

CANADA

**National Report to the Ninth Session of the
United Nations Forum on Forests**

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I. Key Contacts

Head of Forestry in Canada

Tom Rosser
Acting Assistant Deputy Minister
Natural Resources Canada—Canadian Forest Service
580 Booth St., Ottawa, Ontario, Canada, K1A 0E4
Phone: 1-613-947-7400
Fax: 1-613-947-7395
Email: Tom.Rosser@NRCan-RNCan.gc.ca

UNFF national focal point for Canada

Mr. Peter Besseau
Director, International Affairs
Natural Resources Canada—Canadian Forest Service
580 Booth St., Ottawa, Ontario, Canada, K1A 0E4
Phone: 1-613-947-7358
Fax: 1-613-947-7399
Email: Peter.Besseau@NRCan-RNCan.gc.ca

Person to contact concerning the national report, if other than the UNFF national focal point

Ms. Jessica Thomson
Senior Policy Advisor, International Affairs Division
Natural Resources Canada—Canadian Forest Service
580 Booth St., Ottawa, Ontario, Canada, K1A 0E4
Phone: 1-613-990-5881
Fax: 1-613-947-7399
Email: Jessica.Thomson@NRCan-RNCan.gc.ca

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Canada

Making Good on Commitments to Sustainable Forest Management

Canada's extensive forests, representing 10% of the world's forest cover and 30% of the world's boreal forest, generate a wide range of benefits, including timber and non-timber products, recreation and service-based industries that are important both nationally and internationally. Canada's forest sector is central to the economy of over 300 forest-dependent and several hundred First Nations communities across Canada. It contributes approximately \$28.7 billion to Canada's gross domestic product, directly employs about 274 000 Canadians and supports over 1 400 forest-based operations and businesses owned by Aboriginal people.

Sustainable forest management ensures that Canada's forests continue to provide a broad range of goods and services over the long term, offering significant economic and social benefits for both Canadians and global citizens. Forest management in Canada is based on the premise that this goes beyond meeting society's need for forest products and other benefits to include respect for the values people attach to forests and the preservation of forest health and diversity. It is also an adaptive process, based on sound science and continually assessing and adjusting the country's approach to sustainability to reflect changing societal values, circumstances and knowledge.

Canada believes that, in addition to public participation, innovative approaches, technologies and tools are necessary to the sustainable development of forests and the economic well-being of forest communities.

Sustainable forest management continues to remain high on Canada's agenda. This national report highlights recent activities towards this end and the ongoing progress being achieved on Canadian forest priorities. Canada is continuing its work both internationally and nationally to promote sustainable forest management practices, ensure no net loss of forest cover and prevent forest degradation. While Canada has been active in this area for many years, more recent efforts have focused on the development of phytosanitary standards to reduce forest pest movement, promotion of a landscape-level approach to sustainable forest management through Model Forests, and the implementation of enhanced forest and landuse planning guidelines.

To assist forest-dependent communities in understanding and adapting to the transformation challenges taking place in the forest sector, Canada is providing those communities with assistance to develop new economic opportunities and enhance the social and environmental benefits of forests through initiatives such as the Forest Communities Program.

The number, extent and ecological integrity of protected areas in Canada continue to increase through national, provincial and territorial efforts. As well, Canada continues to provide development assistance and identify new sources of financing for advancing sustainable forest management globally.

Key Forest Facts

Society

- Most of Canada's forest land (93%) is publicly owned.
- The remaining is on private property belonging to more than 450 000 private landowners.
- The provinces and territories have legislative authority over the conservation and management of the forest resources on provincial / territorial public lands.
- The federal government is responsible for matters related to the national economy, trade and international relations, and federal lands and parks, and has constitutional, treaty, political and legal responsibilities for Aboriginal peoples.
- Public participation is an important aspect of forest management planning in Canada.
- There were 11.9 million visitors of Canada's national parks in 2009.

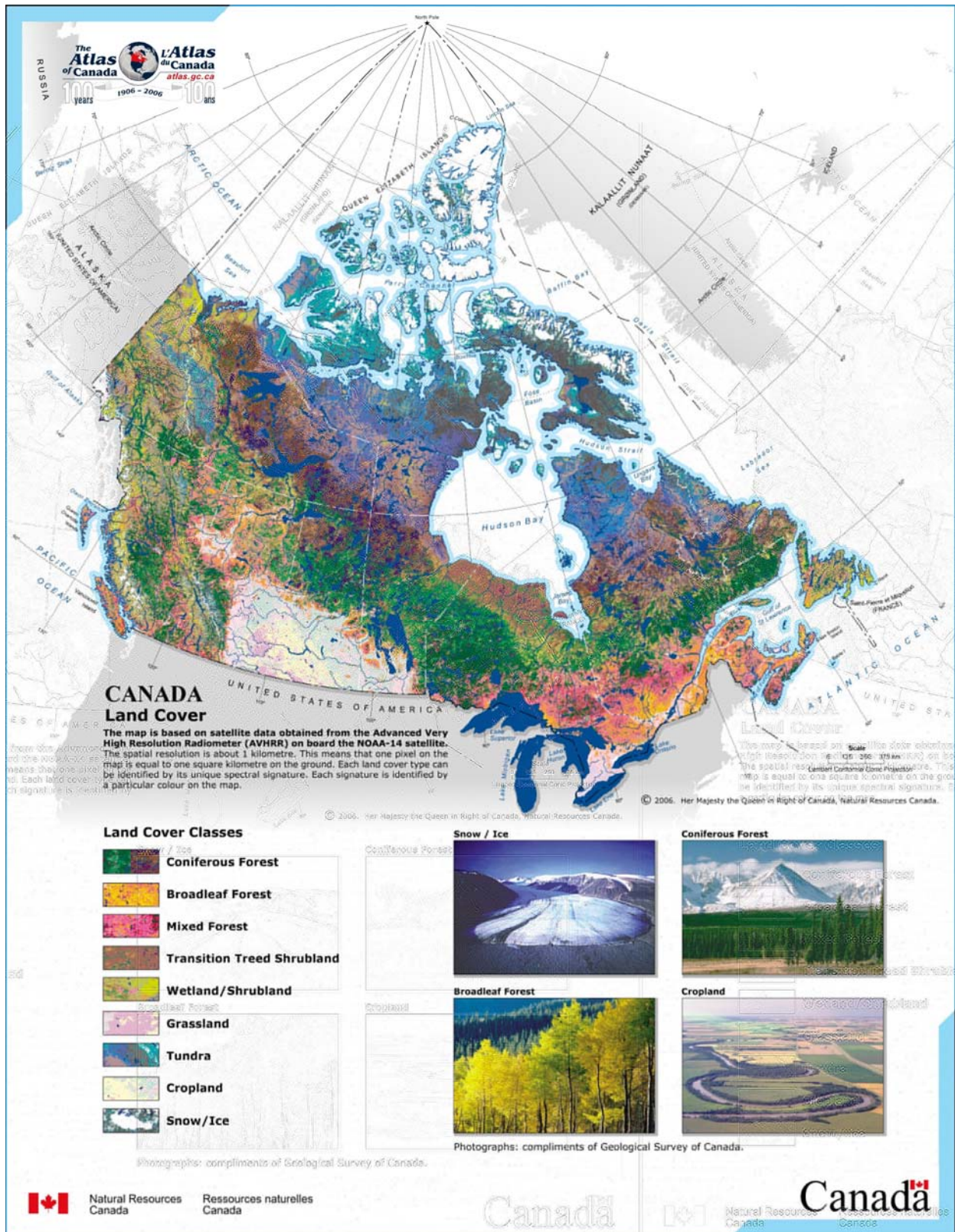
Economy

- Canada is the world's largest exporter of forest products.
- The forest industry's contribution to Canada's gross domestic product is about 1.7%.
- The forest sector makes up at least 50% of the economic base for at least 200 communities.

Environment

- Canada has 397.3 million hectares of forest and other wooded land, representing 10% of the world's forest cover and 30% of the world's boreal forest.
- About 8% of Canada's forest area is protected by legislation. About 40% of the total forest landbase is subject to varying degrees of protection such as integrated land-use planning or defined management area such as certified forests.
- Annually, less than 1% of Canada's forests are harvested.
- By law, all forests harvested on Canada's public lands must be successfully regenerated.
- About 72% of harvested areas on public land are regenerated through tree planting and direct seeding, while the remainder is regenerated naturally.
- By December 2009, 142.8 million hectares of Canada's forests were certified as being sustainably managed by one or more of three globally recognized certification standards.
- Bioenergy now constitutes more than 60% of the total energy used by the forest industry.

The State of Canada Forests, 2010



Global Objective 1

Reverse the loss of forest cover worldwide through sustainable forest management, including protection, restoration, afforestation and reforestation, and increase efforts to prevent forest degradation.

Canada is continuing its work both internationally and nationally to promote sustainable forest management practices, ensure no net loss of forest cover and prevent forest degradation. While Canada has been active in this area for many years, more recent efforts have focused on the development of phytosanitary standards to reduce movement of forest pests in traded products, promotion of a landscape-level approach to sustainable forest management through Model Forests, and the implementation of enhanced forest and landuse planning guidelines. Canada has also been active in supporting other countries in their efforts to promote sustainable forest management and prevent forest degradation.

INTERNATIONAL

- **Reducing forest pest movement.** Canada, as a signatory to the International Plant Protection Convention (IPPC), has played a significant role in the development of international phytosanitary standards (ISPMs) designed to reduce the movement of forest pests around the world. For example, the international phytosanitary standard on the movement of wood packaging material (ISPM 15) has been implemented by most countries and will reduce damage to world forests from alien pests. The success of this approach is guiding the development of additional standards to reduce forest pests on other commodities and pathways,

including the international trade of live plants. Several Canadian researchers were contributors to the FAO Guide to Implementation of Phytosanitary Standards in Forestry.

- **Partnership approaches to sustainable forest landscape management.** As an international initiative announced by Canada at the UNCED Summit in 1992, the International Model Forest Network (IMFN) Secretariat continues to be hosted and funded by the Government of Canada. The IMFN is a voluntary association of partners from around the world working towards the common goal of the sustainable management of forest-based landscapes and natural resources. By promoting a landscape-level approach, Model Forests foster a reduction in forest-fragmentation, enhanced wildlife habitat and the development of collaborative strategies with local communities for managing biodiversity.

- **Support to the Copenhagen Accord.** In June 2010, Canada announced a \$400 million investment for fiscal year 2010–11 to deliver on the 2010 portion of its commitment to fast-start financing under the Copenhagen Accord. As part of the package announced this year, \$40 million will be provided to support the Forest Carbon Partnership Facility which supports developing country efforts to implement actions related to Reducing Emissions from Deforestation and Forest Degradation (REDD+). REDD+ financing brings significant benefits to biodiversity and local communities and helps

achieve the objectives of the United Nations Framework Convention on Climate Change and the Convention on Biological Diversity in a mutually supportive way.

- **Assistance to other countries.** For the period 2008–10 Canada spent an average of approximately \$8.2 million per year on an average of 55 forestry related development initiatives to help reduce forest degradation and in support of sustainable forest management.

Canada recently committed institutional, financial and technical support to the Commission des Forêts d’Afrique Centrale (COMIFAC) and its Convergence Plan (\$7.8 million from 2010–16), including facilitation of the Congo Basin Forest Partnership for 2010–12. Canada is also contributing \$4.8 million between 2008–13 to build the capacities of colleges and universities in natural resources management studies in the Congo Basin, through Quebec’s Laval University.

Led by the Government of Ethiopia with the support of Canada and other donors, the goal of the Productive Safety Net Program is to reduce the vulnerability of chronically food insecure people and enable them to progress towards more resilient livelihoods. Projects include activities such as the establishment of more transparent and accountable systems for sustainable natural resource management, terracing and afforestation to improve soil conservation and restore degraded watersheds, and water harvesting schemes.

From 2006–12, Canada’s \$16.5 million contribution to Indonesia’s National Program for Community Empowerment in Rural Areas (PNPM) project helps communities

understand the negative and long-term impact of their actions on the surrounding environment and natural resources. The project introduced natural resource and environmental management practices into the program. The Green PNPM teaches communities how to develop and implement ecological PNPM projects such as small-scale renewable energy production, land-use planning, land or forest rehabilitation, wildlife conservation, eco-tourism, and marketing non-timber forest products.

In Haiti, Canada is supporting the Artibonite River Watershed Rehabilitation project (\$10.25 million from 2005–12) in the border zone between Haiti and the Dominican Republic, strengthening dialogue between the two countries. There are two components to the project: technical assistance and capacity building for agencies and institutions operating in the area and funding to support initiatives that contribute to the rehabilitation of selected areas within the watershed. The project seeks to halt the process of environmental degradation and reverse the degradation of the forest canopy. It strengthens the ability of both governments’ institutions to address watershed management issues and helps to reduce tensions in the area via better dialogue between the two countries. It also assists local populations in designing and implementing productive activities, improving their economic situation and respecting the environment.

NATIONAL

- **National-level forest pest management.** Canada’s international efforts in reducing the movement of forest pests is

complemented on a national level through import regulations and policies to protect Canada's forests. Policies are built in response to plant health emergencies as well as in anticipation of pests that could enter Canada and damage forests. As well, a National Forest Pest Strategy provides a risk-based decision-making framework for dealing with native and alien forest pests in Canada. It allows governments, research institutes, industry and other concerned groups to coordinate response activities against native and alien pests and mitigate their impacts.

- **Forest certification.** Canada has the largest area of certified forest in the world, with more than half of the world's PEFC-endorsed certifications and over one-quarter of FSC certifications. As of December 2009, Canada had 142.8 million hectares of forest certified to one or more of the three certification systems. These systems are the Canadian Standards Association Sustainable Forest Management Standard, the Forest Stewardship Council, and the Sustainable Forestry Initiative. Governments in Canada accept that these market-led systems demonstrate and promote the sustainability of forest management practices in Canada.

- **New provincial and territorial forest codes and land use planning frameworks.** In 2008, the province of Nova Scotia introduced an interim guideline for public lands for implementing a Code of Forest Practice: A Framework for the Implementation of Sustainable Forest Management. The direction provided by the guidelines is mandatory on public lands that are administered by the province's Department of Natural Resources, and will be implemented in the planning and design process for the Integrated Resource

Management (IRM) plans for each of the Eco-districts in Nova Scotia. Private landowners are also encouraged to follow the guidelines on their own properties. The Code of Forest Practice principles are based on the concept of sustainable forest management, greatly expanding the range of priorities for forest use across the province while at the same time considering the long-term well being of the forest environment.

In 2009, the province of New Brunswick announced a new long-term management approach to public forests that balances ecological and economic priorities. The sustainable management approach will allow increased yields of a wide variety of tree species and maintain the biodiversity and important ecological features of the province's Acadian forest region—reversing a 70-year decline for several tree species. Through the new approach, conservation forest, managed primarily for conservation purposes although some wood harvesting is permitted, will make up between 23 and 25 percent of the total public forest, including the portion designated as protected natural areas. As well, protected natural areas, which currently make up four per cent of public lands and exclude forest harvesting, will increase to between six and eight percent and at least 30 percent of the total public forest will be comprised of old forest. New Brunswick also has an aggressive public land silviculture program that annually sees approximately 13 000 hectares of planting and 16 000 hectares of spacing completed annually at a total cost of \$25 million with an additional \$6 million expended on private woodlots. Similar levels are expended by the province's forest industry.

The Land-use Framework, created under the 2009 Alberta Land Stewardship Act, is

designed to manage economic growth and balance it with the public's social and environmental goals. The Framework consists of several strategies to improve land-use decision-making in Alberta that focus on cumulative effects management at the regional level to manage the impacts of development on land, water and air, a strategy for conservation and stewardship on private and public lands, promoting efficient use of land to reduce the footprint of human activities, establishing an information, monitoring and knowledge system to contribute to continuous improvement of land-use planning and decision-making, and inclusion of Aboriginal peoples in land-use planning. A Federal Coordination Committee for the Land Use Framework has been formed to provide a coordinated and integrated federal government perspective to strategies as they are designed, implemented and monitored in the province helping to ensure federal policies, strategies and legislation are incorporated and harmonized with those of the province and municipalities.

In Ontario, forest management planning procedures require that planners identify, consider and provide for the forest age class structure needed to maintain functional old growth ecosystem conditions for all forest types (within their natural geographic range) in each management unit. Current, future

and historic forest conditions are used to guide the development of old growth objectives and targets that protect and/or restore the distribution and abundance of each forest community towards their natural geographic ranges. Overall, the state of Old Growth in Ontario is good with old growth area covering 15.9% of the total forested area under forest management and 22.6% of the forested area in parks and protected areas.

• **Ecosystem restoration in Canada's national parks.** Canada is an experienced world-leader in managing and restoring ecosystems to natural states using the best science available in conjunction with universities, other agencies and a variety of institutions. This has resulted in the successful restoration of fire as an ecological process, reintroduction of species, removal of non-native species, development of wildlife corridors and control of hyper-abundant species. For example in Banff, Jasper Yoho and Kootenay national parks, by restoring the ecological role of fire through prescribed fires, removing non-native plant species and reducing the spread of mountain pine beetle, the diverse and resilient plant and forest communities in the mountain parks are being restored while at the same time the threat of catastrophic wildfires is reduced.

Global Objective 2

Enhance forest-based economic, social and environmental benefits, including by improving the livelihoods of forest dependent people.

With the forest sector making up at least 50% of the economic base for at least 200 communities across the country, providing new economic opportunities and enhancing the social and environmental benefits of our forests is an important national goal. Initiatives such as the Forest Communities Program provide the knowledge and tools communities need to understand and adapt to the transformation challenges taking place in Canada's forest sector. Canada is also supporting the sustainable development of forest sectors in Haiti, Honduras, Cuba, Indonesia, Cameroon and other countries through capacity building in value-added forest products, community-based forest management, forest certification and institutional strengthening.

INTERNATIONAL

- **International Model Forest Network.** Model Forests are working-scale forest-based landscapes where people come together in local partnerships supported by a larger network to develop, test and share solutions to challenges in sustainable forest management. The IMFN is a voluntary association of partners from around the world working toward the common goal of sustainable management of forest landscapes and natural resources. Currently, there are over 50 Model Forests in more than 20 countries. Canada directly supports the IMFN Secretariat which is housed within the Canadian Forest Service.

In addition, in 2009, Canada launched the African Model Forest Initiative which aims to improve the conservation and sustainable management of forest resources in the Congo Basin and Mediterranean (Morocco, Tunisia, and Algeria) regions of Arica through Model Forests. The initiative directly supports good governance, human resource and local economic development, and the sustainable management of forest-based landscapes.

- **Researching invasive forest insect pests.** In order to maintain a healthy, sustainable forest sector, Canadian forest resources need to be protected from the damaging effects of invasive alien pests. Equally important, is ensuring that Canadian forest exports are free of pests that could move to other countries. Canada is currently dealing with three invasive pests—Asian Longhorned Beetle, Emerald Ash Borer and Sirex Woodwasp—that can kill or seriously impact the health of forest trees. The Emerald Ash Borer, which has no known predators in Canada, has caused the loss of millions of valuable trees in cities and forests. The economic loss coupled with the potential trade restrictions on exported forest products are driving an accelerated research program to better understand behaviour of the insects and develop rapid detection methods so as to minimize potential impacts. The most successful control efforts to date have been directed at the Asian Longhorned Beetle, first discovered in the Toronto area in 2003 but now on the path to being successfully eradicated in the country. Research to develop improved detection and

control methods continues for the Emerald Ash Borer and Sirex Woodwasp. Canadian researchers, industry experts and policy makers work to minimize pest prevalence in forest exports through the Canadian Forest Phytosanitary Working Group.

Internationally, Canadian scientists coordinate several International Union of Forest Research Organizations (IUFRO) working groups and lead the International Forestry Quarantine Research Group.

• **Assistance to other countries.** In Honduras, Canada is supporting the Sustainable Management and Production of Forestry Resources project (\$8.9 million from 2009–16). This six-year project will significantly increase the income of rural Honduran families working in the forestry sector by strengthening Honduran forestry co-operatives and establishing sustainable forestry practices. The key activities that will take place under this project are: i) training groups and co-operatives working in the forestry sector in administrative management, accounting and strategic planning, ii) delivering workshops on the production and marketing of value-added timber products, iii) guiding groups and co-operatives through the process for obtaining Forest Stewardship Council certification and monitoring of management practices of 8 already certified community forests, iv) elaborating and applying production strategies for the commercialisation of value-added products, and v) establishing four sub-programmes that will support co-operatives in acquiring new equipment for the forestry groups and co-operatives, provide start-up funding to establish small businesses linked to the forestry sector and support reforestation initiatives linked with the Honduras National Forestry Program.

In Indonesia, Canada is supporting the Restoring Coastal Livelihoods project on the island of Sulawesi (\$7.3 million from 2010–15). The project's goal is to enhance the livelihood security and well being of vulnerable coastal communities on the west coast of South Sulawesi. It uses a multi-stakeholder, collaborative approach, working with vulnerable local communities, NGOs, educational institutions, select businesses and relevant government agencies to improve the management of the intertidal region and the economic activity derived from these productive areas. A special focus is placed on empowering women and securing their rights. Project activities include: technical training, ecological restoration of mangrove forests, conservation and sustainable management of productive coastal intertidal ecosystems, and dissemination of project methods and lessons learned.

Also in Indonesia, Canada is supporting the Environmental Governance and Sustainable Livelihoods Program (\$19.6 million from 2008–15) which aims to reduce rural poverty in Sulawesi by protecting and creating livelihoods that are based on the sustainable management of renewable natural resources and the environment. The program links policy-makers and regulators at various levels of government with the multitude of resource users—many of them small-scale, subsistence, and/or marginal—who are key to effective policy implementation. Essential elements of the project include helping policy-makers, aid agencies and implementation agencies increase their knowledge of the motivations and constraints faced by resource users and engaging resource users as full partners in the search for solutions. The project also facilitates the participatory development and

implementation of natural resource management solutions by key stakeholders at the community and watershed levels, assists the National Development Planning Agency and other Government of Indonesia agencies in adapting structures and processes for improved environmental and natural resource governance at different levels and links these innovations to policy revision and formulation.

In Haiti, Canada is supporting agroforestry via the Support for Local Development and Agroforestry in Nippes Project (\$6.15 million from 2005–11, 25% of which is classed as forestry development). This project helps improve rural living conditions in the department of Nippes by promoting agroforestry models that will ensure better management of natural resources and assist with agricultural marketing. The project assists local stakeholders in initiating and managing local development programs using a participative and democratic approach.

In Cameroon, Canada is providing support to the Forest and Environment Sector Program (\$10.0 million from 2007–11). The purpose of the project is to help to achieve sustainable management of forest and wildlife resources in Cameroon so that this vitally important economic sector can generate long-term revenue to benefit all of Cameroon. The fund finances the technical assistance and training required to implement the program's five components: i) environmental management of forestry activities, ii) management of production forests and adding value to forest products, iii) conservation of biodiversity and adding value to wildlife resources, iv) community-based management of forest and wildlife resources, and v) institution building, training, and research.

Canada is also supporting the development of the Cuban forestry sector with a project focusing on forestry policy and administrative management (60%) and forestry development (40%) (\$3.18 million from 2008–13). The project provides technical assistance and equipment towards the implementation of the 10-year National Forestry Program and the National Forestry Strategy (2005–15). The project aims to: 1) help strengthen the protection and conservation of forestry resources, 2) help augment the economic benefits of the forestry sector as a key part of the national economy, and 3) strengthen the capacity of the rural population to contribute to the development of the forestry sector and ensure that the rural population is more involved in that development.

NATIONAL

- **Forest Communities Program.** Canada's Forest Communities Program implements projects and initiatives aimed at sustaining forest communities through economic development opportunities. Specifically, the program aims to ensure that Aboriginal and non-Aboriginal forest-based communities have the knowledge and tools needed to understand the implications of Canada's forest sector transformation challenges, participate more fully in the public dialogue on forests and benefit from existing and emerging opportunities in the natural resource economy. The five year \$25 million program supports 11 partnership sites across the country.

- **Community Adjustment Fund.** Through the two-year, \$1 billion Community

Adjustment Fund, the federal government aims to help mitigate the short-term impacts of restructuring in communities. The objective of the Fund is to provide support to communities hit by the economic downturn by creating employment opportunities through activities such as community transition plans that foster economic development, science and technology initiatives and the promotion of economic diversification.

- **Community Development Trust.** In 2008, the Government of Canada established the Community Development Trust to help communities who are dependent on one employer or a sector under pressure, such as the forest sector. This initiative consists of \$1 billion distributed to the provinces and territories to invest in economic development and diversification initiatives aimed at helping communities manage transition and adjustment. Examples of initiatives funded are public utilities projects, job training funds and skills development that meet identified local or regional gaps.

- **Mountain Pine Beetle.** In May 2006, the government of Canada provided funding to combat the Mountain Pine Beetle infestation, strengthen the long-term competitiveness of the forestry sector, and support worker adjustment. The federal government committed to investing in the Canada – British Columbia Mountain Pine Beetle Program to mitigate the consequences of the beetle infestation, and to controlling the spread, recovering the economic value of the wood and protecting forest resources and communities.

- **Target Initiative for Older Workers and the Employment Insurance Work Share Program.** The Targeted Initiative for Older

Workers (TIOW) provides employment assistance services and employability improvement activities (such as skills upgrading and work experience) to unemployed older workers aged 55 to 64 including displaced forestry workers. Canada's 2009 Economic Action Plan included additional funding to extend the program to March 2012, allowing older workers to benefit from the activities offered under the initiative. The Work-Sharing program is designed to help companies facing a temporary downturn in business avoid lay-offs by offering Employment Insurance (EI) income support to workers willing to work a reduced work week while the company undergoes recovery. In response to the global economic recession, the federal government extended Work-Sharing agreements by up to 14 weeks to a maximum of 52 weeks and increased access to Work-Sharing agreements through greater flexibility in the qualifying criteria.

- **Canadian Model Forest Network.** The Canadian Model Forest Network, comprised of Canada's 14 Model Forests also works as a liaison between Canada's Model Forests, the International Model Forest Network and the Forest Communities Program. Over 500 organizations and 200 communities are involved representing aboriginal and non-aboriginal communities, industry (forestry and other land uses), government (municipal, provincial/territorial, and federal), non-government organizations, schools (elementary to university) and researchers.

- **Biomass Development Strategies.** The Government of Quebec developed an action plan to promote and explore the potential of forest biomass in the province. The goal is to encourage the startup of new forest-based

economic activities that promote sustainable forest management, reduce greenhouse gas emissions and enhance community economic development. As well, in 2010 the Government of the Northwest Territories released a Biomass Energy Strategy which promotes the use of biomass energy in the territory while ensuring the local harvest of wood remains sustainable. Working cooperatively with communities, the government will assess the technical feasibility of heat, electricity and local fuel wood supply projects, encourage fuel wood use, and enhance knowledge and management practices to sustainably harvest and burn wood.

• **Provincial and territorial support to community economic development.** After several mill closures in the province, the Government of New Brunswick provided an opportunity for forest industry restructuring that allowed public wood allocations to be assigned to remaining viable mills. The transferred allocation resulted in funds being collected by government and redirected to impacted communities to support new economic development.

In 2009, in response to mill closures and reduced production from other mills, the Government of Saskatchewan developed A Framework for Development of

Saskatchewan's Forest Industry. The framework identified key actions to assist the province's forest industry in moving from an industry based on commodity production to one delivering market-driven, value-added products. The framework also contains commitments to prepare a northern resource development infrastructure plan, encourage new multi-stakeholder FMAs and forest management certification, and continue research in value-added production, agro-forestry and biomass energy.

Ontario assesses the socio-economic resilience of forest-based communities as part of its drive to monitor and support forest community well-being. The assessment of the socio-economic resilience of these communities and the identification of Communities of Concern—communities considered to be at potential risk from downturns in the forest industry—provide an indication of a community's ability to survive in the event that one of its key economic sectors declines. The total number of Communities of Concern as a percentage of forest-dependent communities has remained stable between 2001 and 2006. However, there are a large number (67) of forest dependent communities considered to be at potential risk from impacts to the forest industry.

Global Objective 3

Increase significantly the area of protected forests worldwide and other areas of sustainably managed forests, as well as the proportion of forest products from sustainably managed forests.

The number, extent and ecological integrity of protected areas in Canada continued to increase through national, provincial and territorial efforts. Canada also undertakes and facilitates other forest conservation efforts both domestically and internationally such as working on the Global Early Warning System for Wildlife Fire and the enhancement of knowledge for biodiversity conservation.

INTERNATIONAL

- **Advancing forest management practices to conserve biodiversity.** Canada is facilitating collaboration between industry, academia, ENGOs, and provinces and territories on integrated research projects to develop and assess improved forest management practices for the conservation of biodiversity. As a signatory to the Convention on Biological Diversity, Canada supports the responsible development and use of its natural resources and the competitiveness of its natural resource products. Emphasis is placed on the protection of endangered woodland caribou populations and their habitat, conservation of forest birds and the boreal forest habitat that sustains their migratory populations, and the security of freshwater resources through sustainable forest watershed management. Scientific knowledge and on-the-ground experience is used to support development of forest management guidelines and regulations across the country. Information is also shared through

forums and publications, including a national report on the state of the boreal forest.

- **Preventing and mitigating wildland fire disasters.** Canada, as a member of a consortium of international fire agencies that includes Germany, the USA and Australia, in participating in the development of the Global Early Warning System for Wildland Fire project. The system is based on the Canadian Forest Fire Weather Index System and will provide a fire danger rating system for the many countries that do not have a national system helping to prevent and mitigate wildland fire disasters.

- **Circumboreal vegetation mapping.** Through the Circumboreal Vegetation Mapping project, Canada is helping to develop a global map of the circumboreal forest biome with a common legend. By recognizing the boreal region as a single geosystem, the project, co-led by Russian and North American experts, will be the first detailed vegetation map of the entire global boreal biome. The mapping project entails collaboration amongst all 13 member countries that have boreal forest.

NATIONAL

- **Establishment of federal, provincial and territorial protected areas.** Canada has identified as its strategy for its protected heritage areas that “Canadians have a strong sense of connection, through meaningful experiences, to their national parks, national

historic sites and national marine conservation areas and these protected places are enjoyed in ways that leave them unimpaired for present and future generations.” Towards this, a number of relevant targets for national parks have been identified, including: increasing the number of represented terrestrial natural regions from 28 in 2007 to 29 of 39 by 2013; making demonstrable progress towards establishing national parks in three unrepresented regions by 2011; and twenty national parks are to improve one ecological integrity indicator between 2008 and 2014, among others. Canada has established national parks within many of the nation’s forest-dominated natural regions, including 130 000 km² of land within Canada’s boreal region. In 2009, Nahanni National Park Reserve in the Northwest Territories was expanded by 25 000 km². Recent efforts towards the establishment of national parks in Canada’s forested natural regions include the 2008 land withdrawals for the proposed Naats’ihch’oh National Park Reserve (7 600 km²) and a proposed national park on the East Arm of Great Slave Lake (27 000 km²) in the Northwest Territories, and the signing of an MOU for the establishment of the proposed Mealy Mountains National Park (10 700 km²) in Labrador.

In 2008, the province of New Brunswick designated 30 new protected natural areas on public land, adding 5 400 hectares to the existing system of Protected Natural Areas. New Brunswick currently has approximately 158 000 hectares of public land protected under the Protected Natural Areas Act. The new sites vary in size from 20 to 334 hectares. With one exception, the new sites have been designated as Class II, which allow for continued low-impact recreational use—

including hunting, fishing and trapping—but prevent forestry, mining and other industrial or commercial activities. In addition to the new protected areas, the province and the Nature Conservancy of Canada have agreed to establish the first private land protected natural area in New Brunswick.

Also in 2008, five new nature reserves were established in the province of Nova Scotia. The new reserves will help protect 594 hectares of old forests, wetlands, rare species' habitats and ecosystems. The new nature reserves have been designated on high conservation value lands purchased by the province from Bowater Mersey Paper Company in 2007. Work continues on additional designations of other protected areas on the acquired lands. The nature reserve designations also show continued progress on government's commitment in the Environmental Goals and Sustainable Prosperity Act to protect 12 per cent of the province’s land base by 2015.

The regulated protected area system in Ontario consists of over 600 protected areas, including provincial parks, conservation reserves, national parks, and wilderness areas. These areas comprise about 9.4% of the province, at present. Recently over 166 000 hectares were added to the regulated protected area system, most of it in the Ontario Shield Ecozone.

• **Alternative land use services initiatives to protect the environment.** The Alternative Land Use Services (ALUS) program is a voluntary program for landowners and farmers in Prince Edward Island. The program aims to protect the province’s water, fish and wildlife habitat by reducing soil erosion and siltation of streams, improving water quality and improving and

increasing wildlife habitat. Eligible applicants sign an agreement to receive financial compensation annually to remove land from agriculture production or to establish / maintain beneficial management practices that protect soil and water quality or improve fish and wildlife habitat. Eligible activities include: establishment of native trees in riparian buffer zone; retiring sensitive lands by expanding buffer zones, establishing non regulated grassed headlands, and retiring high-sloped land; taking land out of production to establish soil conservation structures; and maintaining livestock fences adjacent to watercourses and wetlands.

• **Conservation of forest genetic resources.** The Canadian program for Conservation of Forest Genetic resources (CONFORGEN) provides a coordinated approach to conservation of forest tree genetic resources through a pan-Canadian network. National activities will focus on monitoring, assessing, and reporting on the state of forest genetic resources and developing management guidelines. The Canadian Forest Genetic Resources Information System (CAFGRIS) is a key component of CONFORGEN. This geo-spatial knowledge management system

provides applications for: i) assessing the current status of native tree species and the status of conservation efforts (ex, in and inter situ), ii) predicting future status and conservation requirements under a variety of climate change scenarios, iii) identifying data deficiencies, iv) stimulating cooperative research efforts to obtain the information necessary to evaluate species status and threats, and vi) fostering voluntary efforts to conserve species before official species listing is warranted.

• **Forest Certification.** Canada has the largest area of certified forest in the world, with more than half of the world's PEFC-endorsed certifications and over one-quarter of FSC certifications. As of December 2009, Canada had 142.8 million hectares of forest certified to one or more of the three certification systems. These systems are the Canadian Standards Association Sustainable Forest Management Standard, the Forest Stewardship Council and the Sustainable Forestry Initiative. Governments in Canada accept that these market-led systems demonstrate, and promote the sustainability of forest management practices in Canada.

Global Objective 4

Reverse the decline in official development assistance for sustainable forest management and mobilize significantly increased, new and additional financial resources from all sources for the implementation of sustainable forest management.

Canada continues to provide development assistance for advancing sustainable forest management globally.

- **Support to the Copenhagen Accord.** In June 2010, Canada announced a \$400 million investment for fiscal year 2010–11 to deliver on the 2010 portion of its commitment to fast-start financing under the Copenhagen Accord. As part of the package announced this year, \$40 million will be provided to support the Forest Carbon Partnership Facility which supports developing country efforts to implement actions related to Reducing Emissions from Deforestation and Forest Degradation (REDD+). REDD+ financing brings significant benefits to biodiversity and local communities and helps achieve the objectives of the United Nations Framework Convention on Climate Change and the Convention on Biological Diversity in a mutually supportive way.

- **African Model Forest Initiative.** Canada is providing \$15 million to the African Model Forest Initiative through its official development assistance funds. The initiative is a three-year program (2009–12) which aims to improve the conservation and sustainable management of forest resources in the Congo Basin and Mediterranean (Morocco, Tunisia, and Algeria) regions of Africa through Model Forests. By developing

Model Forests in Africa, the program leverages financial resources from other national and regional governments and engages stakeholders at the international and local level towards sustainable forest management.

- **Renewed Canadian support to the Congo Basin forest sector.** Canada recently committed institutional, financial and technical support to the Commission des Forêts d’Afrique Centrale (COMIFAC) and its Convergence Plan (\$7.8 million from 2010–16), including facilitation of the Congo Basin Forest Partnership for 2010–12. Canada is also contributing \$4.8 million between 2008–13 to build the capacities of colleges and universities in natural resources management studies in the Congo Basin, through Quebec’s Laval University.

- **Canada takes over Congo Basin Forest Partnership Facilitation.** Gaston Grenier, former Director General of the Canadian International Development Agency’s (CIDA’s) West Africa bilateral program has been appointed new facilitator to the Congo Basin Forest Partnership on behalf of the Canadian government. Canada took over the facilitator role from Germany in September 2010, and will undertake this function over the next two years.

Thematic Clusters of the Non-Legally Binding Instrument (NLBI) on All Types of Forests

Strengthening political commitment to sustainable forest management

In 2008, the Canadian Council of Forest Ministers (CCFM) released *A Vision for Canada's Forests: 2008 and Beyond* which presents a long-term, strategic vision for maintaining and advancing sustainable forest management in Canada. During a period of transition for Canada's forests and forest sector, the Vision focuses on two key areas: forest sector transformation and climate change. The Vision increases awareness of forest management, promotes public and broad stakeholder engagement and inspires creative efforts in the development and implementation of innovative sustainable forest management practices. In doing so, the Vision continues Canada's leadership in sustainable forest management.

There is considerable commitment to sustainable forest management at the provincial and territorial level. For example, **Alberta's Land-Use Framework**, created under the 2009 Alberta Land Stewardship Act, is designed to manage economic growth and balance it with the public's social and environmental goals. The Framework consists of several strategies to improve land-use decision-making in Alberta that focus on cumulative effects management at the regional level to manage the impacts of development on land, water and air, a strategy for conservation and stewardship on private and public lands, promoting efficient use of land to reduce the footprint of human activities, establishing an information, monitoring and knowledge

system to contribute to continuous improvement of land-use planning and decision-making, and inclusion of Aboriginal peoples in land-use planning.

The Government of Québec passed the **Sustainable Forest Development Act** in 2010. The bill fosters a comprehensive new forest regime to preserve the province's forest heritage and implement sustainable forest management. The Act requires the development of a Sustainable Forest Management Strategy to determine orientations and objectives for sustainable forest management in Québec. It also requires the establishment of a timber marketing board responsible for sales of timber and other products from public forests. Additionally, the board will assess the market value of timber sold in guarantees. This new method of selling timber by auction should open the timber market to innovative new players. The new forest regime will also take advantage of regional expertise by giving regional authorities increased responsibilities for the management of public forests.

In 2008, the Government of New Brunswick released a report on future opportunities for the province's forest industry. The report was based on the work of a 2004 New Brunswick Legislative Select Committee on Wood Supply and a Task Force on Forest Diversity and Wood Supply. Following release of the report, a series of public information sessions on the Task Force scenarios were held and the public was invited to submit their comments. The province evaluated the public input as well

as other related reports and information and developed a **new strategy for the future management of the New Brunswick public land**. The strategy was released to the public in 2009 and will form the foundation for new management plans in 2012.

Ontario's policy and legal framework has continued to evolve to provide overall support to sustainable forest management by responding to public concerns and priorities and by balancing social, economic and environmental considerations. The Government of Ontario has been pursuing two key priority areas related to forest sector policy: 1) Forest Sector Competitiveness, including a Forest Tenure and Pricing Review (2009), Provincial Wood Supply Competitive Process (2009), and Open for Business (2009), and 2) Environmental Protection and Forest Conservation, including Endangered Species Act (2007), Caribou Conservation Plan (2009), Far North Act (2010), and Forest Management Guides for biodiversity conservation at stand, site and landscape scales (2010).

At the international level, Canada supported the **Pro-Mesas Forestry project** (\$2.3 million) in Honduras from 2002–10. The project addressed issues such as forestry policy and forest management in Honduras. The initiatives reflected the priorities identified by Honduran authorities at government-donor meetings and were based on the poverty reduction strategy that Honduras has developed. The program grew out of the response to the reconstruction required in Honduras following Hurricane Mitch in 1998 and featured a coordinated and sector-based approach to development programming that promoted local ownership of development initiatives. Results show

creation of a strong forestry sector, including a new ministry (Forestry Conservation, Protected Areas and Wildlife Institute), a forestry sector law, a National Forestry Plan and a graduate program in community forestry at two universities (Universidad Nacional Autónoma de Honduras and Escuela Nacional de Ciencias Forestales). Five municipalities are now able to manage municipal forestry affairs and over 110 farmers were trained in agro-forestry production systems.

Financing sustainable forest management

For each of the last three years (2007/8–2009/10) Canada has provided unrestricted core funding of approximately \$510 000 per year to the **Center for International Forestry Research** (CIFOR) and \$984 000 per year to the **World Agroforestry Center** (ICRAF), both part of the CGIAR system of international agricultural research centers. During the same period CIFOR received an additional \$225 000 (i.e., \$75 000 per annum) from the CGIAR-Canada Linkage Fund to implement the project, Developing More Effective Methods for Assessing Conservation and Livelihoods Outcomes.

Through a strategic partnership, Canada provides over \$1.0 million to support the **International Union for the Conservation of Nature and Natural Resources** (IUCN), a unique global organization that contributes to the development and application of ideas and solutions that demonstrate the fundamental importance of biodiversity in addressing development challenges. The IUCN brings civil society together with private and public sector interests to develop and implement policy, laws and best

practices that forge the essential linkages between biodiversity conservation and the livelihoods of the poor.

Canada is the also sixth largest donor to the **Global Environment Facility (GEF)** and for the fourth replenishment period (2006–10) contributed just over \$36 million per year. Approximately one third of GEF's funding is allocated to the biodiversity focal area for the reduction of biodiversity loss.

Capacity-building and technology transfer

The **First Nations Forestry Program (FNFP)** provides project funding and advice to support First Nations efforts to develop and sustainably manage forest resources, and to participate in forest-based opportunities, both on- and off-reserve. Since its launch in 1996, the FNFP has supported over 2,300 capacity-building projects in First Nations communities across Canada. Typically, funded projects facilitate access to forest resources and business partnerships, transfers knowledge and tools for sustainable forest management, and support specialized technical training and work experience.

The FNFP is a unique partnership, involving joint funding and oversight by two federal departments, Indian and Northern Affairs Canada, and Natural Resources Canada, as well as active participation by First Nations in decision-making on project selection and funding.

Canada's **Forest Communities Program (FCP)** implements projects and initiatives aimed to ensure that both Aboriginal and non-Aboriginal forest-based communities have

the knowledge and tools needed to understand the implications of Canada's forest sector transformation challenges, participate more fully in the public dialogue on forests and benefit from existing and emerging opportunities in the natural resource economy. The five year \$25 million program supports 11 partnership sites across the country and a national forest community organization, the Canadian Model Forest Network (CMFN). Projects range from economic research and strategy development on emerging community-based opportunities in bio-energy and environmental goods and services to implementing best practices in integrated landscape management and community adaptation to climate change. The FCP is actively linked to the International Model Forest Network (IMFN) which provides multiple opportunities for learning, transfer of knowledge etc.

The **carbon budget model of the Canadian forest sector (CBM-CFS3)** has been developed to assess the contribution of forests and forest sector activities to greenhouse gas emissions and removals at the stand and landscape level. In addition to extensive scientific documentation, the model includes a graphical user interface, users guide and tutorials on model use. Training sessions for domestic and international users from over 25 countries have been conducted and the model is freely available (<http://carbon.cfs.nrcan.gc.ca>). Canadian scientists are also working with users in Russia, Mexico and other countries on the application and testing of the model. Using Russian forest inventory and other forestry data, the CBM-CFS3 is being used to test the model predictions and to compare these to other data sources at both regional and national scales in Russia. Analyses

include past greenhouse gas emissions and removals as well as the establishment of future baselines for the development of mitigation strategies in the forest sector. CBM-CSF3 is also being tested in Mexico to assist in national GHG inventory reporting as well as the enhancement of REDD+ capacity. The work involves testing of the model in several pilot sites as well as regional applications of the model to test the ability to develop REDD baseline scenarios.

Since 2008, Canada has been assisting the Argentine Model Forest Network to develop a process to select, refine and implement **local-level indicators of sustainable forest management**. This culminated in a workshop co-led by Canada and Argentina at the 2009 World Forest Congress to present the results of the project. Canada has also provided technical assistance to the Mozambique Department of Lands and Forests in setting up a national C&I process. A three-day national workshop was held in Maputo in 2008 where 50 participants identified suitable C&I and drew up a plan to put the C&I process into action.

Canada is providing support to **Natural Resource Management Training project** in the Democratic Republic of Congo, Cameroon and Gabon (\$4.8 million from 2008–13). About 75% of the project is directed at forestry education/training (65%) and forestry research (10%). The project aims to strengthen institutional and technical capacities of training institutions (universities and colleges) in three Central Africa countries so they can become centres of excellence for the whole region in sustainable management of natural resources. To ensure sustainable management of natural resources, public administrations, private sector companies

and NGOs need to have specific competencies which are currently very weak, especially in the Democratic Republic of Congo. This project aims to help fill that gap through activities such as program reviews, training the trainer programs and regional consultations, and by putting emphasis on South-South cooperation.

In Costa Rica, the Dominican Republic and Honduras, Canada is supporting the **Biodiversity Restoration and Community Development project** (\$500 000 from 2007–11). Using the train-the-trainer approach of professionals and partners of three Model Forests, this project aims to restore degraded forests while simultaneously addressing livelihood issues of local landowners in tropical areas with high levels of rural poverty. The project will do this through analog forestry—a system of forest management that seeks to empower rural communities both socially and economically, through the use of species that provide marketable products. The project will create the enabling conditions and build the capacity of local organizations and local land owners that would ensure expansion and ongoing sustainability of biodiversity restoration activities outlined in the proposal by developing tools, providing technical support, and establishing strategic alliances with like-minded organizations.

The provinces and territories also undertake capacity-building and technology transfer activities. For example, **investments in forest research in Ontario** are targeted primarily at five themes: forest management practices; forest resources and land use planning; guidelines and standards; inventory, monitoring, and assessment; and, science support to resource management. Government of Ontario investments in

research as measured by expenditures have increased from \$9.2 million in 2004/05 to \$12.5 million in 2008/09, an increase of 35%. The increase of operating research investment reflects an increase in the government's investment in climate change research and far north programs over the same period.

Stakeholder participation

Developing public participation processes that are fair and effective is essential to achieve meaningful participation in forest management. Effective public participation and involvement helps ensure that a wide spectrum of viewpoints is considered when making decisions, and satisfaction with decision-making processes and decisions provides a useful check on the progress of forest management towards sustainability. Canada is engaged in a number of initiatives to promote and facilitate the active engagement of its citizens in sustainable forest management.

Model Forests are working-scale forest-based landscapes where people come together in local partnerships supported by a larger network to develop, test and share solutions to challenges in sustainable forest management. The **Canadian Model Forest Network**, comprised of Canada's 14 Model Forests also works as a liaison between Canada's Model Forests, the International Model Forest Network and Canada's Forest Communities Program.

Modeled after the Canadian Model Forest Network, the **International Model Forest Network** is a voluntary association of partners from around the world working

toward the common goal of sustainable management of forest landscapes and natural resources. The new Circumboreal Model Forest Initiative will improve understanding of conservation and sustainable use of biodiversity in the boreal ecosystem in order to help forest-dependent communities assess their vulnerabilities and adapt in the face of a rapidly changing climate.

Canada is committed to **fostering the engagement of Canadians in stewardship activities** that both help improve ecological integrity and build a sense of personal connection with Canada's natural heritage in its national parks. For example, Cape Breton Highlands National Park is partnering with the Nova Scotia Department of Natural Resources and the Unama'ki Institute of Natural Resources in efforts to restore a viable population of the American Marten. Project partners have initiated a strong communications program which includes workshops for trappers and forestry workers and articles in both trapper's publications and broad media outlets. The project is also actively involving a range of local players, including the local Mi'kmaq community and youth groups.

Biosphere reserves are also an important mechanism for Canada to work towards ecological integrity within the greater national park ecosystem. Biosphere reserves are designated by the United Nations Educational, Scientific and Cultural Organization to promote and demonstrate innovative approaches to conservation and sustainable development. For example, St. Lawrence Islands National Park is working with other partners in the Frontenac Arch Biosphere Reserve to develop and implement a model for regional coordination

that will support the ecological integrity of the park. This involves building a strong network of partners and exploring a number of joint initiatives, such as integrated reporting and identification of habitat priorities in the region. Similarly, Kejimikujik National Park is a core area within the Southwest Nova Biosphere Reserve. Park staff are working with its biosphere reserve partners, including the Mersey Tobeatic Research Institute Co-operative, to collaborate on research, monitoring and management projects to better understand the area's ecological health as well as best practices that can help maintain and improve its ecological integrity.

In Ontario, residents have rights and civic responsibilities to assist with the management of forest resources on public lands in Ontario. **Local Citizens' Committees** consist of local stakeholder representatives and provides a formal way to involve Ontarians in forest management decision-making processes. From social surveys with Committee members in 2001, 2004 and 2010, there is general and increasing satisfaction with the forest management planning process and agreement that the process and outcomes are fair and that the Local Citizens' Committees are effective.

In 2004, a number of changes to the forest management planning process in Ontario were put in place aimed at **enhancing Aboriginal opportunities for involvement** in the forest management planning process. The 2004 Forest Management Planning Manual provided broader opportunities for consultation approaches, required that Aboriginal communities be offered opportunity to have representatives on planning teams, offered improved opportunities for Aboriginal representation

on local citizens committees and required preparation of a Report on Protection of Identified Aboriginal Values for affected communities. During the period from 2004-2008 the proportion of approved forest management plans with Individual Environmental Assessment requests initiated by Aboriginal people declined significantly to 11%, compared to 23% for the period from 1999-2003. The marked decrease in the proportion of forest management plans which attracted Aboriginal-initiated Individual Environmental Assessment requests is taken as a very positive indication of Aboriginal participation in the forest management planning process. The observed reduction in such requests by Aboriginal people occurred during a period when changes aimed at enhancing Aboriginal peoples opportunities for involvement in the forest management planning process were put in place.

Enhanced international cooperation

In 2009, the Government of Canada ratified the International Tropical Timber Agreement (ITTA, 2006). The ITTA establishes the legal framework for the **International Tropical Timber Organization (ITTO)**, which brings together producer and consumer countries of tropical timber. Its objective is to promote the global trade in tropical timber from sustainably managed and legally harvested forests. Canada is a founding member of ITTO and signatory when the ITTA was first negotiated in 1983 and again renegotiated in 1994.

Canada has been an active participant in the **Montréal Process Working Group** formed in 1994 as an intergovernmental response to

the pressing need for advancing sustainable forest management. Collectively, the member countries of the Montréal Process contain 83% of the world's temperate and boreal forests, 49% of the world's forests, 33% of the world's population and are a source of 40% of the world's wood production. Through the Montréal Process, member countries continue to make a voluntary commitment to work alongside each other to further the sustainable management of their forests and create a pathway for collaboration and capacity building. Canada led the development of the Montréal Process Strategic Action Plan (SAP) which provides direction for Montréal Process activities for the period 2009–15. The Plan serves as the Working Group's overall guiding document and road map through 2015 and is a principal tool for communicating Montréal Process objectives and priorities to stakeholders within member countries, other governments, other C&I processes and relevant regional and international organizations.

Canada, Mexico and the United States have shared knowledge and experience in developing their **National Forest Resource Inventories** and, as a result, the three countries now collect similar, and in some cases, standardized inventory data. The comparability among forest inventories has allowed the North American Forest Commission to commence work to produce continental forest information products, such as forest ecosystem maps and disturbance databases. These products are based on ecosystem boundaries rather than political boundaries and lay the ground work for continent-wide conservation and management strategies to be developed to help protect biodiversity across North America. In particular, the Commission is

working on models to predict the most likely areas for insect infestations and is planning to develop guidelines for assisted migration—essentially helping species move into new suitable habitat when their existing habitat becomes unsuitable due to rapidly changing environmental conditions. These maps will also be featured in the Commission for Environmental Cooperation's Environmental Atlas for North America, providing standardized information to the public and policy makers.

Through the affirmation of a mutual aid agreement expected in 2010–11 between Mexico and Canada, the two countries aim to develop an operational plan identifying designated officials responsible for **wildland fire management** activities and, among other things, setting forth specific criteria and procedures for responding to requests for wildland fire assistance as well as for communications and border crossings.

Canada is a leader and key participant in cooperative **international research initiatives on forest pest management**. Within North America, Canada, the US and Mexico work together through the North American Plant Protection Organization (NAPPO) to develop harmonized strategies for the protection of forests from pests. The International Forestry Quarantine Research Group (IFQRG) coordinated by a Canadian scientist brings together scientists and experts from more than 20 countries to undertake research and analysis of forest pest problems.

Forest law enforcement and governance

As a key component of monitoring progress towards sustainable forest management, the use, conservation and protection of natural resources are monitored by governments to ensure compliance with approved plans and to measure progress towards achievement of stated goals, objectives, targets and desired planning outcomes. In Ontario for example, **independent forest audits** monitor licensee compliance with provincial forest management legislation, policies and guides. The independent audits must be conducted on all forest management units at least once every five years. As an indicator of success forty-eight independent forest audits were conducted during the 2004-2008 period. The audits found a high level of compliance (95%) with provincial legislation and policies.

One of the key provisions in **Saskatchewan's Forest Resources Management Act** and regulations is the requirement for large forest companies to have periodic independent audits to assess how well they're achieving the objectives set out in their Forest Management Plans. These audits are intended to bring greater transparency and accountability to the management of our forests, for both government and industry, and to provide opportunities for continual improvement of our forest management practices. The Independent Sustainable Forest Management Audit Manual sets out the protocols for such audits. As they become available, audit results for each company are made public. Following the audit, the government and the company work together to prepare a Co-ordinated Action Plan articulating how the issues identified will be addressed. Progress on implementing the action plan is reviewed

and reported annually with updates posted on the government website.

Protection of forests

The **Canadian Forest Genetic Resources Information System** (CAFGRIS) is a key component of the Canadian program for Conservation of Forest Genetic resources (CONFORGEN). This geo-spatial knowledge management system provides applications for: i) assessing the current status of native tree species and the status of conservation efforts (ex, in and inter situ), ii) predicting future status and conservation requirements under a variety of climate change scenarios, iii) identifying data deficiencies, iv) stimulating cooperative research efforts to obtain the information necessary to evaluate species status and threats, and vi) fostering voluntary efforts to conserve species before official species listing is warranted.

In 2008, \$15.3 million in funding was committed for a five-year Newfoundland and Labrador **woodland caribou scientific and management strategy**. The strategy focuses on the continuation of the collection of necessary caribou data; initiation of a predator-caribou ecology studies; implementation of enhanced information and education programs; cooperation with the Department of Natural Resources to improve wildlife management; increased emphasis on habitat assessment; and province-wide regional assessments of black bear populations, one of the key predators of caribou calves. This scientific and management strategy is consistent with government's commitment to sustainable development and science-based decision making, and constitutes a major effort to

assist in better understanding and mitigating the caribou decline.

Ontario identifies and protects cultural heritage values as part of maintaining and enhancing recreation, tourism and other social and environmental values associated with the forest. Forest management planning teams in Ontario are required to identify and **protect cultural heritage values in their forest management plans**. Since 2002, data sharing agreements with custodians (i.e., Ontario Ministry of Tourism and Culture, Aboriginal communities, forest industry, planning team members, etc.) and access to various resources (e.g., local historical societies, Cemeteries Registrar, etc.) allowing the identification of cultural heritage values has made protection much more effectual.

Science and research

Through the **Canada-Russia Fire Initiative**, Canada is supporting science and research collaboration during 2008–12 in areas focusing on investigating the influence of changing forestry practices on wildfire and on interactions between fire and changing climate; integrating historic patterns of wildfire, emissions and climate for projecting future fire / climate interactions, as well as assessing the air emissions from forest fires in Russia and their impacts on atmospheric qualities, carbon cycling and biocenosis sustainability.

International plant health (phytosanitary) policies must be soundly based on scientific principles. Canada is a world leader in coordinating and undertaking **research to address critical forest phytosanitary**

problems. Research conducted by Canada and studies coordinated under the auspices of the International Forestry Quarantine Research Group, organized by Canadian scientists, plays a key role in addressing global forest pest problems.

In 2009, **the Climate Change Task Force of the Canadian Council of Forest Ministers** completed and distributed two major studies: 1) Vulnerability of Tree Species and Adaptation Management Options, and 2) Framework for Forest Management Offset Protocols. Study results—disseminated through workshops, web seminars and meetings—provided forest managers and policy makers with new approaches to addressing climate change, informing forest policy and forest management practices. Under Phase 2, a comprehensive plan was developed that aims for further collaborative work to enhance the knowledge and capacity of jurisdictions to adapt to climate change.

As part of its commitment to knowledge generation, Canada is supporting the development of new and innovative methods for monitoring and research within its national parks. For example, following the 2001 national listing of the Eastern Wolf as a Species of Special Concern, La Mauricie National Park launched a three-year project using social science to evaluate and advance its **Eastern Wolf conservation program**. The purpose of this research project was to use social science to gain an understanding of attitudes, perceptions and behaviours of key target audiences in the park (including hunters, trappers, local residents and visitors) as it relates to wolves, and to improve the communications and educational components of interpretation and conservation. The studies helped to

discern the different attitudes of various target audiences towards protection efforts, which will be critical to the evaluation and redesign of the park's educational and communications programs, as well as the development of action plans for moving forward with species recovery efforts.

The **Ecosystem Management Emulating Natural Disturbance (EMEND) Project**, located in the boreal mixedwood forest near Peace River, Alberta, is a large-scale variable retention harvest experiment designed to test effects of residual forest structure on ecosystem integrity and forest regeneration at the forest stand-level. EMEND is a long-term project that began in 1998 and is forecast to run for one stand rotation, or approximately 80-100 years. The project, centered at the University of Alberta, is a partnership between numerous research agencies, provincial and federal governments, and the forest companies operating in northwest Alberta.

The **Sustainable Forest Management Network** is a Centre for Excellence that plans, conducts, and develops applications for interdisciplinary, university-based research on issues related to sustainable forest management. The Network's Knowledge Exchange and Technology Extension Program focuses on synthesis, integration and implementation of existing research results. The program also develops new tools and extension products for on-going research projects. The Forest Futures project used scenarios to explore the multiple benefits provided by forested lands and makes this knowledge available to decision-makers.

Public awareness and education

Citizen science programs have become an important aspect of Canada's public engagement work in its national parks in recent years. These programs connect participants to nature, enhance their understanding of the natural world, help build a growing constituency of volunteers and supporters within the communities in and around national parks, and generate knowledge to support park management decisions. An example of citizen science in action is underway in Kejimikujik National Park and National Historic Site in Nova Scotia (Keji). Keji has established strong participatory monitoring programs that generate important information while facilitating opportunities for hands-on activities for both visitors and local residents. Long-term monitoring forest plots have now been established through the program which has involved almost 1000 students from 10 schools over the past two years.

Early in 2010, the **2009 State of Saskatchewan's Provincial Forests Report** was released indicating that they are in a healthy state. The report assesses 23 indicators, chosen from the Canadian Council of Forest Ministers' Criteria and Indicators. Each is focused on a specific aspect of sustainable forest management in three categories—environmental, economic and social. Each indicator was assessed by experts and reviewed extensively both within and outside the government. This is the first full reporting on all the selected indicators in the province and showed that overall progress toward sustainable forest management in Saskatchewan is positive.

Private sector and industry

In 2009, \$14 million in **silviculture funding** was announced for Nova Scotia by the provincial and federal governments for thinning, tending and replanting Nova Scotia's forests over the next two years. The money is mainly for woodlots smaller than 2 000 hectares with softwood lumber producers and exporters not eligible.

Also in 2009, under the **Community Adjustment Fund**, the Government of Canada provided \$7 million over two years to a silviculture initiative designed to create jobs and short-term stimulus in forestry-dependent communities. A total of \$3.5 million will be invested in public land activities with the other \$3.5 million to be allocated to private land activities.

Indigenous and local communities

First Nations lands in Canada total an area of over 3 million hectares, of which 1.4 million are forested. These forests represent a resource that is important to many First Nations goals, including sustained economic and business opportunities, increased employment and social, spiritual, environmental and recreational needs. The **First Nations Forestry Program** is designed to support capacity building for First Nations to develop their forest resources and sustainable management practices and to participate in and benefit from forest-based development opportunities. The Program has created opportunities for more than 460 First Nations communities in Canada to form partnerships with industry and other organizations, learn and/or practice

sustainable forest management and improve the skill sets of their own band members.

Canada's **Forest Communities Program**, a 5-year, \$25 million program, supports 11 partnership sites across the country that implement projects and initiatives aimed at sustaining forest communities through economic development opportunities. The Program aims to ensure that Aboriginal and non-Aboriginal forest-based communities have the knowledge and tools needed to understand the implications of Canada's forest sector transformation challenges, participate more fully in the public dialogue on forests, and benefit from existing and emerging opportunities in the natural resource economy. Projects and initiatives support: 1) increasing community awareness, understanding and knowledge of natural and human-induced disturbances affecting their community's forest health, and 2) Aboriginal and non-Aboriginal youth engagement, training and skills development that increase both their understanding and capacity to participate in the forest economy.

Canada is strengthening and deepening **relationships with Aboriginal peoples in and around national parks** by establishing a formalized Aboriginal advisory relationship for each national park. These relationships—many of which have been strained in the past—are now leading to creative partnerships for joint planning, management and stewardship as well as enhanced educational and cultural experiences for park visitors. For example, in 2007 St. Lawrence Islands National Park took part in a Smoky Fire Ceremony, a rich Mohawk tradition aimed at building trust, respect, and new working relationships between cultures. Since then, Aboriginal perspectives have

been integrated by including traditional knowledge in decision-making related to resource management, visitor experience and educational programming. In addition, representatives of the Mohawk Council of Akwesasne and the Traditional Council have played a key role in the development of the Hill Island Hyperabundant Deer Management Plan, which concluded that a reduction in herd size was required to restore the forest ecosystem to health. In January 2008, representatives of the Mohawk Council of Akwesasne successfully carried out a hunt that reduced the herd size and was also able to provide deer meat for a community ceremony.

The **Fire Smart-Forest Wise Program in Jasper National Park** combines research, ecosystem restoration, education and stewardship to protect Jasper residents from the threat of wildfires. Dense, overgrown forests around the town are now being selectively thinned to restore more natural conditions in areas that were traditionally burned on a frequent basis by Aboriginal people or lightning-ignited fires. Working with the community, the Fire-Smart Forest Wise Program has teamed with the Métis Nation of Alberta to provide Métis youth work experience through the restoration activities. The goal is to create a 350 hectare buffer area around the Town to enhance public safety in a way that restores ecological conditions while simultaneously reconnecting Métis with traditional cultural landscapes.

In New Brunswick, **First Nation communities** have been allotted 5% of the public land annual allowable cut providing economic development opportunities to the communities.

In 2010, the Government of Saskatchewan released a **First Nation and Métis Consultation Policy Framework**. The Framework outlines the process Government will use to fulfill its obligation to consult with First Nations and Métis communities on decisions or actions that may impact Treaty or Aboriginal rights, including those related to forests and forestry. In addition, a key action under the Framework for Development of Saskatchewan's Forest Industry is to ensure appropriate consultation with First Nation and Métis communities and that such communities in forest areas have sufficient resources and capacity to meaningfully participate in consultations and forest business opportunities.

In Ontario, the government has an obligation "...to identify and implement ways of achieving a more **equal participation by Aboriginal peoples** in the benefits provided through the forest management planning process". Successes have been made in providing Aboriginal communities access to resources through contracts, overlapping license arrangements and Forest Resource Licenses. For the period from 2004–08, the average annual volume of wood made available to Aboriginal people was over 2.7 million cubic meters with over 1 million cubic meters harvested annually.

Monitoring, assessment and reporting

The **Carbon Budget Model of the Canadian Forest Sector** improves capacity to estimate the carbon dynamics in forest ecosystems, and thus supports countries in meeting the United Nations Framework Convention on Climate Change's monitoring and reporting

requirements of forest carbon stocks and net emissions and removals of CO₂-eq greenhouse gases from forests. This stand- and landscape-level modelling framework can simulate the dynamics of all forest carbon stocks required under international agreements. By early 2009, more than 500 individuals from 42 countries had downloaded the model and many had attended training sessions on how to use it. Users come from universities, the forest industry, NGOs, provincial governments and other areas.

Canada publishes annually the **State of Canada's Forests**, a report on its forest sector, featuring key facts, forest statistics and trends, and articles on specific and timely issues. Canada also publishes and submits annual reports on the greenhouse gas emissions and removals in managed forests to the United National Framework Convention on Climate Change secretariat. An advanced (IPCC Tier 3) monitoring and reporting system has been developed that includes monitoring of forest disturbances (wildfires, insects), management (harvesting, planting) and land-use changes (deforestation and afforestation) combined with the Carbon Budget Model of the Canadian Forest Sector to estimate annual greenhouse gas emissions and removals. Ongoing scientific developments are aimed at further improvements to the modeling, monitoring, verification and reporting capabilities for Canada's managed forest.

The Canadian Council of Forest Ministers has developed a **national framework of Criteria and Indicators** for measuring, assessing and reporting on Canada's progress toward sustainable forest management. This framework is closely aligned with the Montréal Process C&I framework and

Canada uses its CCFM framework to meet its international reporting obligations on C&I. In addition, Canada's national C&I framework has been extensively incorporated into sub-national efforts to manage Canada's forests sustainably, including national forest strategies, data collection and management, State of the Forests and other reporting initiatives, and research and local-level forest management planning and reporting. For example:

- C&I have played an important role in developing Canada's National Forest Strategies for two decades, including the latest *Vision for 2008 and Beyond*, as well as in the evaluation of the 2003–08 strategy.
- C&I are providing the framework for coordinating national and international forest information collection and management with data for national C&I reporting managed principally through Canada's National Forestry Database Program.
- C&I are helping guide research at the national level. For example, the Sustainable Forest Management Network uses C&I as one means of identifying sustainable forest management research needs.
- C&I are being used in varying degrees by most provinces and territories to evaluate policies and regulations related to sustainable forest management.
- C&I are now being used nationally and by at least five provinces as the general framework for a State of the Forests report and as a mean of accounting for progress in meeting sustainable forest management objectives.
- C&I have been used as the basis for developing local level indicators (LLI) of sustainable forest management that are meaningful at a local scale.

- C&I / LLI are being used by forest licensees in support of work to meet certification standards, and by third-party auditors to evaluate performance relative to sustainable forest management certification standards.

The **Canadian Forest Ecosystem**

Classification System defines and describes forest and woodland communities using standardized criteria and terminology. It provides a consistent framework for applying ecological knowledge of Canadian forests and woodlands to monitoring, research, assessment and reporting activities. The Canadian Forest Ecosystem Classification enhances the interpretive value of spatial information products (e.g., the National Forest Inventory and satellite-derived land cover schemes) by linking ground-derived ecological attributes to them.

The objective of **Canada's National Forest Inventory** is to assess and monitor the extent, state and sustainable development of Canada's forests in a timely and accurate manner. By collecting and reporting information to a set of uniform standards, on a network of monitoring plots across the country, it establishes a baseline framework for collecting and aggregating information on traditional forest inventory attributes as well as data relevant to the reporting of progress towards sustainable development, forest health, biodiversity, climate change and forest productivity.

The vision of **Canada's National Forest Information System** is to implement an information technology framework to facilitate the acquisition, integration, processing and dissemination of data / information from autonomous, distributed databases in support of analysing and

reporting on matters relating to sustainable forest management in Canada.

The **Alberta Biodiversity Monitoring**

Institute conducts biodiversity monitoring of more than 2000 species and habitats to support decision-making with scientific knowledge about provincial biodiversity. The Institute provides information on the state of the province's biodiversity to facilitate responsible management of the environment. The program monitors change in highly relevant species, habitats, and human land use.

Monitoring and reporting plays a critical role in the Canada's management decisions for national parks and efforts to maintain or restore ecological integrity. Canada's **national park ecological integrity monitoring and reporting program** focuses on measuring and reporting to Canadians on the condition and trends of national park ecosystems. Monitoring activities provide critical information on ecological changes that may be underway which can in turn guide management decisions over time. The framework used to monitor and report on ecological integrity includes measuring the state of and changes in biological diversity (i.e., the natural variety of plant and animal species, as well as the existence of exotic species) and ecosystem processes (i.e., the physical, chemical and biological processes that shape our environment, such as fire or vegetation growth and decomposition). Threats to the state of ecological integrity are also identified as part of this approach. These may include land-use activities, habitat fragmentation, pollutants or climate shifts. The monitoring programs provide the knowledge foundation for the State of the Park Reports that are generated every 5 years. Currently, these reports summarize

the best available knowledge regarding the health of individual parks from across the national system. In the future, these reports will evolve with sections dedicated to providing the best available knowledge on the effectiveness of the provision of learning opportunities and the facilitation of visitor experience, and details on Aboriginal perspectives.

Ecosystem management and sustainability depends on knowledge of a region's ecosystems, their associated attributes and their interrelationships. To gain this knowledge, in 2010 the Government of Saskatchewan produced a **Field Guide to the**

Ecosites of Saskatchewan's Provincial Forests, a forest ecosystem classification framework that qualitatively and quantitatively describes the ecosystems found in the province's four ecozones. The guide resembles an encyclopedia of forest ecosystems and covers an area of approximately 35 million hectares and represents the mature, natural and ambient forest conditions across the provincial landscape. The classification and guide are cornerstones to results-based management as they represent the site-level ecological fabric upon which better management decisions can be based.