable Forest Management Network as at March 31, 2006, and the results of its operations and its cash flows for the year then ended in accordance with Canadian generally accepted accounting principles.

J. A. Pawluik Professional Corporation  
Chartered Accountant

Edmonton, Alberta  
June 1, 2006

# SUSTAINABLE FOREST MANAGEMENT NETWORK

## BALANCE SHEET

March 31, 2006

	2006	2005
<b>ASSETS</b>		
<b>Current Assets</b>		
Cash	\$ 1,016,550	\$ 538,181
Accounts receivable	266,628	467,250
Prepaid expenses	20,157	1,000
	<u>\$ 1,303,335</u>	<u>\$ 1,006,431</u>
<b>LIABILITIES</b>		
<b>Current Liabilities</b>		
Accounts payable and accrued liabilities	\$ 93,461	\$ 86,806
Deposit	12,816	—
Deferred revenue	292,688	275,000
	<u>398,965</u>	<u>361,806</u>
<b>NET ASSETS</b>		
Internally Restricted	—	73,399
Unrestricted	904,370	571,226
	<u>904,370</u>	<u>644,625</u>
	<u>\$ 1,303,335</u>	<u>\$ 1,006,431</u>

## STATEMENT OF REVENUES AND EXPENDITURES AND CHANGES IN NET ASSETS

Year Ended March 31, 2006

	2006	2005
<b>Revenues</b>		
NSERC/SSHRC	\$ 4,100,000	\$ 4,100,000
Provinces, Territories, Federal Agencies	1,375,000	1,375,000
Industries and other	1,092,719	1,087,552
Flow-through contract	62,631	—
	<u>6,630,350</u>	<u>6,562,552</u>
<b>Expenditures</b>		
Research	4,933,602	4,936,186
Knowledge exchange and tech transfer	412,215	568,820
AGM	22,904	62,394
Central administration	939,253	969,340
Flow-through contract	62,631	—
	<u>6,370,605</u>	<u>6,536,740</u>
<b>Excess of Revenues over Expenditures</b>	259,745	25,812
<b>Unrestricted Net Assets, Beginning of Year</b>	571,226	231,655
<b>Transfer from Internally Restricted Net Assets</b>	73,399	313,759
<b>Unrestricted Net Assets, End of Year</b>	<u>\$ 904,370</u>	<u>\$ 571,226</u>

## STATEMENT OF CASH FLOWS

Year Ended March 31, 2006

	2006	2005
<b>CASH PROVIDED BY (USED FOR)</b>		
<b>Operating Activities</b>		
Excess of revenues over expenditures	\$ 259,745	\$ 25,812
Net change in other non-cash working capital		
Accounts receivable	200,622	(268,271)
Prepaid expenses	(19,157)	—
Accounts payable and accrued liabilities	6,655	(14,149)
Deposit	12,816	—
Deferred revenue	17,688	175,000
	<u>478,369</u>	<u>(81,608)</u>
<b>Increase (Decrease) in Cash</b>	538,181	619,789
<b>Cash, Beginning of Year</b>		
	<u>\$ 1,016,550</u>	<u>\$ 538,181</u>

# HONOURS AND AWARDS

**Dr. Victor Lieffers**  
IUFRO Scientific Achievement Award

**Dr. Shashi Kant**  
IUFRO Scientific Achievement Award

**Dr. John Spence**  
IUFRO Scientific Achievement Award

## MAJOR STUDENT AWARDS

**Ms. Deirdre Bruce**  
Graduate Student Award,  
NRCAN / Pacific Forestry Centre

**Heather Clarke**  
NSERC Industrial Post-graduate  
Scholarship

**Ms. Hilary Cooke**  
NSERC Industrial Post-graduate  
Scholarship

**William Harrower**  
NSERC Industrial Post-graduate  
Scholarship  
University of Victoria President's Award

**Tom Hobby**  
Graduate Student Award,  
NRCAN / Pacific Forestry Centre

**Ms. Esther Kamunya**  
U of A Doctoral Entrance Provost Award

**Mr. Todd Mahon**  
Alberta Ingenuity Fund, PhD Studentship

**Mr. Dustin Oaten**  
NSERC PGS-A Scholarship

**Mr. Brian Smerdon**  
D.M. Gray Award,  
Best Student Paper in Hydrology

# PROJECTS AND PRINCIPAL INVESTIGATORS

For complete project descriptions, see the Network's Projects and Publications Guide 2005/2006 at: [www.sfmnetwork.ca](http://www.sfmnetwork.ca)

## NATURAL DISTURBANCE MANAGEMENT

Use of natural disturbances and natural processes as a template for the sustainable management of boreal forests

*Sylvie Gauthier, Natural Resources Canada – Canadian Forest Service*

Natural regeneration of white spruce following logging in mixedwoods

*Victor Lieffers, University of Alberta*

Dynamics of woody debris in eastern boreal forests: implications for carbon and wildlife management

*Jay Malcolm, University of Toronto*

The first remeasurement of the EMEND experiment and associated work

*John Spence, University of Alberta*

Tree mortality following partial stand harvests: a cross-Canada study

*Sean Thomas, University of Toronto*

## INNOVATIVE ZONING

Role of pest management in sequestering carbon in the 2008-12 Kyoto Commitment Period: integration with CBM-CFS3 and economic analyses

*Van Lantz, University of New Brunswick*

Influence of forest management, silviculture, and pest management on carbon sequestration

*Dave MacLean, University of New Brunswick*

Management implications of forest dynamics, succession, and habitat relationships under differing levels of silviculture in New Brunswick forests

*Dave MacLean, University of New Brunswick*

## INTEGRATED RESOURCE MANAGEMENT

A bioregional assessment of sustainable forest management for the boreal plains

*Vic Adamowicz, University of Alberta*

Old-growth forests in eastern Canada: exploring tradeoffs among timber, biodiversity, carbon, and public preferences

*Peter Duinker, Dalhousie University*

Spatial forest management planning under uncertainty due to natural disturbance

*Dave Martell, University of Toronto*

Implementing and testing decision-support tools to evaluate forest management scenarios for SFM: a multiple scale and perspective approach

*Christian Messier, Université du Québec à Montréal*

A systems approach to integrating ecological, economic, and social values within the SFM framework developed for Riverside's TFL 49

*John Nelson, University of British Columbia*

Developing a science-based decision support framework for shoreline forest management

*Paul Sibley, University of Guelph*

## POLICY AND INSTITUTIONAL ANALYSIS

Carbon credit trading: the law, firm behaviour, economics, and landscape impacts

*Glen Armstrong, University of Alberta*

Commercial development of non-timber forest products and forest bio-products: critical factors for success

*Darcy Mitchell, Royal Roads University*

A participatory approach to Aboriginal tenure reform in Canada

*Dave Natcher, Memorial University of Newfoundland*

The challenge of institutional redesign: tenure, competitiveness, and sustainability

*Ilan Vertinsky, University of British Columbia*

Incentive policies for sustainable forest management

*Marian Weber, Alberta Research Council*

## VALUE ADDED/ALTERNATIVE PRODUCTS

Innovative methods for Chain-of-Custody tracking of certified forest products

*Paul McFarlane, University of British Columbia*

## ECOLOGICAL CRITERIA AND INDICATORS

Effects of landscape composition and pattern on the abundance and fitness of wildlife indicator species at multiple scales: do thresholds exist?

*Stan Boutin, University of Alberta*

Keystones and functional indicators for sustainable forest management, with special emphasis on the cavity nesting community

*Susan Hannon, University of Alberta*

Boreal forest riparian bird communities: effects of local-landscape-level processes

*Keith Hobson, Environment Canada – Canadian Wildlife Service*

## WATER AND WETLANDS

Scalable indicators of disturbance (SID): a nested approach to the assessment of the cumulative hydrological impacts of forest disturbance in Ontario

*Jim Buttle, Trent University*

Landform-based hydrologic indicators of disturbance in heterogeneous landscapes: water cycling in relation to disturbance in the Western Boreal Forest

*Kevin Devito, University of Alberta*

## SUSTAINABLE ABORIGINAL COMMUNITIES

An integrated resource management proposal for the Special Management Area in north-central Alberta

*Cliff Hickey, University of Alberta (Professor Emeritus, retired)*

Cumulative impacts of development on forests in northeastern British Columbia: pilot study

*John Innes, University of British Columbia*

Sustainable forest management through co-management in northern Ontario: phase 2

*Shashi Kant, University of Toronto*

First Nations and sustainable forestry: institutional conditions for success

*Ron Trosper, University of British Columbia*

## **SOCIAL AND ECONOMIC CRITERIA AND INDICATORS**

Social sustainability: strategies for definition, measurement, and management

*Tom Beckley, University of New Brunswick*

Cooperative learning for integrated forest management: building a C&I framework for the Whitefeather Forest Initiative, northwestern Ontario

*Iain Davidson-Hunt, University of Manitoba*

# **CORPORATION MEMBERS, BOARD COMMITTEES AND STAFF**

## **GRANTING COUNCILS**

- Networks of Centres of Excellence / Government of Canada
- Natural Sciences and Engineering Research Council of Canada (NSERC)
- Social Sciences and Humanities Research Council of Canada (SSHRC)

## **PARTNERS**

### **Governments**

- Government of Canada  
(Environment Canada)  
(Natural Resources Canada – Canadian Forest Service)  
(Parks Canada, Ecological Integrity Branch)
- Government of Alberta  
(Innovation and Science, Sustainable Resource Development)
- Government of British Columbia  
(Ministry of Forests and Range)
- Government of Manitoba  
(Manitoba Conservation)
- Government of Newfoundland and Labrador  
(Department of Natural Resources)
- Government of Ontario  
(Ministry of Natural Resources)
- Gouvernement du Québec  
(Ministère des Ressources naturelles et de la Faune)
- Government of Yukon  
(Department of Energy, Mines and Resources)

### **Industries**

- Abitibi-Consolidated Inc.
- Ainsworth Lumber Co. Ltd.
- Alberta-Pacific Forest Industries Inc.
- Bowater Inc.
- Canadian Forest Products Ltd.
- Daishowa-Marubeni International Ltd.
- J.D. Irving, Limited
- Louisiana-Pacific Canada Ltd.
- Manning Diversified Forest Products Ltd.
- Tembec Inc.
- Tolko Industries Ltd.
- Weyerhaeuser Company Ltd.

## **NGO**

- Ducks Unlimited Canada

## **Aboriginal**

- Gwich'in Renewable Resource Board
- Heart Lake First Nation
- Kamloops Indian Band
- Kaska Tribal Council
- Little Red River Cree Nation
- Metis National Council
- Moose Cree First Nation

## **Institutions**

- University of Alberta (host institution)
- Concordia University
- Dalhousie University
- Lakehead University
- McGill University
- Memorial University of Newfoundland
- Royal Roads University
- Ryerson University
- Thompson Rivers University
- Trent University
- Université de Moncton
- Université de Montréal
- Université de Sherbrooke
- Université du Québec à Chicoutimi
- Université du Québec à Montréal
- Université du Québec à Rimouski
- Université du Québec à Trois-Rivières
- Université du Québec en Abitibi-Témiscamingue
- Université Laval
- University of British Columbia
- University of Calgary
- University of Guelph
- University of Lethbridge
- University of Manitoba
- University of New Brunswick
- University of Northern British Columbia
- University of Ottawa
- University of Regina
- University of Saskatchewan
- University of Toronto
- University of Victoria
- University of Waterloo

- University of Western Ontario
- University of Winnipeg
- Wilfrid Laurier University

## **Affiliated Members**

- Canadian Institute of Forestry
- Forest Ecosystem Science Cooperative, Inc.
- Forest Engineering Research Institute of Canada (FERIC)
- Fundy Model Forest
- Lake Abitibi Model Forest
- Manitoba Model Forest
- National Aboriginal Forestry Association

(updated August 2006)

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*Manitoba Department of Conservation*

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*Gwich'in Renewable Resource Board*

Mr. Clément Chartier  
*President, Metis National Council*

Ms. Patricia Akiwenzie, Chief  
*Moose Cree First Nation*

Mr. Hammond Dick, Tribal Chief  
*Kaska Tribal Council*

Mr. Morris Monias, Chief  
*Heart Lake First Nation*

Mr. John Turner, Forestry Liaison Officer  
*Moose Cree First Nation*

Mr. Jim Webb  
*Little Red River Cree Nation*

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Ms. Alison Boddy  
*Administrative Assistant*

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*Research Networking Administrator*

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*Knowledge Exchange Coordinator*

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*Network Manager*