

Canada's Forest-related Contributions to the Sustainable Development Goals Under Review in 2018

A Report to UNFF

1. Summary and Key Messages

Forests are essential to sustainable development. The following report describes Canada's forest contribution to the United Nations' Sustainable Development Goals (SDGs), and illustrates how Canada is using sustainable forest management to ensure its forests provide a range of environmental, social, economic and cultural benefits for current and future generations. It was produced at the request of the United Nations Forum on Forests as a contribution towards the 2018 review of the SDGs 6 (water), 7 (energy), 11 (sustainable cities), 12 (sustainable production and consumption), 15 (terrestrial ecosystems) and 17 (partnerships for development). A key objective is to clearly exhibit that, while SDG15 is the only one specific to forests, forests are relevant to the success of the 2030 Agenda as a whole, including the specific Sustainable Development Goals under review in 2018. This report seeks to demonstrate that relevance by highlighting select actions, research and approaches being undertaken by Canadian stakeholders in support of the Goals noted above. Several of the examples provided in this report support more than one of the Goals and associated targets under review.

Key Messages

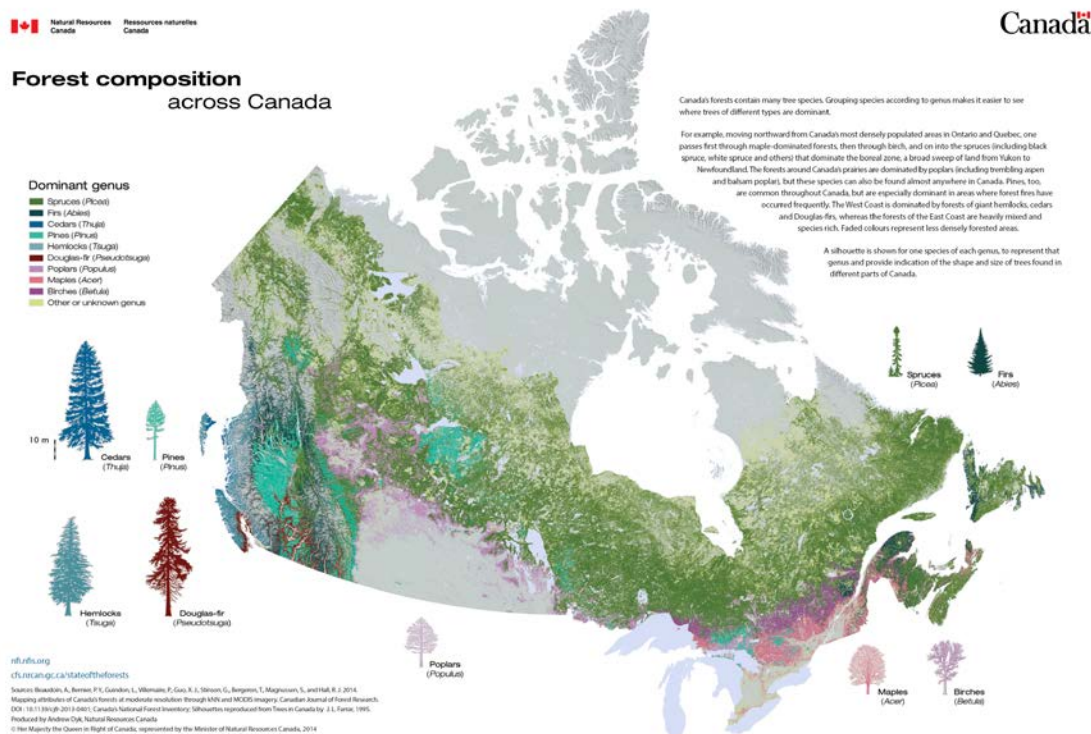
- Forests are vital to sustainable development and realization of the SDGs
- Forests and trees provide a range of essential services such as clean drinking water and stable soils for food production
- Sustainable forest management and economic growth are not diametrically opposed. They can work in tandem for a "win-win" scenario
- Forests directly contribute to reducing negative environmental and health impacts of cities, as well as improving resilience to natural disasters
- Reliable and consistent data is fundamental to measuring the success of forest contributions to the SDGs

2. Introduction

In 2015, United Nations member states, including Canada, adopted the 2030 Agenda for Sustainable Development. The Agenda includes 17 Sustainable Development Goals (SDGs) and 169 associated targets aimed at improving the world’s social, economic and environmental well-being in a sustainable manner. Forests will be a key part in realizing these Goals. Forests purify air and water; provide food, shelter, renewable energy, timber and jobs; as well as recreational and cultural benefits.

Given that forests cover 30% of the Earth’s land area, improving sustainable forest management (SFM) can have significant positive impacts on the SDGs. Canada’s forests cover 347 million hectares, accounting for about 9% of the world’s forest cover¹. SFM in Canada is based on rigorous laws and regulations, scientific research, indicators, planning and public participation. The majority of the policy and legislation that governs forestry activities is developed and administered by provincial and territorial governments.

Canada’s forests are dynamic in nature with most forest cover loss characterized as temporary due primarily to natural disturbances, such as fire and insects. These disturbances are part of the natural cycle in the regeneration of Canada’s forests.



¹ <http://cfs.nrcan.gc.ca/pubwarehouse/pdfs/38871.pdf>

Canada has also developed numerous policies, programs and tools to help ensure the sustainability of our forests which, in turn, contribute directly and indirectly to the SDGs. In many cases, the knowledge and technical expertise behind these programs and tools are made freely available to other countries.

Below we describe, in general terms, the status of forests in Canada as context for the more detailed SDG review that follows.

2.1. General Description – Forests and Forest Resources

Forest sector employment and other economic benefits are critical to many rural communities and positively affect Canada's Indigenous people. In 2016, the forest sector contributed \$23.1 billion dollars to Canada's economy while directly employing 211,075 Canadians and contributing to an additional 95,000 indirect jobs². The forest sector is one of the largest employers of Indigenous people in Canada with 9,700 Indigenous people employed directly by industry in 2016³.

Canada is home to 28% of the world's boreal zone and most of our forested lands are found there. Canada's boreal zone is important to the country's resource-based economy, and its ecosystems provide numerous provisioning, regulating, cultural, and support services.

The average age of Canada's forests increases from east to west. This pattern reflects differences in the frequency of natural disturbances and variations in species longevity. There is also a general shift from hardwood to softwood dominance with increasing age of forest stands.

Canada is one of the few countries in the world to hold vast expanses of intact natural areas⁴, and the total area protected in Canada continues to grow. Examples of protected areas include national and provincial parks, national wildlife areas, migratory bird sanctuaries, wildlife reserves, and ecological reserves.

2.2. Sustainable Forest Management in Canada

² <http://cfs.nrcan.gc.ca/pubwarehouse/pdfs/38871.pdf>.

³ Ibid.

⁴ <https://www.ec.gc.ca/ap-pa/default.asp?lang=En&n=989C474A-1>

Indigenous Forestry Initiative

The Indigenous Forestry Initiative (IFI) is a funding program that supports the participation of Indigenous peoples in Canada's forest industry. It funds projects that encourage forest-based economic development and the growth of a skilled Indigenous labour force. Since 2011, IFI has provided over \$10M in funding to 59 projects across the country in over 112 Indigenous communities. Project examples include:

- The Teslin Tlingit Council received funding to purchase nine biomass boilers. Using a sustainable supply of local forest biomass will create community employment, economic and social benefits, while reducing greenhouse gas emissions.
- Pacheedaht First Nation carried out a carbon budget assessment of their forest lands and potential treaty settlement land, with the goal of eventually creating a new economic stream from the carbon captured in the trees in their traditional territory.

Sustainable forest management (SFM) is a way of using and caring for forests to maintain their environmental, social and economic values and benefits over time. Canada is a world leader in SFM, applying it across the country's publicly owned forests, which account for about 92% of Canada's forest land. This is an important commitment and it provides assurance to the international marketplace that Canadian forest products are sourced from forests that are managed sustainably.

Most of Canada's forest (90%) is owned and managed on behalf of Canadians by provincial and territorial governments as public land, 2% is federally controlled, 2% is owned by Indigenous Peoples, and the remaining 6% is under private ownership. As a result, federal, provincial and territorial governments have all set legislation and regulations for the protection and management of their respective forests. The different levels of responsibility are as follows:

- The federal government: international forest products trade and relations; national regulatory frameworks; international agreements related to forests; indigenous affairs relating to on reserve land management; management of federal forest lands such as national parks, and; national reporting.
- Provincial and territorial governments: legislation, regulation, enforcement and policies related to forest management; allocation of timber, and; forest inventory.
- The federal and provincial/territorial governments share the responsibilities of forest science and technology, and environmental regulation. For example, the National Forest Inventory—a joint data collection system—provides information about Canada's forests to help guide policy, make projections and meet regional, national and international reporting commitments.

In Canada, forest management decisions and activities are based on scientific research, rigorous planning processes, and public consultation. To uphold these decisions and activities, Canada's federal, provincial and territorial governments have developed laws, regulations and policies to enforce sustainable management standards and practices across the country.

Canada's federal, provincial and territorial governments have long recognized that forests and their many resources are essential in so many ways to the long-term well-being of Canada's environment, communities, and economy. Managing forests sustainably is therefore critical for Canada, not only to balance competing uses in the short term but also to ensure we can enjoy forests' benefits for generations to come. Managing our forests sustainably is also critical from a global perspective.

Collaboration across Jurisdictions Brings Results

The Canadian Council of Forest Ministers (CCFM) represents a best practice in collaboration between jurisdictions as members of the Council cooperate to address issues of common interest. Through collaborative mechanisms such as working groups, task forces and workshops, Council members have developed a number of tools to support and strengthen sustainable forest management efforts. This cooperation is highly beneficial in that it enables jurisdictions to tackle issues in a way that they would not be able to individually. Many of their reports are being used to inform forest policies and practices throughout Canada. For example, adapting to a changing climate is considered essential for Canada's forest sector to remain resilient and vibrant, and for forest industry to remain competitive in the global marketplace. To address this issue, the CCFM's Climate Change Task Force was created in 2008. This group has released a number of publications and tools to provide forest sector stakeholders with state-of-the-art tools and new knowledge that will allow them to assess the vulnerabilities, risks, and opportunities associated with climate change, including forest cover loss.

Forest companies wanting to harvest on public lands must develop forest management plans that comply with forest laws and are consistent with sustainable forest management principles. Companies must also consult the public, industry and experts to ensure that the plans include steps to maintain ecosystem health and to create economic opportunities for communities.

The annual timber harvest in Canada makes up less than 0.5% of total forest area. In contrast, in 2015, about 5% of Canada's forests were damaged by insects each year, while about 0.4% burned in forest fires⁵. Timber harvesting, insect infestations and forest fires do not constitute deforestation as the affected areas will be replanted as required by law or naturally regenerate. Other drivers of forest cover loss, such as agricultural expansion, urbanization and infrastructure, result in deforestation where the land use has changed from forest to other uses. Deforestation and restoration are further elaborated in Chapter 7.

3. Goal 6: "Clean Water and Sanitation"

Ensure availability and sustainable management of water and sanitation for all

This chapter highlights Canada's forest contribution to SDG 6.6: "...protect and restore water-related ecosystems, including mountains, forests, wetlands, rivers, aquifers and lakes"

3.1. Forests and Water-Related Ecosystems

⁵ <http://cfs.nrcan.gc.ca/pubwarehouse/pdfs/38871.pdf>

Water scarcity poses a significant threat to economic growth and stability throughout the world. This problem is being exacerbated by climate change⁶. Up to 80% of the world's population may live in areas that experience times of water insecurity. It is estimated that within the next decade 1.8 billion people will be living in areas that suffer from "absolute water scarcity" and almost two-thirds of the world's population may experience water-stress conditions⁷. The availability of freshwater could reduce access to water in cities by as much as two thirds by 2050.

Together, forested watersheds and wetlands supply three-quarters of the world's accessible fresh water⁸. There is a deep connection between forests and fresh water supply. Forests increase the quality and quantity of water by intercepting atmospheric moisture, contributing to the formation of clouds (and subsequently, rain), and through "recharging" groundwater⁹.

Ontario's Wetland Conservation Strategy

Forming the connection between land and water, wetlands are among the most productive and diverse habitats on Earth. Ontario's wetlands are biodiversity hotspots, serving as an important habitat to an array of plants, birds, insects, amphibians, fish and other animals, including many species at risk. Wetlands also provide Ontarians with a variety of valuable ecosystem services that create economic benefits and contribute to a high quality of life for people in this province. These include providing clean and abundant water, flood and erosion mitigation, climate moderation, recreational opportunities and other important social, cultural and spiritual benefits.

Building on over 30 years of progressive wetland policy and partnerships, Ontario's *Wetland Conservation Strategy (2017-2030)* provides a coordinating framework to guide wetland conservation across the province. The intent is to provide both the government and people of Ontario with a common focus to conserve wetlands and a path forward so that we can achieve greater success in a more efficient and effective manner. The Strategy will serve as a launching point for new, innovative conservation commitments and actions that can protect Ontario's wetlands.

This Strategy includes strategic directions, goals and desired outcomes, and actions the government will undertake by 2030 to improve wetlands in Ontario. This includes increasing knowledge and understanding of wetland ecosystems and raising awareness about the importance of wetlands. It also includes building strong and effective wetland policies, encouraging cooperation at all levels of government and supporting strategic partnerships in a shared responsibility for conserving wetlands. Taken together, these actions will help Ontario to first stop the loss of wetlands and then restore wetlands where they have been lost.

⁶ World Bank Group, "[Climate-Driven Water Scarcity Could Hit Economic Growth by Up to 6 Percent in Some Regions, Says World Bank](#)," press release, Washington D.C., May 3, 2016.

⁷ Convention on Biological Diversity, "[Water security depends on forests and wetlands](#)," press release, Montreal, February 2, 2011.

⁸ [Forest and Water Programme](#), Food and Agriculture Organization of the United Nations, last modified March 21, 2016.

⁹ Ibid.

Protecting forests, including helping to restore and regenerate them, is a key way to protect the clean water that humans are dependent upon for domestic, agricultural, industrial and ecological needs¹⁰.

3.2. Protected Areas

Canada's system of protected areas includes parks and reserves established by federal, provincial, territorial, municipal and indigenous governments. The Canadian Council of Ecological Areas maintains a national Conservation Areas Reporting and Tracking System (CARTS), which provides tracking and reporting on the status of Canada's protected areas in a consistent, standardized and reliable manner. CARTS reports and datasets (including GIS files) are available online.¹¹

As of 2016, 10.6% (1.05 million km²) of Canada's terrestrial area (land and freshwater) and 0.98% (55 000 km²) of its marine territory are protected.¹² The total area protected has increased by almost 70% over the past 20 years. Over the past 5 years, it has increased by 8%.¹³

Canada's protected forest area constitutes an estimated 23.7 million hectares¹⁴ – or nearly one quarter -- of the country's approximate 105 million hectares¹⁵ of formally established terrestrial (land and fresh water) protected areas.

Forest protection status is assessed using CARTS in combination with data from Canada's National Forest Inventory.¹⁶ Nearly 7% of Canada's 347 million hectare forest area is protected (including IUCN category Ia, Ib, II, III and IV protected areas), directly contributing to SDG 6.

The information presented in this chapter also contributes directly or indirectly to SDGs 2, 3, 13, 11 and 15; Aichi Biodiversity Targets 5, 7, 11 and 14; United Nations Strategic Plan for Forests Goals 1 and 3.

4. Goal 7: “Affordable and Clean Energy”

Ensure access to affordable, reliable and modern energy

This chapter highlights Canada's forest contribution to SDG 7, specifically target 7.1: “...ensure universal access to affordable, reliable and modern energy sources.” In the Canadian forest context,

¹⁰ <http://www.fao.org/in-action/forest-and-water-programme/en/>

¹¹ <http://www.ccea.org/carts/>

¹² <http://www.ccea.org/carts-reports/>

¹³ <https://www.canada.ca/en/environment-climate-change/services/environmental-indicators/protected-areas.html>

¹⁴ This amount is estimated using the National Forest Inventory (NFI) and the Conservation Areas Reporting and Tracking System (CARTS) and is based on the NFI revised 2006 baseline data.

¹⁵ <https://www.ec.gc.ca/indicateurs-indicators/default.asp?lang=en&n=478A1D3D-1>

¹⁶ <https://nfi.nfis.org/en/standardreports>

this Goal is demonstrated through our work on the forest bioeconomy, though it is not the only example.

4.1 Bioenergy

The forest bioeconomy refers to economic activity generated by converting sustainably managed renewable forest-based resources into value-added products and services using novel and repurposed processes. Key attributes of a healthy bioeconomy are that it is knowledge-based, competitive, innovative and sustainable. Canada's commitment to advancing the bioeconomy was demonstrated in September 2017, when Canada's federal, provincial and territorial ministers responsible for forests endorsed *A Bioeconomy Framework for Canada* (available at www.ccfm.org) underpinned by SFM practices.

Canada has the most biomass per capita in the world¹⁷ and represents 6.5% of the world's theoretical bioenergy potential¹⁸. Forest biomass can be converted into a wide variety of products, beyond traditional commodity forest products such as lumber and paper.

Forestry residues (e.g., tops, branches and industrial residues such as chips and sawdust) have been a substantial biomass source for energy production by the forest industry for decades. Today, [biomass energy](#) (or "bioenergy") has gained much wider interest as a renewable, environmentally beneficial alternative to energy from fossil fuels. For instance, in cooperation with its partners, Canada is investigating the feasibility of using biomass to produce some of the energy needed by the oil sands industry, thereby reducing the greenhouse gas emissions of oil sands operations. As well, between 2004 and 2014, the forest industry's carbon emissions have decreased by 49%¹⁹. This is in part due to having reduced its reliance on fossil fuels as a result of an increasing in the use of bioenergy. In 2014, bioenergy accounted for 56% of forest industry energy use, up from 43% in 1990²⁰, further improving sustainability.

The Canadian forest bioeconomy is poised to play a key role in the transition to a modern low-carbon economy, further enhancing sustainability.

To achieve its goals, the Canadian government will continue to diversify and modernize Canada's power and heat generation systems through investment and innovation. This will ultimately ease the development, commercialization, and accessibility of clean energy to all Canadians, directly contributing to SDG7. For example, the 2017 Federal Budget invested \$220 million in programming to decrease the reliance on diesel fuel used for heat and power in Canada's remote communities.

¹⁷ Most biomass per capita: Biomass Innovation: Canada's Leading Cleantech Opportunity for Greenhouse Gas Reduction and Economic Prosperity. From http://biocleantech.ca/Biomass_GHGEconomy_Canada_2016.pdf

¹⁸ Rogner, H.-H., Aguilera, R. F., Archer, C., Bertani, R., Bhattacharya, S. C., Dusseault, M. B., Yakushev, V. (2012). Chapter 7 – Energy Resources and Potentials. In *Global Energy Assessment – Toward a Sustainable Future*. New York (NY): Cambridge University Press and the International Institute for Applied Systems Analysis

¹⁹ <http://cfs.nrcan.gc.ca/pubwarehouse/pdfs/38871.pdf>

²⁰ Ibid.

There are up to 235 remote communities in Canada that rely on diesel for their primary source of fuel for electricity and heating.

The information presented in this chapter also contributes directly or indirectly to SDGs 1, 9, 11, 12, 13 and 15; Aichi Biodiversity Targets 4, 7 and 8; the United Nations Strategic Plan for Forests Goals 1, 2 and 3.

5. Goal 11: “Sustainable Cities and Communities”

Make cities and human settlements inclusive, safe, resilient and sustainable

This chapter highlights a few of Canada’s forest contributions to SDG 11, specifically targets:

- 11.6: “...reduce the adverse per capita environmental impacts of cities including by paying special attention to air quality [and municipal and other waste management]”
- 11.7: “...provide universal access to safe, inclusive, accessible, green and public spaces, [in particular for women and children, older persons and persons with disabilities]”
- 11.B: “...substantially increase the number of cities and human settlements adopting and implementing integrated policies and plan towards inclusion, resource efficiency, mitigation and adaptation to climate change, resilience to disasters [and develop and implement holistic disaster risk management at all levels]”

5.1. Building with Wood

Wood-based materials, over their life cycle, use less energy and emit fewer greenhouse gases (GHGs) and airborne pollutants than traditional, energy-intensive materials. Using wood reduces the overall carbon footprint of most buildings, helping Canada reach its commitments under Agenda 2030 and associated SDGs, climate change targets, and long-term commitments under the Paris Agreement. Wood buildings can also offer greater safety and stability than inflexible building materials when natural disasters (i.e. earthquakes) strike.

Since 2007, the Government of Canada has supported the research and development of new generations of wood-based products in recognition of the importance of the forest sector in efforts to mitigate climate change. This research has led to the revision of the National Building Code of Canada allowing mid-rise wood frame construction up to six storeys in the 2015 edition (it was initially limited to four storeys). The Government of Canada invested a total of \$5 million between 2013 and 2017 to support two tall wood building demonstration projects under the *Tall Wood Building Demonstration Initiative* (TWBDI). The initiative resulted in the construction of the world’s tallest hybrid wood building at 18 storeys, the Brock Commons Tallwood House at the University of British Columbia in Vancouver, as well as the construction of the Origine green condo project in Québec, set to become the tallest solid wood condo tower in North America.

The Government of Canada continues its proactive approach, building on the success of previous demonstration projects initiatives by launching a new program called *Green Construction Through Wood (GCWood)*. GCWood is a 4-year, \$39.8 million program aimed at supporting the use of wood in non-traditional construction projects, such as tall buildings, low-rise commercial buildings and bridges as part of the Government's efforts to position Canada as a leader in the global low-carbon economy. GCWood will also facilitate revisions to the 2020 and 2025 National Building Code of Canada to allow tall wood buildings beyond the current limit of six storeys, up to 12 storeys or more, and help develop tools to assist designers and builders. The funding is being leveraged by provinces to develop the required technical information to support their own code changes.

Canada's [Federal Sustainable Development Strategy \(FSDS\)](#) is the primary vehicle for sustainable development planning and reporting for the national government. It sets out sustainable development priorities, establishes goals and targets, and identifies actions to achieve them. The 2016–2019 FSDS outlines what Canada will do to promote clean growth, ensure healthy ecosystems and build safe, secure and sustainable communities over three years.

In response to the Strategy, the Government of Canada is taking action to ensure it is leading by example when it comes to procurement, construction and operational practices and polices to reduce the environmental footprint of federal buildings.

5.2. Urban Forestry: Providing Universal Access to Inclusive, Accessible, Green and Public Spaces

Trees in urban areas provides numerous health, environmental and ecological benefits to the residents of towns and cities across Canada. Identified as priority by the Government of Canada, investments in green infrastructure (trees, vegetation, green space and parkland) in urban areas can help tackle multiple issues such as mitigating urban heat islands, reducing localized flooding, lowering rates of chronic disease and reducing greenhouse gas emissions from lower energy usage. For example, when planted strategically around buildings, trees can reduce cooling costs by 30% and heating costs by 20 to 50%.

Tree Canada

For 25 years, Tree Canada has engaged communities, governments, corporations and individuals in the pursuit of a greener and healthier environment for Canadians. Tree Canada is the only non-governmental organization that focuses on urban forests through a national lens. Tree Canada supports and encourages the development of urban forest programs in Canada and works to increase the awareness amongst Canadian stakeholders of the environmental benefits of trees.

The majority of cities in Canada have urban forest departments to actively manage and improve the health of the tree canopy within their city boundaries. In the last decade, in response to varying threats to urban trees, including new diseases and pests, many of Canada's largest cities have developed and implemented urban forest management plans. These plans provide strategic

direction on how best to manage healthy tree canopies. In addition, numerous community non-profit organizations across Canada (e.g. Soverdi in Montreal, Evergreen in Toronto and TreeKeepers in Vancouver) supplement municipal operations by working with residents to plant new trees on private and public lands.

Communities across Canada have identified key research needs for urban forest science to help better manage urban forest health and climate related issues associated with urban trees. These include diverse topics such as the impact of insects and diseases on urban forests and the impact of trees on human health and pollution and management of pests and disease²¹. In response, Canada is exploring opportunities to support urban forest research, including the development of pilot projects where various levels of government could collaborate with community organizations and other stakeholders to test new urban tree management techniques and measure their impact on the health of Canadians over time.

Work is also ongoing to identify best practices and tools that can help communities reduce urban heat islands, conduct urban tree surveys, improve human health and prepare for climate change. Several universities and community colleges across Canada have also created urban forest programs with internationally recognized academics to teach a new generation of Canadian urban foresters.

5.3. Integrated Plans for Resource Efficiency, Mitigation and Adaptation to Climate Change

The 2017 Federal Budget outlines Canada's long-term plans for [Communities Built for Change](#). The initiative will provide \$20.5 billion in funding to develop smart cities, improve public transportation, adoption of cleaner energy sources, and investment in green infrastructure in Canada's cities and communities. These actions will decrease greenhouse gas emissions and create cities with infrastructure that can assist in climate change mitigation and resilience.

Additionally, in 2016, Federal and Provincial governments adopted the [Pan-Canadian Framework in Clean Growth and Climate Change](#). The framework lays out actions needed for greenhouse gas reduction and their contribution to clean growth and climate change resiliency. The Pan-Canadian Framework has four pillars (Carbon Pricing, Complementary Actions to Reduce GHG emissions, Adaptation and climate resilience, and Clean Technology and Innovation). Canada's forests and forest sector can easily contribute to achieving the four pillars through sustainable forest management, increased use of wood for construction, and forest based bioenergy.

Programs developed under the umbrella of the Framework will contribute to climate change adaptation, mitigation, and resiliency in Canadian cities and human settlements, as outlined in Chapter 4.

²¹ Larouche, Jacques. 2016. Forêt urbaine : recensement mondial des publications, situation actuelle et besoins de recherche des municipalités canadiennes. Mémoire de maîtrise en sciences forestières. Université Laval, Québec (Qc), Canada, 12-. P

Whether building with wood, improving and promoting urban trees and forests, or responding to national priorities, forests directly contribute to reducing environmental and health impacts of cities as well as improving resilience to natural disasters. Forests must be an integral part the response to SDG 11 by forming part of the planning process for rural and urban communities looking to mitigate and adapt to a changing climate.

The information presented in this chapter also contributes directly or indirectly to SDGs 3, 8, 9, 12, 13 and 15; the United Nations Strategic Plan for Forests Goals 1, 2, 3 and 5.

6. Goal 12: “Responsible Consumption and Production”

Ensure sustainable consumption and production patterns.

Canada’s forest management responsibilities are environmental, economic, social and cultural. First and foremost, Canada is responsible for ensuring the environmental health and sustainability of its forests so that they can continue to positively impact Canada’s economic and social goals. Through its SFM practices, Canada ensures conservation of its forestland and sustainable harvesting (consumption and use) of its forest resources.

This chapter examines some of Canada’s forest contributions to SDG 12, specifically targets:

- 12.2: “...achieve the sustainable management and efficient use of natural resources”
- 12.6: “Encourage companies, especially large and transnational companies, to adopt sustainable practices and to integrate sustainability information into their reporting cycles”
- 12.7: “Promote public procurement practices that are sustainable, in accordance with national policies and priorities”
- 12.A: “Support developing countries to strengthen their S&T capacity to move towards a more sustainable pattern of consumption and production”

6.1. Forest Laws, Regulations and Regeneration

Canada’s deforestation rate has been in decline for the past 25 years, with a loss of 34,100 ha in 2015 compared to 63,100 ha in 1990²². Though Canada accounts for a large portion of the world’s forest, it only accounts for 0.3% of global deforestation²³.

Under provincial and territorial laws, all areas harvested on public lands are required to be regenerated using natural or artificial means (i.e. planting and seeding), or a mix of the two. Successful regeneration of harvested areas ensures that forest lands remain productive for wood

²² <http://cfs.nrcan.gc.ca/pubwarehouse/pdfs/38871.pdf>

²³ Ibid.

fibre and continue to provide key ecosystems services such as storing carbon, regulating water quality and quantity, and providing wildlife habitat and recreation opportunities.

Canadian provinces are developing science-based forest management plans that include determining Annual Allowable Cuts (AACs) to ensure that harvested wood does not exceed sustainable wood supply, which is the volume of wood that can be harvested without interfering with environmental, social, cultural, or economic objectives. Forest companies are legally required to respect AAC levels.

While illegal logging is not a significant issue in Canada (due to its strong laws and regulations) it does remain a challenge for many countries around the world. Canada has been an active participant in the Asia-Pacific Economic Cooperation (APEC) Experts Group on Illegal Logging and Associated Trade since its inception in 2011 by chairing and participating in the group's strategic planning process, and by attending yearly meetings.

6.2. Certification of Forest Products

Canada has the world's third largest forest area with 48% (168 million hectares) certified as sustainable²⁴. Additionally, 37% of the world's certified forests are in Canada²⁵. Sustainable forest management certification provides added assurance that a forest company is operating legally, sustainably and in compliance with world-recognized standards for sustainable forest management. As well, consumers can be assured that forest products from Canada come from legal and sustainable sources.

Three recognized forest certification systems are used in Canada, those of the Canadian Standards Association, the Forest Stewardship Council and the Sustainable Forestry Initiative.

6.3. What to Buy: Government of Canada Procurement

The [Government of Canada's policy on Green Procurement](#) seeks to advance protection of the environment and support sustainable development by integrating environmental considerations into the procurement process. It directs federal departments and agencies to incorporate environmental considerations into decision-making for all goods and services. Departments are responsible for setting green procurement targets and including environmental criteria and specifications. As a result, suppliers have a key role to play in advancing the government's environmental agenda by providing environmentally preferable goods and services. For example, the Government of Canada recognizes forest certification systems as a means to demonstrate that paper was sourced sustainably.

²⁴ Ibid.

²⁵ <http://www.nrcan.gc.ca/forests/canada/certification/17474>

Whether through use of rigorous forest laws and regulations, third-party verification or sustainability policies, Canada's consumption of raw materials and production of processed goods must meet sustainable management standards. As an example, Canadian forest companies are obliged to adopt sustainable practices and public agencies follow green procurement policies involving use of wood products from sustainable sources, directly contributing to SDG 12 as well as others.

The information presented in this chapter also contributes directly or indirectly to SDGs 6, 8, 11, 13, 15 and 16; Aichi Biodiversity Targets 2, 4, 7 and 14; the United Nations Strategic Plan for Forests Goals 1, 2, 3 and 5.

7. Goal 15: “Life on Land”

Protect, restore and promote sustainable use of terrestrial ecosystems, sustainably manage forests, combat desertification, and halt and reverse land degradation and halt biodiversity loss.

This chapter highlights select Canadian contributions to SDG 15, specifically targets:

- 15.1: “...ensure the conservation, restoration, and sustainable use of terrestrial and inland freshwater ecosystems and their services, in particular forests, wetlands, mountains and drylands, in line with obligations under international agreements”
- 15.2: “...promote the implementation of sustainable management of all types of forests, halt deforestation, restore degraded forests and substantially increase afforestation and reforestation globally”
- 15.5: “Take urgent and significant action to reduce the degradation of natural habitats, halt the loss of biodiversity and, by 2020, protect and prevent the extinction of threatened species”
- 15.8: “...introduce measures to prevent the introduction and significantly reduce the impact of invasive alien species on land and water ecosystems and control or eradicate the priority species”
- 15.B: “Mobilize significant resources from all sources and at all levels to finance SFM and provide adequate incentives to developing countries to advance such management, including for conservation and reforestation”

7.1. Transparency and Accuracy in Canada's Forest Reporting for Sustainable Use

Domestically, forest reporting in Canada focuses on preparing the [State of Canada's Forests](#) report, which is tabled annually in Parliament. For the last 27 years, this report has provided a snapshot of the state of forests and the forest industry in Canada in an easy-to-read and easy-to-understand format that informs Parliamentarians, Canadians and all other interested parties. The content produced in the report is supported by a variety of scientific research,

cooperative federal-provincial-territorial data collection programmes, and local evidence of trends and changes.

Canada also uses a variety of data sources to report on social and economic aspects of forests and forestry. As Canada's central statistical office (and member of the United Nations Statistical Commission), Statistics Canada produces most of Canada's key socio-economic statistics, including trends on employment, exports, imports, wages and salaries, and forestry's contribution to Canada's gross domestic product. A census, conducted every five years, is a rich resource of information about how the forest industry influences community well-being.

Internationally, Canada has been a champion of harmonizing and streamlining reporting among countries. We are a founding member, and active participant in, the Montreal Process Working Group – a voluntary intergovernmental process that develops and implements harmonized criteria and indicators that measure progress toward sustainable forest management in boreal and temperate forests across the globe.

Forestry activities must comply with the particular requirements of international agreements that Canada has signed, such as *Agenda 2030*, *the Convention on Biological Diversity*, *the Paris Agreement under the UN Framework Convention on Climate Change* and *the Convention on International Trade in Endangered Species of Wild Fauna and Flora*. The provinces and territories have legislation designed to achieve goals under these.

Global Core Indicators

In May 2016, Canada and the FAO jointly hosted an international expert workshop on strengthening collaboration on criteria and indicators to promote and demonstrate sustainable forest management. The workshop aimed to strengthen relationships among criteria and indicator processes and other forest-related organizations and fora, while also proposing concrete actions that could advance common interests, improve the use of criteria and indicators in reporting, or enhance collaboration. One of the results of the workshop was the development of a proposed global core set of indicators that can be used in reporting on many aspects of sustainable forest management. Canada continues to work toward the implementation of a core global set of indicators that can be used to effectively report on progress toward sustainable forest management in all countries.

7.2. Deforestation, Reforestation and Restoration

Deforestation is the permanent clearing of forests for other types of land uses. It differs from temporary forest cover loss caused by natural wild fires or sustainable forest management activities, including harvesting, where there is no land-use change and forest regrowth is expected.

The annual deforestation rate in Canada is among the world's lowest at less than 0.02% of total forest area and that rate has been declining for more than 25 years. For example, in 1990,

63,100 hectares were deforested while in 2015 this figure dropped to 34,100 hectares²⁶. Statistical data on temporary tree cover loss within the forest land base, such as forest harvesting and silvicultural activities, are reported in detail in Canada's National Forest Database.

Agricultural expansion remains the leading cause of deforestation (19,000 hectares per year), followed by oil and gas resource development and urbanization (11,000 and 5,000 hectares per year, respectively)²⁷. Afforestation²⁸, or the conversion of non-forest land to forest land use, is not monitored nationally. Studies indicate that the area involved is very small.

It is important to note that timber harvesting, forest fires and insect infestations do not constitute deforestation as the affected areas will be replanted as required by law or naturally regenerate.

7.2.1 Forest and Landscape Restoration

Forest and landscape restoration (FLR) is the process of regaining ecological functionality and improving human well-being in deforested or degraded forest landscapes²⁹. FLR does not mean returning land to its original condition, but offers an opportunity to bring degraded and unproductive lands back into a functional state that delivers multiple benefits to multiple stakeholders now and in the future. Successful FLR:

- reverses environmental degradation
- improves land management and governance
- increases the resilience of communities and landscapes
- secures forest-based livelihoods
- contributes to climate mitigation mechanism through carbon storage
- optimizes ecosystem goods and services to meet the changing needs of society

Thanks in part to initiatives such as the [Bonn Challenge](#), restoration is gaining momentum globally with many countries taking steps to restore significant land areas. In Canada, restoration has been part of forest management for many years with efforts increasing, in part, due to species at risk habitat recovery efforts focussed on woodland boreal caribou.

Sustainable forest management in Canada facilitates and supports concrete restoration initiatives. Multiple national and provincial programs support FLR in Canada, such as the [National Greening Program](#) which encourages the mass planting of seedlings across Canada where there is a need for restoration or afforestation. With the [50 Million Tree](#)

²⁶ <http://cfs.nrcan.gc.ca/pubwarehouse/pdfs/38871.pdf>

²⁷ Data on deforestation by industrial sector are reported in Canada's *State of the Forest* report

²⁸ As opposed to reforestation, which is to renew forest cover through natural regeneration or tree planting or seeding.

²⁹ <http://www.forestlandscaperestoration.org/>

[Program](#), the Ontario government has committed to planting 50 million trees by 2025. Similar programs exist in Manitoba, Quebec and British Columbia to respond to catastrophic natural disturbances.

7.3. Species at Risk and Forest Biodiversity

A key measure of forest health is biodiversity. About two-thirds of Canada's estimated 140,000 species of plants, animals and micro-organisms live in the forest, including about 180 species of trees. The result is a diversity of forest ecozones, as well as a unique distribution of animal and plant species.

Canada's federal, provincial and territorial governments promote proactive, long-term species and biodiversity protection through legislation and policies, third party forest management certification and our participation in science and research initiatives, stakeholder engagement and advisory committees.

Canada is a signatory to the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES). Under this Convention, Canadian forest interests include a focus on addressing illegal harvest and illegal international trade in forest commodities, and on development of CITES regulations that support legal and sustainable international trade.

The Wild Animal and Plant Protection and Regulation of International and Interprovincial Trade Act (WAPPRIITA) is the legislative vehicle by which Canada meets its obligations under CITES. The purpose of WAPPRIITA is to protect Canadian and foreign species of animals and plants that may be at risk of overexploitation due to illegal trade and also to safeguard Canadian ecosystems from the introduction of species considered to be harmful. It accomplishes these objectives by controlling the international trade and interprovincial transport of certain wild animals and plants, as well as their parts and derivatives. WAPPRIITA also makes it an offence to transport illegally obtained wildlife between provinces and territories or between Canada and other countries.

With respect to species at risk, Canada promotes federal and multi-stakeholder initiatives for species habitat and recovery, such the new Knowledge Consortium for boreal caribou recovery. On the ground, departments are collaborating on federal forest science initiatives to improve

our understanding of this species and its critical habitat requirements, including how forest restoration practices can assist in recovery planning.

Restoration of Fragmented Woodland Caribou Habitat

NRCan-CFS is engaging in multiple efforts to provide science-based strategies focused on restoration of habitat for woodland caribou, an endangered species in Canada. A pilot project to restore fragmented land impacted by cumulative impacts of development on the landscape involves extractive industries, provincial and federal government, academia and an Indigenous Nation. The work engages experts from a range of disciplines including forest ecosystems, landscape restoration, climate change, sustainable forest management, and socio-economics. Ongoing efforts by NRCan-CFS with other federal organizations are anticipated to result in additional pilot projects.

The introduction and spread of forest invasive alien species is a growing threat to Canada's forests, to the transforming forest industry and to the communities that depend on it. Their presence is a threat to Canada's international trade in forest and other products. The spread of invasive alien species is also recognized as an issue that has wide implications for biodiversity, ecosystem health, communities, and human health. Canada's federal, provincial and territorial governments have put in place policies, regulations and other measures to prevent invasive alien species introduction and establishment.

7.3.1. Decision Support Tools/Emergency Management Frameworks

In July 2016, federal, provincial and territorial Agriculture Ministers endorsed an emergency management framework. It recognized that because the number of biosecurity emergency events continues to rise, including those related to invasive alien species, better-integrated and collaborative approaches are required. As a result, a [Plant and Animal Health Strategy for Canada](#) was developed. The objective is to better integrate and improve policies, programs, processes and actions that safeguard plant and animal health, including in forest ecosystems, with a focus on prevention and risk mitigation.

In 2017, Canada announced support to develop the Centre for Plant Health, a new world-class plant health research facility in Sidney, British Columbia. The centre will centralize state-of-the-art genomics equipment, bioinformatics tools and scientific expertise to lead innovative research and plant protection services with partners across Canada. Large-scale research projects are already underway, using genome sequencing and bioinformatics analysis to develop tools to rapidly and accurately detect invasive alien species threatening our forests.

The development of a risk analysis framework under [Canada's National Forest Pest Strategy](#) is an important decision-support tool for forest invasive alien species managers across the country as it provides a structure for the development of common evidence-based analysis, harmonized responses and best practices.

Canada also contributes to the development and advocacy of regional and international standards of phytosanitary measures aimed at mitigating the risk of moving invasive alien species with trade of forest products. The country has also made progress to mitigate the impact of priority invasive alien species of concern to forest ecosystems. For example, while the progress and spread of emerald ash borer in Canada has been relentless, Canadian researchers have provided a suite of tools and strategies that offer forest managers options to respond to the challenge, particularly in hard-hit urban forests. For example, a botanical insecticide that is injected into individual high-value trees was developed for control of emerald ash borer in 2012.

Ontario Introduces Invasive Species Legislation

In November 2015, Ontario passed the Invasive Species Act to take further action to protect communities from the significant social, economic and ecological impacts of invasive species.

This legislation supports the prevention, early detection, rapid response and eradication of invasive species. It also gives Ontario the tools to ban the possession and transportation of certain invasive species; allows for earlier intervention and rapid response to keep invasive species from spreading; and helps ensure compliance through modernized inspection and enforcement measures.

Ontario continues to work with key partners to educate the public and address the growing threat invasive species pose. In addition to the creation of the act, every year Ontario makes significant investments to combat the spread of invasive species. For example in 2016, new investments included:

- Support for the Invasive Species Centre's work to further research into new biological control agents for phragmites and dog-strangling vine
- Additional support for the Ontario Federation of Anglers and Hunters (OFAH) Invading Species Awareness Program - which is marking its 25th anniversary - to strengthen the reporting invading species hotline, online tracking system and mobile application, management and eradication of water soldier in the Trent-Severn Waterway as well as public outreach initiatives
- New funding for the Ontario Invasive Plant Council so they can engage municipalities in the development of municipal invasive plant management strategies
- Support for the Federation of Ontario Cottagers' Associations and their work with lake front property owners to prevent the spread of aquatic invasive species, including publication of *A Shoreline Owner's Guide to Invasive Species*

7.4 Financing for 'Life on Land'

Canada has for many years supported SFM internationally. Canada's new Feminist International Assistance Policy, launched in June 2017, is evidence-based and takes into account Canada's expertise and comparative advantage. It supports the Sustainable Development Goals, which aim to eradicate poverty by 2030, and it is also aligned with the Paris Agreement on climate change, which seeks to reduce greenhouse gas emissions and protect the environment. Among other things, this new policy supports women's leadership and decision making in climate

change mitigation and adaptation efforts, resilience-building and sustainable natural resource management.

Annual disbursements to bilateral projects partially or entirely linked to forests totalled \$2.33 million in fiscal year 2015-16 and \$1.83 million in fiscal year 2016-2017. An example of this bilateral programming is the *Agroforestry and Forestry in Sulawesi, Indonesia: Linking Knowledge to Action* project described below.

Canadian funding to multilateral initiatives include the following:

1. Global Environment Facility

Canada is the sixth largest contributor under its Sixth Replenishment (GEF-6), covering the period of 2014–2018. Canada contributed CAD \$233.09 million for GEF-6, while total pledges amounted to US\$ 4.43 billion. Forests are recognized by the GEF for their role in biodiversity conservation, the provision of environmental services, and their contribution to sustainable development.

GEF-6 includes a US\$250 million Sustainable Forest Management (SFM) Strategy which aims to obtain a range of environmental benefits from improved forest management, adopt a cross-sectoral and landscape-level approach, and promote stakeholder engagement including indigenous communities, civil society, the private sector, and local communities.

2. Green Climate Fund

Canada has pledged C\$300 million to the Fund's Initial Resource Mobilization period (2015-2018), comprising C\$190 million in grants and C\$110 million in the form of a repayable contribution. On a grant-equivalent basis, Canada is currently the tenth largest contributor to the GCF. By supporting the Green Climate Fund (GCF), Canada helps to promote the paradigm shift towards low-emissions and climate-resilient development pathways by providing support to developing countries to limit or reduce their greenhouse gas emissions and to adapt to the impacts of climate change, in the context of sustainable development.

3. Forest Carbon Partnership Facility

Canada is the 4th largest donor to the Forest Carbon Partnership Facility (FCPF), with a C\$40 million contribution to its Readiness Fund and C\$5 million to its Carbon Fund, two separate but complementary funding mechanisms of the Facility. The FCPF is a global partnership of governments, businesses, civil society, and Indigenous Peoples, focused on reducing emissions from deforestation and forest degradation, forest carbon stock conservation, the sustainable

management of forests, and the enhancement of forest carbon stocks in developing countries (REDD-plus). Together the two funds have raised more than US\$1.1 billion to date.

4. BioCarbon Fund Technical Assistance Fund

In 2011, Canada provided C\$4.5 million to the BioCarbon Fund Technical Assistance Fund (BioCFplus), a private-public initiative that mobilizes new resources for projects that sequester or conserve carbon in forest and agro-ecosystems.

Agroforestry and Forestry in Sulawesi, Indonesia : Linking Knowledge to Action

This six-year, CAD \$9.6 million, project concluded activities in March 2017 and was successful in securing sustainable livelihoods for Sulawesi's smallholder farmers, including women, through forestry and agroforestry. It supported the planting, management and marketing of more diverse and environmentally suitable tree crops. Its integrated landscape approach promoted sustainable agricultural and natural resources management by: (1) enhancing people's technical capacities, (2) growing business and livelihood opportunities through the establishment of agroforestry-based enterprises, and (3) building economic foundations through the identification of market opportunities and linkages. The project was active at the village, district, and provincial levels to enhance equitable resource access, use, and good environmental governance with local multi-stakeholder engagement and ownership.

Results achieved in 10 districts in 3 provinces of Sulawesi, Indonesia include: (1) improved livelihoods—increased income for over 630,000 people (over half women), 288 tree nurseries and 545 farmer demonstration trials established, and 98 agroforestry enterprises developed or strengthened; (2) improved governance of land use and natural resources planning—strengthened capacity of 165 institutions, nearly 50 communities, and 8,000 people, and strengthened local land-tenure and governance models; and (3) over 735,000 hectares of agroforestry, agriculture, and forest systems are being managed more sustainably—73 communities in 10 districts benefitting from livelihood conservation strategies, environmental service schemes, and vulnerability assessment tools to identify, map and monitor threats to the local environment. Planned targets for 30 to 50% women's participation were met in most activities, with gender sensitivity training resulting in agricultural teams actively engaging women in decision-making and adopting their ideas. In all three areas, targets were exceeded.

As we have seen, sustainable forest management is a way of using and caring for forests to maintain their environmental, social, cultural and economic values and benefits over time. In Canada, sustainable forest management decisions and activities are based on scientific research, rigorous planning processes, and public consultation. To uphold these decisions and activities, Canada's federal, provincial and territorial governments have developed laws, regulations and policies to enforce sustainable management standards and practices across the country.

These standards and practices, in turn, directly support *Life on Land* by: following sustainable forest management, encouraging the restoration and conservation of forests; meeting Canada’s international obligations; taking action on endangered species and invasive alien species, and; mobilizing resources for sustainable forest management.

The information presented in this chapter also contributes directly or indirectly to SDGs 1, 2, 3, 5, 6, 8, 10, 11, 12, 13, 16 and 17; Aichi Biodiversity Targets 4, 5, 7, 9, 12, 14 and 15; the United Nations Strategic Plan for Forests Goals 1, 2, 4, 5 and 6.

8. Goal 17: “Partnerships for the Goals”

Strengthen the means of implementation and revitalize the global partnership for sustainable development

In this section we demonstrate a few of Canada’s forest-related contributions to SDG 17, specifically targets:

- 17.6: Enhance north-south, south-south and triangular regional and international cooperation on and access to science, technology and innovation and enhance knowledge sharing on mutually agreed terms, including through improved coordination among existing mechanisms, in particular at the UN level, and through a global technology facilitation mechanism
- 17.14: Enhance policy coherence for sustainable development
- 17.16: Enhance the global partnership for sustainable development, complemented by multi-stakeholder partnerships that mobilize and share knowledge, expertise, technology and financial resources, to support achievement of the SDGs in all countries, in particular developing countries
- 17.9: Enhance international support for implementing effective and targeted capacity-building in developing countries to support national plans to implement all the sustainable development goals, including through North-South, South-South and triangular cooperation

8.1. Agreements for S&T Collaboration

Canada has formal and informal forest-related agreements with the People’s Republic of China, the Republic of Korea, Chile, Mexico, Indonesia and others. Several of these are driven by a need to share wildland fire resources, or to build capacity for detecting and monitoring forest fires. Estimating the carbon stored in trees is another Canadian scientific advancement available to all interested parties. Both fire and carbon accounting are explored in greater detail below.

8.1.1 Carbon Accounting

Climate is a major influencing factor on forests, and forests in turn influence climate. How climate change affects the carbon source/sink balance of Canada's forests is closely studied by Canadian researchers. [The Carbon Budget Model of the Canadian Forest Sector \(CBM-CFS3\)](#) is the core tool for Canada's National Forest Carbon Monitoring, Accounting and Reporting System. With this tool, users apply their own stand- or landscape-level forest management information to calculate carbon stocks and stock changes for the past (monitoring) or into the future (projection). Users can also create, simulate and compare various forest management scenarios in order to assess impacts on carbon. These, in turn, can influence decisions on sustainable harvesting levels or approaches. The model generates Canada's annual estimate of forest greenhouse gas emissions to meet international reporting commitments.

Canada is collaborating under various formal and informal S&T agreements with experts from countries such as the People's Republic of China, the Republic of Korea, and Mexico to develop and apply the Budget Model for purposes such as sustainable forest management, reducing forest greenhouse gas emissions, and policy decision-making. The model is compliant with the reporting guidelines of the Intergovernmental Panel on Climate Change (IPCC) and is made freely available to other countries.

Canadian scientists, in cooperation with experts from Australia, Kenya, and the former Clinton Climate Initiative, have been developing the "next generation" of user-friendly, comprehensive tools that can quantify forest and land-use emissions and removals using modern technology such as big data and cloud computing. These tools are referred to as [moja global](#). Developed as open source software, the tools can be continuously improved in response to developments in science and international agreements. For this reason, the UNFCCC Secretariat has officially joined moja global and has expressed strong support for a broad uptake of the tools across countries.

8.1.2 Wildland Fire

Wildland fire is expected to increase in frequency and intensity along with climate change, posing a significant threat to communities and forest resources. Wildland fire is both a domestic as well as international concern as haze and carbon emissions released during burning do not respect national borders. By request, Canada is playing a leadership role in efforts to improve emergency response to wildland fires in countries such as Argentina, Chile, Indonesia, Malaysia and Mexico by sharing fire management knowledge, innovation and research, and where possible, pooling necessary resources during times of crises. In fact, Canadian wildland fire science and technology has been applied globally as a fire early warning system, at a regional level across Europe and parts of Africa and Asia, and additionally at a national level in 19 countries around the world.

8.2. Partnerships for Sustainable Development: the International Model Forest Network

The Model Forest concept was developed in Canada in 1990 in response to intense conflict in the forest sector. Stakeholders were demanding more of a say in how forests were managed and valued beyond timber alone. The idea was to select a large area (a watershed or multiple watersheds) where a diverse partnership could define what sustainability means to them, develop a common vision for their landscape, negotiate a strategic plan, and then work together to realize that plan.

A Model Forest is typically described as both a geographic area and a partnership-based approach to the sustainable management of forests and the larger landscapes that surround them. It is a fully working landscape of forests, farms, protected areas, rivers and towns. The approach is based on a flexible and inclusive governance system that combines the social, environmental and economic needs of local communities with the sustainability of large landscapes. Without a strong governance framework it can be difficult to get the necessary support to make policies and programs to function properly.

Today, 25 years later, there are 71 Model Forests in 31 countries covering an area of more than 100 million hectares, the majority in the developing world. All are linked through the [International Model Forest Network](#). The Network exists to facilitate knowledge exchange and the sharing of best practices between members (whether North-South, North-North or South-South) to “speed” up implementation. A small secretariat housed at Natural Resources Canada’s Canadian Forest Service oversees day-to-day operation of the Network.

Sustainability is a process. Model Forests work to translate national and global sustainable development priorities and commitments into practice over time in an integrated manner. Often by engaging the most vulnerable such as women and Indigenous Peoples. In this respect, they are directly relevant to most of the SDGs, not only those highlighted in this report.

The activities above directly support *Partnerships for the Goals* through traditional scientific collaboration and technical transfer to reduce economic, environmental and social risks to forests and forest communities. In addition, Canadian concepts around governance, sustainable forest management, and cross-sectoral cooperation have been shared with, and taken up by, local partnerships through the International Model Forest Network. In these examples, forests provide an important context as the landbase for the stakeholders involved.

The information presented in this section also contributes directly or indirectly to SDGs 1, 2, 5, 12, 13 and 15; Aichi Biodiversity Targets 5, 7 and 17; the United Nations Strategic Plan for Forests Goals 1, 2, 3, 5 and 6.

9. Conclusion

Forests are an essential component of sustainable development. They provide a variety of ecosystem and livelihood benefits that simultaneously work toward multiple development objectives, directly or indirectly contributing to all of the SDGs that support Agenda 2030.

As demonstrated above, Canada has world-renowned science in areas of forest monitoring, wildland fire management, forest pests and diseases, and in the development of new forest products and applications. Canada is also a policy leader in sustainable forest management and multi-stakeholder governance. With a long track record of success and collaboration, as well as a deep well of scientific expertise, Canada will be able to retain its adaptive capacity and ensure the sustainability of our forests for decades to come.

With respect to the SDGs highlighted in this report, we have seen that: forested watersheds and wetlands supply three-quarters of the world's accessible fresh water (SDG6). Forests must form part of any discussion or planning around water resources; forest biomass is an environmentally beneficial and increasingly popular alternative to fossil fuels (SDG11), and; rigorous forest laws and regulations, forest certification and sustainable procurement policies directly contribute to sustainable consumption and production patterns (SDG12).

Life on Land, also known as SDG15, is the only Goal that specifically mentions forests and is the natural 'fit' to thoroughly explore forest contributions to sustainable development. Sustainable forest management based on scientific research and participatory planning processes, combined with robust legislative and regulatory tools, is fundamental to the protection, restoration and sustainable use of terrestrial ecosystems, including biodiversity. Partnerships (SDG17) reduce economic, environmental and social risks to forests and forest communities while participatory governance and cross-sectoral cooperation underpin success.