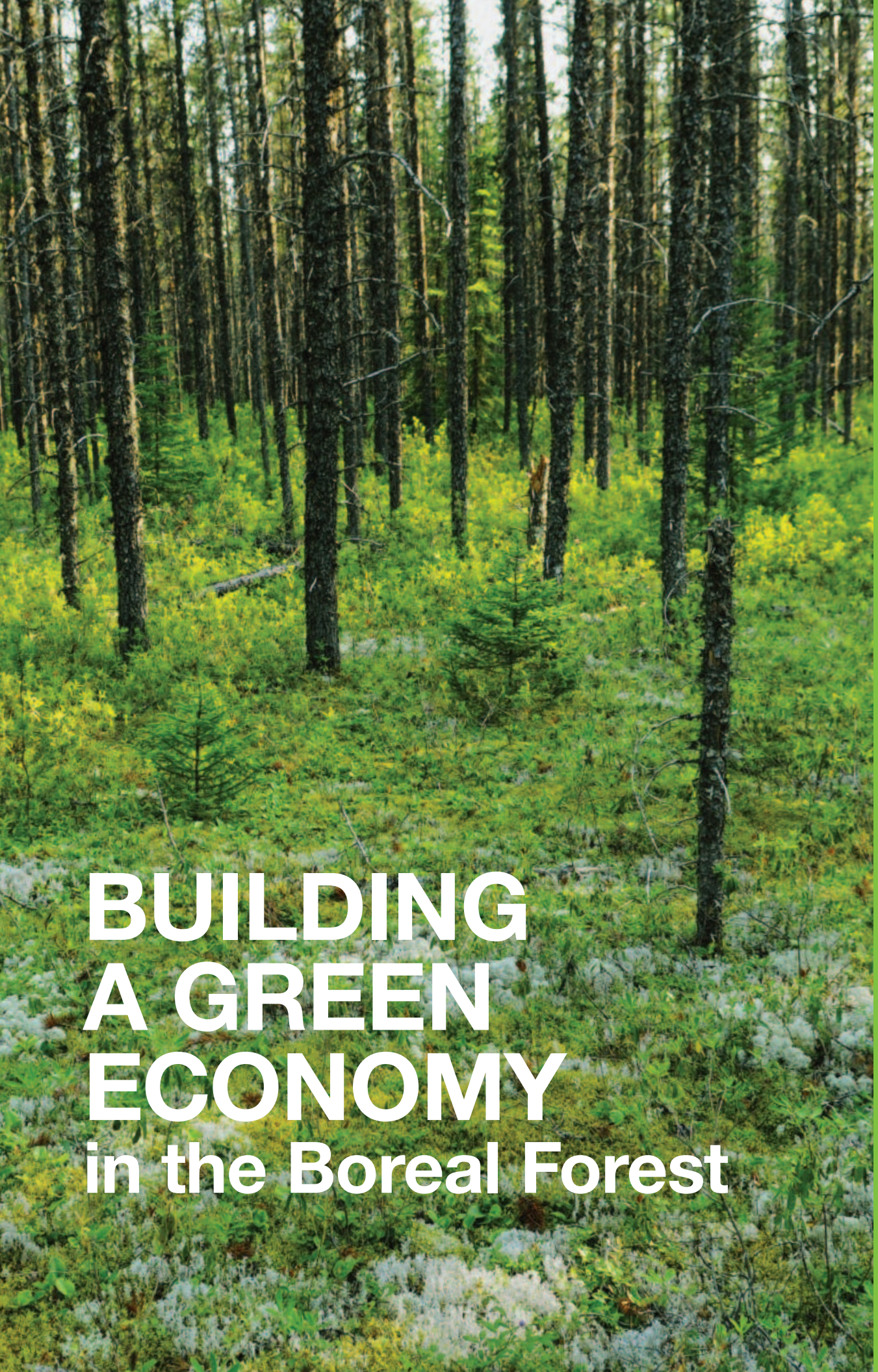

BUILDING A GREEN ECONOMY
in the Boreal Forest

GREENPEACE

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EXECUTIVE SUMMARY

CANADA'S BOREAL FOREST is an ecological treasure for the planet, providing vital environmental functions, including carbon storage and water filtration, and supporting tremendous biodiversity. The Boreal Forest has also provided livelihoods for human communities over the ages and to the present day. The Boreal Forest has been home to many First Nations for thousands of years, and has supported hundreds of other communities that were established more recently in tandem with the growth of industrial forestry. For years, forestry provided these communities with a solid economic base and thousands of secure jobs. In the past decade, however, a number of factors converged that created a profound economic crisis in the forestry industry. Hundreds of forest-based communities – many of them single-industry towns – lost mills and jobs. In Ontario and Quebec, the forestry workforce shrank by more than 25 per cent. With the loss of their economic core and jobs, and a dwindling tax-base, these communities are also facing social problems, including major population declines.

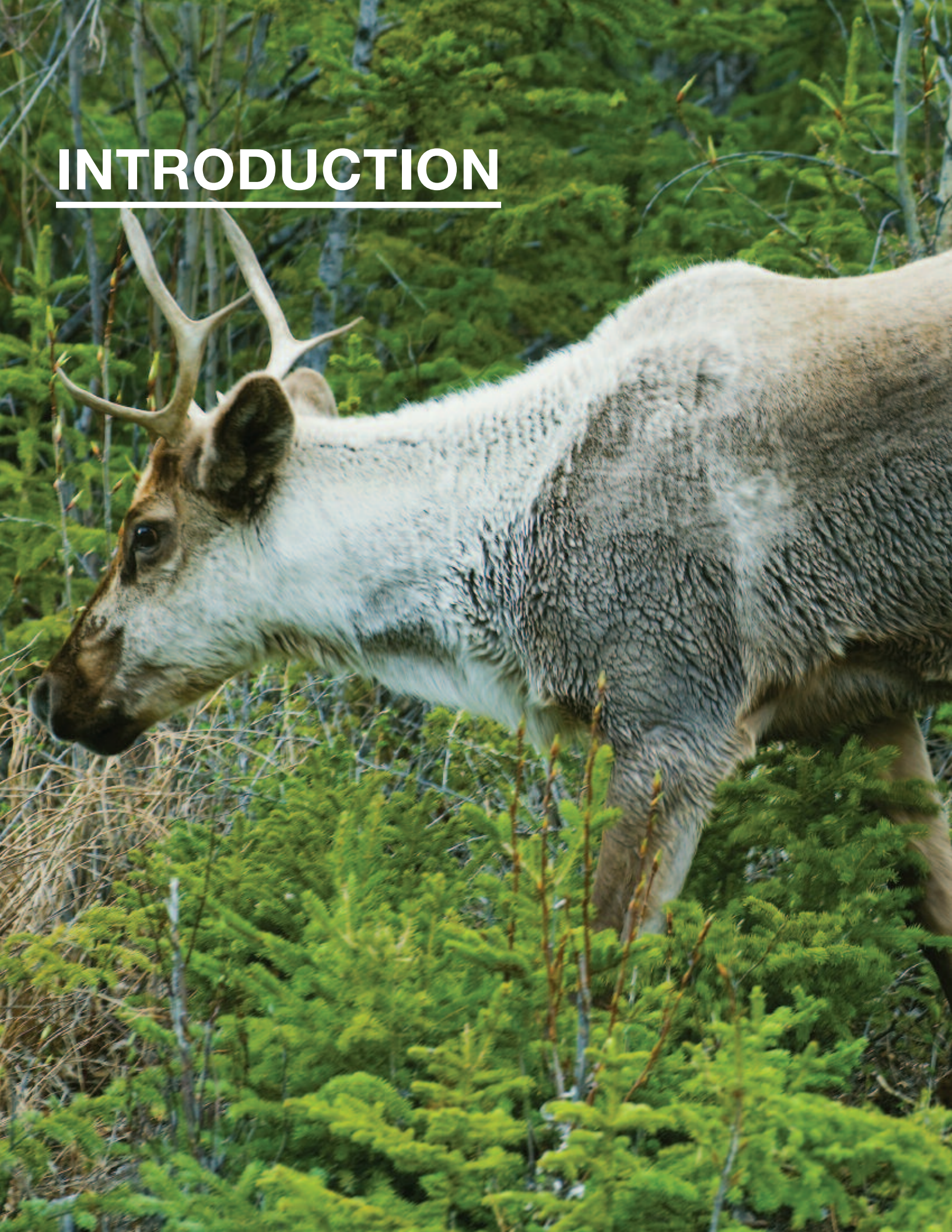
As forest-dependent communities have struggled over the last several years, the health of the Boreal Forest itself has also been under immense pressure from the impacts of forty years of intensive industrial logging. Highly valuable intact (undisturbed) forests have almost disappeared from the area allocated for logging in Ontario and Quebec, carbon stores are being compromised, and species like Boreal woodland caribou are facing possible extinction. A change is needed in the Boreal Forest, for both communities and the environment. Forest-dependent communities need to build new, stable, viable economies that they can count on in the long term, and the tremendous ecological value of Canada's Boreal Forest needs to be preserved for the future.

This report lays out a vision for development of the Boreal Forest that would meet these twin goals, as well as the policy changes needed to achieve them. At the core of this vision of a "green economy" is the idea that it is possible to support communities without compromising the natural environment. While the forest must be treated with greater care, there are also significant green economic opportunities that forest-based communities can take advantage of. Governments have an important role to play in fulfilling this vision. "Building a Green Economy in the Boreal Forest" examines current political, economic, social and ecological factors at play in the Boreal regions of Ontario and Quebec and makes the following nine recommendations for federal and provincial governments.

POLICY RECOMMENDATIONS

1. Develop a national strategy for building a green Boreal economy, including an inclusive national forum that will set targets, report on results, build cooperation and design new initiatives.
2. Adopt an ecosystem-based management approach to forest planning in provincial law and policy.
3. Support Forest Stewardship Council (FSC) certification by harmonizing government regulations and providing financial assistance and capacity-building.
4. Enact ecological fiscal reforms to encourage adoption of green practices in the Boreal Forest, such as tax credits, conservation funding, and programs for research and development.
5. Reform forestry tenure systems to allocate a greater portion of timber supply to community-based initiatives and to companies demonstrating strong environmental performance and value-added processing.
6. Increase use of collaborative governance arrangements on public land and co-management arrangements with First Nations.
7. Provide transition funding for forestry-dependent communities, targeting funding towards 'non-traditional' green initiatives that help diversify local economies.
8. Support green forest industries, including mill buy-outs by communities, funding for eco-tourism, and wood supply allocation for value-added and niche green industries.
9. Fund research and development of non-timber forest sectors such as wild food harvesting and provide marketing and start-up funding for entrepreneurs in these sectors.

INTRODUCTION



THE BOREAL FOREST is one of the most expansive ecosystems in the world. In Canada, it covers nearly six million square kilometres, stretching from Yukon to Newfoundland, and accounts for 77 per cent of Canada's forests and wooded lands.[i] The Boreal Forest is a northern forest, made up mostly of slow-growing conifer trees, soils lacking in organic materials, and large numbers of rivers, lakes and bogs. Canada's Boreal Forest is also one of the most important ecosystems in the world from the perspective of preserving biodiversity (the abundance of plants and animals). It contains 25 per cent of the world's remaining intact forest, providing crucial habitat for many northern mammals such as caribou, moose, wolves and bear. It also stores 208 billion tonnes of carbon,[ii] at least 26 years worth of carbon emissions from fossil fuel burning, which makes it one of the world's largest terrestrial carbon storehouses.[iii]

Canada's Boreal Forest has tremendous cultural and economic value. It has been central to First Nations culture and livelihood since time immemorial, providing food, medicine and resources. It has also driven the settlement of many non-First Nations communities, some of which date back to the fur-trapping era of the 1600s, and others to the later development of natural resource activities such as forestry and mining. In the 20th century, these activities grew into fully-fledged industrial sectors, providing raw materials for international markets in wood and paper products, and jobs for tens of thousands of Boreal residents. The Boreal Forest also provides countless other benefits for northerners and southerners alike, including recreation activities such as hunting, snowmobiling, fishing, ecotourism, wildlife photography, canoeing and skiing; a variety of non-timber products such as berries, mushrooms, wild game and medicinal plants; and many essential ecological services such as filtration of air and water.

However, the ecological and cultural integrity of Canada's Boreal Forest is at risk, due in part to the accelerating scale of resource development. Since the 1950s, the Boreal Forest has been the site of intensive industrial resource activities, including forestry, mining, hydropower, oil and gas. Currently, oil is being extracted from Alberta's tar sands – located in the heart of Alberta's Boreal Forest – at a rate of 1.31 million barrels a day.[iv] Across Canada's Boreal region, there are 67 operating mines and more than half a million square kilometres staked in mineral claims.[v] The rate of timber harvesting in northern Quebec and northern Ontario doubled between 1970 and 2000.[vi]

These activities have resulted in major loss of "intact" or undisturbed landscapes in the Boreal Forest that are crucial to wildlife populations and to preventing air and waterway pollution. The fragmentation and degradation of the Boreal Forest and the resulting loss of crucial services it provides has become an issue of international concern, prompting a coalition of 1,500 scientists from around the world to demand protection of at least 50 per cent of Canada's Boreal Forest,[vii] and catalyzing numerous international campaigns, as well as, most recently, the adoption of the Canadian Boreal Forest Agreement.

Another set of impacts stemming from development activities in the Boreal Forest, often overlooked, is the socio-economic challenges faced by Boreal Forest communities, both First Nations and non-First Nations. This report is focused on the forestry sector specifically. It aims to describe the situation faced by forest-dependent communities in dealing with current economic and ecological realities in the Boreal regions of Ontario and Quebec, and to propose a different strategy based on the implementation of a green economy.

Between 2003 and 2009, Ontario and Quebec experienced the permanent or indefinite closure of 139 mills. More than 23,000 workers were laid off.[viii] Most of the communities affected were not economically diverse, and many had been tightly controlled by forestry companies for decades. These factors have left many communities unprepared to tackle the challenge of rebuilding their local economies. They also face the reality that, regardless of demand, timber supply is declining in both quality and quantity. First Nations communities face additional challenges, including the legacy of colonization, exclusion from decisions affecting their traditional territories, and the negative impacts of forestry activities on traditional activities like hunting and trapping.

While it is easy to paint a bleak picture of forest-dependent communities in the Boreal, this period of upheaval can also be seen as a unique time of opportunity and change.

POLITICALLY, the governments of Ontario and Quebec are poised to undertake policy reform, and ideas of ecological protection, community-managed forests, and mitigating climate change–once relegated to the sidelines of policy debates–are now on the table.

ECONOMICALLY, the landscape is also changing rapidly. Companies are disappearing and mills are closing, but this is also freeing up timber supply previously used by those mills, creating potential opportunities for new economic and conservation initiatives. There is increasing market demand for products from forests that are managed in an environmentally responsible manner, as seen in the increase in number of companies that are buying wood products certified by the Forest Stewardship Council–the only timber certification system endorsed by the environmental community. These changing market conditions are also reflected in the Canadian Boreal Forest Agreement, signed in 2010 by the Forest Products Association of Canada, its 21 member logging companies, and Greenpeace and eight other leading environmental organizations. The companies committed to participate in widespread protected areas planning in the Boreal Forest, conservation of species at risk, including woodland caribou, and leading ecologically responsible forestry practices, to ensure that, once fully implemented, their forest products would be recognized in the marketplace as environmentally responsible *(see page 11)*.

SOCIALLY, the landscape is shifting as civil society groups gain a stronger voice in forest management and decision-making and First Nations peoples and governments assert their rights over traditional territories. Many forest-based communities that have been hit hard by the forestry sector's economic crisis are seeking new approaches, including a greater community role in forest management, economic diversification into new industries, and transition support for tens of thousands of unemployed forestry workers.

ECOLOGICALLY, there is still enough intact forest in the southern Boreal regions of Ontario and Quebec, on the perimeter of development, to allow effective conservation to take place, making the current period a critical time to act.[ix]

POLITICAL, ECONOMIC, SOCIAL AND ECOLOGICAL FACTORS COMBINE TO MAKE THIS A CRITICAL MOMENT FOR BOTH GOVERNMENTS AND CITIZENS TO DEVELOP A NEW APPROACH TO THE BOREAL FOREST, BASED ON RESPECT FOR THE NATURAL ENVIRONMENT AND THE HUMAN COMMUNITIES THAT LIVE IN AND DEPEND ON THE FOREST.

The purpose of this report is to articulate a new green vision for the development of the Boreal Forest in Ontario and Quebec that meets those goals. (Many of the measures are also applicable to other provinces.) Any transition to a greener economy should be a fair one, to ensure that the communities depending on a strong forest economy will not suffer from the shift. The new economy should be based on the notion that we must treat the forest with greater care, but that we can also take advantage of a range of green economic opportunities to ensure the long-term well-being of forest communities. While this is not a simple task, there are a number of areas with excellent potential, such as the application of ecosystem-based management (an approach that aims to maintain ecological integrity while addressing ecological, social and economic goals), the development of new markets for non-timber forest products, more value-added–or secondary–processing, and community-controlled forestry operations. This report seeks to describe the predicament currently faced by forest-dependent communities in the Boreal Forests of Ontario and Quebec, including social, economic and ecological dimensions, and to put forward a series of policy recommendations which, taken together, present a strategy towards building a strong green economy in the Boreal Forest.

HIGHLIGHTS

BOREAL FOREST COMMUNITIES

- Both Ontario and Quebec lost more than 27 per cent of their forestry jobs in the last decade–57,000 jobs–and had a total of 139 mill closures, many of them permanent.
- Forestry-dependent communities are often single-industry towns and few other employment options currently exist.
- Communities in the Boreal region have higher levels of poverty and unemployment, and lower levels of education, than rural communities in non-Boreal regions of Canada.

THE BOREAL ECOSYSTEM

- Intensive industrial logging in the Boreal Forest over the past forty years has led to massive reductions of valuable intact forest, threatened plant and wildlife species, and compromised ecological functions like water and air purification and carbon storage.
- The value of the ecological functions of the Boreal Forest was estimated in 2002 to be $93.2 billion, equivalent to eight per cent of Canada's Gross Domestic Product that year.

THE FORESTRY INDUSTRY

- The shrinking forestry industry is affecting provincial and local economies: Quebec collected $2 million in payment for trees logged in 2007 compared to $77 million in 1990; Ontario collected $51 million compared to $67 million in 1990.
- The most productive and accessible parts of the Boreal Forest have already been logged, forcing companies to cut younger second-growth forests or travel further north at greater cost to harvest less productive forests.

A GREEN ECONOMY

- Employment in value-added forest industries in Ontario and Quebec is significantly lower than, for example, the American Great Lakes region or Germany.
- There is increasing interest from communities in direct management of local forests and in economic initiatives like mill buy-outs.
- The potential economic contribution of forest-based foods in Canada is between $2 billion and $7 billion per year; the value of certain industries is already growing dramatically.
- Employment in fishing and trapping in the Boreal regions of Canada equaled almost half the jobs created in the forestry sector in 2001.
- Federal and provincial governments need to take concrete steps to reorient development in the Boreal Forest toward a greener future, ensuring ecologically sustainable, stable and viable economies for Boreal communities.

PART 1.

ISSUES FACING THE BOREAL FOREST OF ONTARIO AND QUEBEC

THE POLITICAL LANDSCAPE

EXISTING MANAGEMENT REGIMES

The Boreal Forest accounts for more than 50 per cent of the total forest area in both Ontario and Quebec. More than 90 per cent of these forests are publicly owned and are governed by the provincial governments, through resource ministries. The most common approach to managing forests in these jurisdictions has been to allocate exclusive harvesting rights to forestry companies through long-term licences, and to collect stumpage payments – payment for trees cut – in return for the right to harvest trees. This system serves the dual purpose of generating some revenue for government, while stimulating economic development in rural regions.

Over time, provinces have transferred an increasing share of management responsibilities to forestry companies. These responsibilities relate mainly to growing and tending new crops of trees to produce a regular flow of timber (the "sustained yield" principle), but also involve other activities such as consulting the public and preserving wildlife and other natural features. Today, in what is commonly referred to by governments as "sustainable forest management," agencies in both Ontario and Quebec have made commitments to maintain the ecological benefits provided by the forest, while maintaining timber supplies for the benefit of the forest industry and its workers. However, achieving sustainable forest management has been difficult, and economic priorities continue to take precedence over the protection and enhancement of other forest values.

In Ontario, the *Crown Forest Sustainability Act* (CFSA), introduced in 1994, sets out the parameters for forest management on public land. The main type of licence, or tenure, granted is the *Sustainable Forest Licence* (SFL). SFLs are area-based, are held by either one or a group of companies, and are restricted to companies that possess a processing facility, such as a sawmill or pulp mill. Licence holders undergo an independent audit every five years in order to verify compliance with the terms and conditions of their SFL.

The *CFSA* was intended to increase focus on maintaining ecosystem processes and improve local and regional consultation mechanisms compared to previous legislation; however, it has been criticized for being poorly implemented due to lack of government enforcement capacity and management inefficiencies.[x] Since its introduction in the mid-1990s, budgets of the Ministry of Natural Resources have declined by approximately 35 per cent, with an equivalent decrease in staffing levels.[xi] Some of the key mechanisms for ensuring public oversight of Crown land management have been neglected; for example, there have been substantial delays in publicly releasing the five-year independent forest audits and annual government reports on forest management, despite legal requirements.

In Quebec, the modern forest regime came into force with the *Forest Act* in 1986. It divides the province's forests into 75 Forest Management Units, each associated with multiple tenures called Timber Supply and Forest Management Agreements (TSFMAs). Unlike SFLs in Ontario, TSFMAs are overlapping – there are 179 in all – and forestry companies operating on the same forest management unit must coordinate planning and operations.

TABLE 1

ATTRIBUTES OF BOREAL FOREST ADMINISTRATION IN QUEBEC AND ONTARIO

	QUEBEC	ONTARIO
Boreal Forest as per cent of total forest area	**73 per cent**	**65 per cent**
Administrative agency responsible for forest management	**Ministry of Natural Resources and Wildlife**	**Ministry of Northern Development, Mines and Forestry and Ministry of Natural Resources**
Main forest legislation	**Forest Act** (to be replaced by the Sustainable Forest Development Act)	**Crown Forest Sustainability Act**
Major licence	**Timber Supply and Forest Management Agreement** (to be replaced in 2013 by system of permits for a guaranteed supply)	**Sustainable Forest Licence**
Number of major licences in the province	**179 (overlapping) on 74 forest management units**	**46**

Source: Websites of Ontario and Quebec natural resource ministries.

The Forest Act underwent significant amendments in 2001, including new measures for ecological protection and public consultation. The government also recently adopted Bill 57, which introduces a new forestry regime to be phased in by 2013 under the Sustainable Forest Development Act (*Loi sur l'aménagement durable du territoire forestier*).[xii] The details of these changes are described later in this report.

GROWTH OF PUBLIC ENGAGEMENT ON FORESTS AND GOVERNMENT RESPONSE

While public concern and mobilization has always existed around forest issues in Quebec and Ontario, the debate has broadened and intensified in recent decades. First Nations, as well as stakeholders such as recreational forest users, ecotourism operators, companies, cottagers and environmental organizations, have brought an increasingly wide range of issues to the table, forcing provincial ministries to respond to diverse and sometimes competing sets of concerns. Issues have ranged from First Nations decision-making over traditional territory, including land-use planning and allocation of benefits from industrial activities; to stakeholder concerns around allocation of public forests, including lack of access for small companies and communities; and the environment, such as the effects of forestry operations on wildlife populations and the climate.

Ontario

In Ontario, public debate around management of Crown land ignited in the late 1990s in the provincial government process called "Lands for Life." The process was designed to complete Ontario's system of parks and protected areas while securing land allocations for logging, mining and tourism. It resulted in a marked increase in protected areas, but the number of large protected areas was inadequate and the network was never completed.

The 2007 *Endangered Species Act* (ESA) was also a touchstone for forest policy debate in Ontario. It instituted important changes, including mandatory recovery strategies and habitat conservation for endangered and threatened species. However, it gives government broad powers to exempt activities such as logging from the Act (timber harvesting was exempted for one year as soon as the ESA was passed)[xiii] and has been criticized for implementation delays, for example on habitat regulation for woodland caribou. In a report on the Act, the Environmental Commissioner of Ontario determined that it "still contains critical weaknesses that may jeopardize the recovery of species at risk and their habitat."[xiv]

In 2008, the Ontario government introduced a new initiative that would see community-based land-use planning throughout the northern Boreal Forest (the area not allocated to forestry companies) and half of this area set aside for protection. However, implementation of this commitment has been slow: protected areas have not yet been identified, and the implementing legislation, the *Far North Act,* has been criticized for a lack of respect for First Nations sovereignty and for allowing substantial industrial activity to take place before land-use planning has been completed.[xv] Before the Act was passed in September 2010, the government announced plans to ramp up mining in the Far North and allowed thousands of new mining claims to be staked that will be "grandfathered in," potentially compromising future protected areas.[xvi]

In 2009, the Ontario government undertook a reform of the forest tenure system–the system of licensing and allocation–to make it "responsive to changing economic and business needs."[xvii] The Ministry of Northern Development, Mines and Forestry oversaw a series of public consultations and released a proposal in May 2010[xviii] that calls for new local forest management corporations to replace existing SFLs, a more competitive market to allow for increased access to wood supply, and a new revenue model. Unfortunately, while there are some interesting aspects to the new proposal, it focuses only on harvesting and moving wood, ignoring other uses of the forest, including value-added production.

Quebec

In Quebec, there is a long history of grassroots mobilization around forestry issues, including by First Nations, a large network of forestry cooperative and joint management organizations, recreational organizations (called ZECs), active regional governments, and environmental organizations. The long-standing grassroots support for decentralization of Crown land management to the community level has resulted in some modest initiatives, including the creation of a small-scale tenure (the Forest Management Contract) designed for community organizations. Although operating on a very small scale, these give greater authority to community organizations to make decisions and capture economic returns from local forests.[xix]

The release of Richard Desjardin's film "L'Erreur boréale" in the late 1990s, which was strongly critical of industry practice and government oversight in the Boreal Forest, ignited a broader wave of public mobilization around forests.[xx] The period since has been characterized by an erosion of public confidence around forest policy – expressed in myriad public consultations – and the emergence of a stronger environmental movement.

This politically-charged climate has prompted reforms of lasting importance. In 2003, the independent "Commission Coulombe" was charged with examining management of Crown lands and providing recommendations to align forest policy with sustainable development and public concerns. The government made several reforms in response to the commission's recommendations, including establishing a Chief Forester to oversee forest inventory and timber allocation, reducing the amount of timber that could be harvested annually, and renewing its target of protecting eight per cent of land. The same year, the government also introduced a series of objectives (Objectifs de protection et de mise en valeur des ressources du milieu forestier), designed to advance progress towards sustainable forest management on the ground.

In 2008, the Quebec government launched major forest management reforms with the release of the "Green Book", which set out a series of "modernization" proposals. After a number of consultations and iterations, the new law, "Loi sur l'aménagement durable du territoire forestier," was passed in March 2010. The law marks an important shift in governance. Timber Supply Forest Management Agreements will be replaced with a system of permits and supply guarantees. Responsibility for planning on forest management units will be transferred from companies to the Ministry of Natural Resources (MRNF). The existing set of regulations will be replaced with a new ecosystem management approach called the "Normes d'aménagement durable des forêts" (sustainable forest management regulations). A new agency under the MRNF, the "Bureau de mise en marché des bois" (office of wood marketing) is charged with evaluating the market value of wood harvested on Crown land and selling it on the open market.[xxi] However, while there was widespread agreement on the need for reform, some First Nations have criticized the bill for lack of respect for treaty rights,[xxii] while environmental organizations have expressed concern over the absence of conservation measures (for example, ensuring the reservation of intact forests within calculations of the annual allowable cut) and the adoption of intensive forest management.[xxiii]

Lastly, much like the Ontario government, Quebec announced plans in 2009 to protect 50 per cent of the northern Boreal Forest from industrial activity while accelerating forestry, mining and hydro-power development in the remainder, and to work with northern communities on decision-making.[xxiv] However, the "Plan Nord" has been criticized by some First Nations as compromising Indigenous sovereignty over traditional lands and on environmental grounds for hastening the expansion of industrial activity into northern Quebec without adequate conservation planning.

FIRST NATIONS AND THE BOREAL FOREST

Relations between First Nations and the forestry industry in the Boreal have historically been marked by exclusion. First Nations have had to contend with forestry operations on their traditional territories, while usually having little interaction and no decision-making power with forestry companies, and receiving few benefits from these activities. Provincial governments, including Ontario and Quebec, have allocated

traditional First Nations territories for logging with minimal regard for Aboriginal Rights and Title, protected under Section 35 of the Canadian constitution. Many First Nations have made efforts to regain control over the use of their traditional territories, reassert their rights as decision-makers over the land, and/or acquire greater economic benefits from industrial activity in their territories. Communities have employed a variety of mechanisms at different levels, including legal action, road blockades, and political negotiation. First Nations have also increased their influence through strong treaty organizations and coalitions at regional and national levels, such as the Assembly of First Nations of Quebec and Labrador, the Nishnabe Aski Nation, the Grand Council of the Crees, and the Assembly of First Nations.

These efforts have resulted in some important changes. Courts have held that provincial and federal governments have a duty of consultation and accommodation with First Nations on resource use and management and that they must provide financial support to some communities for consultation and capacity-building.[xxv] Some Nations have compelled forestry companies to suspend operations in parts

THE CANADIAN BOREAL FOREST AGREEMENT (CBFA)

The need for an innovative transformation in the forestry sector was reflected in the signing of the Canadian Boreal Forest Agreement in May 2010, between the Forest Products Association of Canada (FPAC), its 21 member forest products companies, including major logging companies across the country, and nine leading environmental organizations, including Greenpeace. The Agreement covers more than 72 million hectares of public forest licensed to FPAC member companies. Its goal is to enhance the protection and sustainable management of the Boreal Forest while building a more competitive forest industry.

SPECIFICALLY, THE CBFA COMMITS THE PARTIES TO:

a) jointly advocate and work with governments to establish a network of permanent protected areas in the Boreal Forest;

b) develop and accelerate implementation of plans to protect species at risk in the Boreal Forest (with woodland caribou being an initial priority);

c) implement world-leading forest management practices, based on the Forest Stewardship Council National Boreal Standard, that reflect the principles of ecosystem-based management;

d) reduce greenhouse gas emissions from forestry operations and manufacturing;

e) take action to improve the prosperity of the Canadian forest sector and forest communities; and

f) achieve recognition in the marketplace for the environmental performance of participating companies as the ecological steps of the CBFA are implemented.

In the short term, the focus of the CBFA includes the interim protection of woodland caribou habitat (including the suspension of harvesting in nearly all Boreal caribou habitat within FPAC company tenures, almost 29 million hectares). Participating environmental organizations have also agreed to suspend their "do not buy" campaigns targeting the forest companies that are signatories to the CBFA. Although no permanent change on the ground has yet occurred, the CBFA, according to the signatories, is a roadmap for lasting and beneficial change for the forest and the forestry industry. The negotiation of the CBFA reflects the impact that changing markets are having on the forest industry. A large and increasing number of major companies, such as Kimberly-Clark, Rona, Office Depot, Indigo Books and others, have prioritized procurement of forest products that are environmentally responsible, and this shift in demand is changing how traditional forestry companies need to do business. The growth in green markets and the opportunities it presents for building a green economy are discussed throughout this report.

of their territory. Job programs and small tenure opportunities have been created in some provinces. More First Nations have become substantially involved in the forest industry through developing businesses or establishing mills. The proportion of First Nations people in the forestry workforce has also increased, although the majority of these workers remain in low-skilled, part-time or seasonal positions.

However, these changes fall far short of the objective of First Nations to regain control over the use of their traditional territories.[xxvi] Other major concerns are also still outstanding, including the impact of forestry on traditional activities (degradation of traplines – traditional areas for hunting and trapping – water and air pollution, declining wildlife), the lack of meaningful decision-making or consultation and accommodation, and the lack of quality employment opportunities.[xxvii]

MOUNTING ECOLOGICAL CONCERNS

A THREATENED ECOSYSTEM

Canada's Boreal Forest is home to woodland caribou and wolverine, both threatened with extinction, and some of the world's largest populations of bears and wolves. It contains more wetland than any other ecosystem in the world, and is a breeding ground for over 12 million waterfowl as well as hundreds of millions of land birds.[xxviii] The wetlands, peatlands and aquatic ecosystems of the Boreal Forest filter millions of litres of water each day. In addition, the Boreal Forest is a crucial storehouse for carbon, holding more than 208 billion tonnes[xxix] – the equivalent of at least 26 years worth of carbon emissions from fossil fuel burning.[xxx]

However, forest harvesting and other industrial activities are taking a toll on the Boreal Forest. In Ontario and Quebec, harvest rates increased dramatically between 1970 and 2000 – then dropped due to economic factors – and the northern limit of logging has crept steadily northward into more fragile and slow-growing forests as southern areas have been degraded. It is estimated that 80 per cent of the timber harvested in Ontario and 60 per cent in Quebec comes from the Boreal Forest, particularly the southern Boreal below the 51st parallel.[xxxi]

TABLE 2

HARVESTING RATES ON CROWN FORESTS OF ONTARIO AND QUEBEC

	1970 ('000 M^3)	1980	1990	2000	2008
Quebec	**28 897**	**31 686**	**30 148**	**43 484**	**23 621**
Ontario	**16 795**	**21 322**	**25 420**	**28 118**	**16 197** (2007)

Source: National Forestry Database, 2009.

The acceleration of harvesting has resulted in increasing fragmentation and degradation of the Boreal Forest and a corresponding loss of intact forests, which are essential in order to maintain the forests' ecological functions.[xxxii] Global Forest Watch Canada found that over a 12-year period (1989 to 2001) nearly one million hectares of forest in Quebec and 500,000 hectares of forest in Ontario were fragmented due to natural resource extraction. The fragmentation was concentrated in the southern Boreal Forest, where approximately 17 per cent of large intact Boreal Forest remains.[xxxiii]

Large clearcuts and road networks lead to a loss of critical habitat for the many interior forest species that rely on intact, undisturbed forests for survival. There are currently many Boreal species listed as endangered or threatened, such as the wolverine, the woodland caribou, the Newfoundland marten, and numerous bird species.[xxxiv] The road network for logging can also create barriers to movement for

species, increase predator access, and lead to soil erosion and sedimentation of streams and waterways, degrading aquatic ecosystems already affected by forestry operations. Logging roads can also create new access for other industrial and recreational activities, exacerbating and prolonging negative impacts.

Boreal woodland caribou are a species of particular concern, as they are extremely vulnerable to industrial pressures from logging, mining and oil and gas exploration. They are considered to be an umbrella species that indicates the overall health of the forest, and unfortunately, they are in steady decline. They were listed federally as threatened with extinction in 2000, and their status was reviewed and confirmed in 2002.[xxxv] Across the Canadian Boreal Forest, more than half of woodland caribou range has been lost in the last century.[xxxvi] The CPAWS-Wildlands League carried out an assessment of nine Boreal woodland caribou population ranges in Ontario, using a methodology developed by leading caribou scientists for a recent Environment Canada study, and found that seven of the nine populations examined were likely no longer self-sustaining.[xxxvii] Yet governments have not taken swift action on caribou. In Ontario, important steps towards caribou habitat conservation and recovery over the last decade have been consistently delayed. In Quebec, some northern areas have been designated for protection, but the caribou recovery strategy (2005-2012) that was finally released in 2008 includes no plans for large protected areas in the commercial forest zone.[xxxviii]

Logging activities also impact climate change. Boreal Forests store more terrestrial carbon than any other forest biome, nearly twice as much per hectare as tropical forests.[xxxix] Organic carbon is stored in both surface vegetation and below-ground biomass (soils, permafrost, wetlands, and peatlands), and when these are disturbed through logging and other industrial activity, carbon is released into the atmosphere. Deforestation and forest degradation are considered to be the primary drivers of carbon emissions from forests. Protecting large parts of the Boreal Forest thus plays the dual role of helping to slow climate change by preserving stores of carbon while buffering existing flora and fauna from the impacts of climate change.[xl]

A TROUBLING SITUATION FOR THE FOREST INDUSTRY

Forestry-Dependent Economies

The economies of the Boreal regions of Ontario and Quebec – and of the provinces themselves – have strong historical ties to the forest industry, beginning with softwood harvests for European and American markets in the 19th century, then the establishment of small sawmills at the turn of the 20th century, and eventually the emergence of the pulp and paper industry. A series of large pulp and paper mills was built after World War II, as the forest industry expanded and vast new forest areas were opened up for logging. These are still the primary timber processing facilities used in the Boreal Forest. Today, the forest industry contributes around two per cent of Canada's Gross Domestic Product (GDP). Exports in 2008 equaled $30 billion (a drop of 10 per cent from the previous year), with wood pulp and softwood lumber leading the way, followed by newsprint and other paper products.[xli]

The Boreal Forest industry has a long tradition of international ownership, which in recent years has been coupled with unprecedented levels of corporate consolidation. A major contributing factor has been the integration of pulp and paper companies with sawmilling industries in order to capitalize on sawmill residual materials such as woodchips and sawdust for the manufacture of pulp. Research conducted in 2003 revealed the extent of corporate concentration on Canada's Crown lands. In Ontario, more than half the annual allowable cut (AAC) – the maximum harvest for the year – was allocated to just five companies (Abitibi-Consolidated,[xlii] Domtar,[xliii] Bowater, Weyerhaeuser and Tembec) while in Quebec the top five companies (Abitibi-Consolidated, Domtar, Bowater, Louisiana-Pacific and Kruger) controlled around 35 per cent of the AAC.[xliv] Since this study, there have been mergers, sell-offs, and changes to AAC percentages, but the trend of concentration of resources among a handful of companies remains the same.

These major companies focus mainly on primary wood processing (sawmilling and pulping), which skews the industries in both Ontario and Quebec and reduces attention on and investment in value-added processing. Figure 1 illustrates the gap between employment in value-added industries in Ontario and Quebec versus, for example, Germany or the American Great Lakes region.

Crisis for Industry, Communities, and Provinces

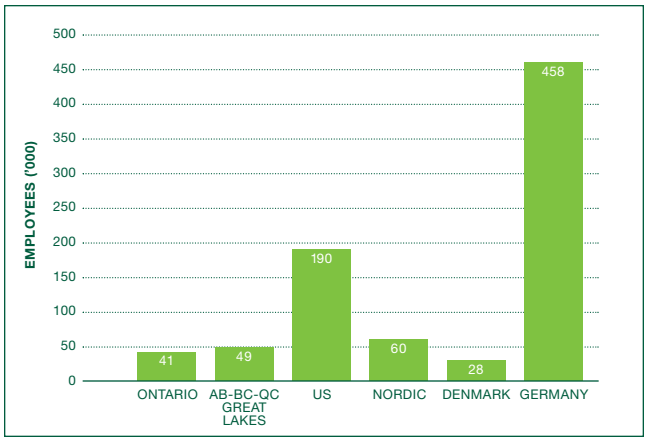
The forestry industry has been a major employer in the Boreal regions of Ontario and Quebec. In Quebec, as of 2004, the forestry sector employed more than 44,000 people–16 per cent in the logging industry, 48 per cent in the wood industry and 36 per cent in the pulp and paper industry. In Ontario the same year, the number was almost 50,000 people–10 per cent in the logging industry, 40 per cent in the wood industry and 50 per cent in pulp and paper.[xlv] As can be seen in Figure 2, direct employment in the forest industries of Ontario and Quebec (Boreal and other forest regions) remained relatively stable from 1990 to 2000.

However, employment in both the pulp and paper sector and logging sector has sharply declined in the present decade. In Ontario, the forest industry lost 27,500 jobs between 2000 and 2009, or over 30 per cent. In Quebec, the industry lost 30,000 jobs, or 27 per cent, in the same period. Employment in the forestry industry is at its lowest level in 20 years.[xlvi] Many communities have been hit by mill closures, which have affected both local and provincial economies. Between 2003 and 2009, Ontario saw 51 permanent or indefinite mill closures and 40 curtailments, while Quebec saw 88 closures and 38 curtailments.[xlvii] The interdependence of sawmills and pulp and paper mills (more than half of sawmill production is wood chips for the pulp industry) has intensified the economic impacts: once a sawmill is closed, a pulp mill is likely to follow.

Mill closures and the general slowdown of the forestry industry have reduced harvesting rates, which has in turn had significant implications for stumpage payments and rent for provincial governments. In 2007, the Quebec government collected a total of $2 million in stumpage payments from Crown land, compared with $146 million in 2000 and $77 million in 1990. In Ontario, the government collected $51 million in 2007 compared with $67 million in 1990.[xlviii] Outstanding stumpage payments have also been known to go unpaid by companies that have filed for bankruptcy. For example, Buchanan Forest Products, once one of the largest employers in northwestern Ontario, went into receivership in 2009

FIGURE 1

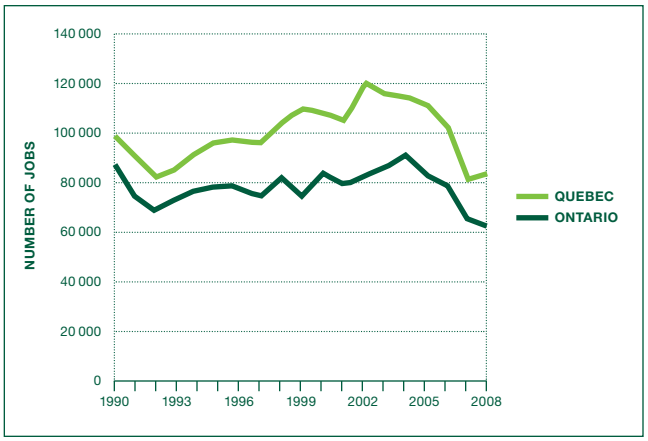
EMPLOYEES IN VALUE-ADDED WOOD PRODUCTS, 2001



Source: Jaakko Poyry Consulting, 2001

FIGURE 2

DIRECT FOREST INDUSTRY JOBS IN ONTARIO AND QUEBEC, 1990-2008



Source: Natural Resources Canada, http://canadaforests.nrcan.gc.ca/statsprofile

owing a total of $26 million in stumpage fees.[xlix] In this context, provincial governments have opted to offer stumpage fee refunds and reductions. The gap between government forestry sector expenses and revenues has ballooned: Quebec, for example, has had deficits of $23 million in 2005-2006, $30 million in 2006-2007 and $48 million in 2007-2008.[l]

The economic crisis has prompted the governments of Quebec and Ontario to come forward with a series of programs and packages intended to assist forestry companies and forest-dependent communities. Between 2005 and 2009, the Ontario government made approximately $1 billion available to the forestry sector in loan guarantees, programs in energy co-generation, value-added manufacturing, road maintenance and construction, electricity rebates for pulp and paper mills, and stumpage fee refunds.[li] In Quebec, the government created the $55 million Forest Sector Support Program for older workers, and made $45 million available to communities for economic diversification, $197 million for forest management activities such as road-building, and re-planting, and $425 million for modernization projects.[lii] However, government programs and incentives in both provinces have been piecemeal and have not reversed the tide of economic hardship for either forestry companies, forest-based communities, or individual forestry workers.

Factors behind the Economic Crisis

A number of factors converged in the last decade to create a particularly severe climate for the forestry industry in Ontario and Quebec. These include increased competition from international producers, reduced demand due to the economic downturn in the United States and rising energy costs *(see Table 3 for more detail)*.

However, in addition to recent changes that have impacted the industry, the current decline is influenced by longer-term, systemic challenges. Among these are unsustainable forestry practices that have reduced the existing timber supply, technical changes that have reduced labour demand, and regulatory challenges specific to Ontario and Quebec.

TABLE 3

THE "PERFECT STORM" FOR THE FOREST INDUSTRY: FACTORS CONTRIBUTING TO THE CURRENT ECONOMIC CRISIS

- **Increased competition from foreign producers in Latin America, Asia and the former Soviet Union. Many of these countries have warmer climates (rotation periods on Brazilian plantations are 50-80 years shorter than northern Ontario),[liii] weaker regulations and lower labour costs. Investments in new, more cost-effective facilities in Latin America have outpaced investments made in North America.**
- **The stagnant housing market and home-building industry and declining newspaper industry in the United States. Seventy-five per cent of Canada's forest exports are destined for the United States.[liv]**
- **The softwood lumber dispute with the United States, which has resulted in penalties and restrictions for Canadian producers. The current agreement provides temporary relief, but potential for export charges.**
- **The strong Canadian dollar, which has reduced Canada's competitive advantage.**
- **Rising energy costs in Ontario. Recent research shows that between 2000 and 2004 some mills experienced cost increases of 30 per cent or more as "special rates" were phased out in Ontario.[lv]**
- **Lack of a national forestry policy across Canada to cope with these challenges.**

In both Ontario and Quebec, the Boreal Forest industries are faced with waning quality and quantity of timber supply. The most productive and accessible parts of the Boreal Forest have already been cut, forcing companies to rely on younger second-growth forests or to travel further north (at greater cost) to harvest less productive forests. Quebec's Coulombe Commission found that the average diameter of harvested conifers went from 19 cm to 16 cm between 1977 and 2002, with a 35 per cent decline in volume per tree.[lvi]

Technical advances in both harvesting and management have reduced the labour needs of the industry. Quebec is a telling example: between 1980 and 2000 the rate of harvesting increased by 35 per cent, peaking at 44 million cubic metres in 2000, but the forest industry experienced no real increase in employment.[lvii]

Lastly, forestry companies face costs associated with the regulatory environment in Ontario and Quebec. Labour and operating costs are, on average, higher than in many countries, and are rising as a result of new regulations related to environmental protection, monitoring, and integration of Aboriginal values.[lviii] Institutional inefficiencies, such as a tenure system that restricts the flow and utilization of timber, and ill-adapted regulations have also been found to reduce the competitiveness of forestry companies operating in Canada.[lix] The widespread increase in third-party forest certification has also meant additional costs for industry.

Economic Strength of Non-Timber Forest Industries

Interestingly, while the conventional forestry industry has experienced decline, non-timber sectors of the forest economy in the Boreal Forest have flourished. This sector encompasses a wide variety of activities including forest-based services (hunting, fishing, hiking, etc.) and the harvest of non-timber forest products (NTFPs).

NTFPs are primarily botanical products such as berries, wild mushrooms, floral products, essential oils and medicinal plants. Although reliable data are scarce, Figure 3 shows the estimated value of some of the main non-timber forest products harvested in Canada. Several industries have experienced growth in recent years; for example, the value of wild blueberry production in Quebec nearly doubled between 2001 and 2008.[lx]

The non-timber forest products sector is relatively undeveloped and unsupported in Canada, particularly when compared with the extent of financial assistance to the forestry industry. Beyond general permits, NTFPs have not been subject to regulations and there is much to be learned about their distribution, economic importance and best management practices. However, they appear to have considerable untapped potential. The Canadian Forest Service estimates the potential economic contribution of forest-based foods in Canada to be between $2 and $7 billion per year.[lxi] The non-timber forest products industry also has especially high potential to contribute to social and economic equality, because it requires low levels of capital investment and is accessible to a wide cross-section of society, including First Nations.[lxii]

Non-timber services such as fishing, hiking, hunting, and tourism are another major source of employment in the Boreal Forest, and also have potential to grow. Research by Patriquin et al. revealed that in 2001 employment in fishing and trapping in the Boreal regions of Canada rivaled that in the lumber sector, and equaled nearly half the jobs created by the forestry sector as a whole.[lxiii] The Coulombe Commission in Quebec echoed these findings: in 2002, direct employment in the hunting, fishing, and outdoor activity sectors created 12,458 jobs in Quebec compared with 16,000 jobs in forestry (not including manufacturing activities). The traditional recreation activities of hunting and trapping have been relatively stable, or have even declined in recent decades, but activities such as ecotourism, wildlife viewing, backcountry hiking and skiing have increased.[lxiv] An in-depth study by Statistics Canada in the mid-1990s found that almost half of Canadians participated in outdoor activities in natural areas of Canada, and one in five participated in wildlife viewing. Canadians reported spending

$11 billion on nature-related activities within the country in 1996.[lxv] The large cottage populations in both Ontario and Quebec also bring significant revenue into rural regions. In Quebec for example, there are an estimated 169,000 cottages in or near forests.[lxvi]

Finally, the Boreal Forest continues to contribute invaluable environmental services and recreation opportunities. Carbon storage, flood control and water filtration by wetlands, pest control by birds, outdoor recreation, and many other functions of the Boreal Forest are immeasurable in terms of their contribution to the quality of life of Canadians and indeed the health of the planet as a whole. Yet they rarely figure in economic accounting and do not appear in measures of economic progress such as gross domestic product (GDP). Anielski and Wilson attempted the difficult task of estimating the value in 2002 of the "natural capital" in Canada's Boreal Forest and found it to be $93.2 billion, or equivalent to eight per cent of Canada's GDP for that year.[lxvii] Figure 4 breaks down their analysis. A forthcoming study by Sustainable Prosperity shows that northern boreal ecosystem services are 14 times more valuable than all oil, mineral and timber extraction resources combined. *[Sustainable Prosperity, "Advancing the Economics of Ecosystems and Biodiversity in Canada"].*

An Uncertain Future for Forest-Dependent Communities

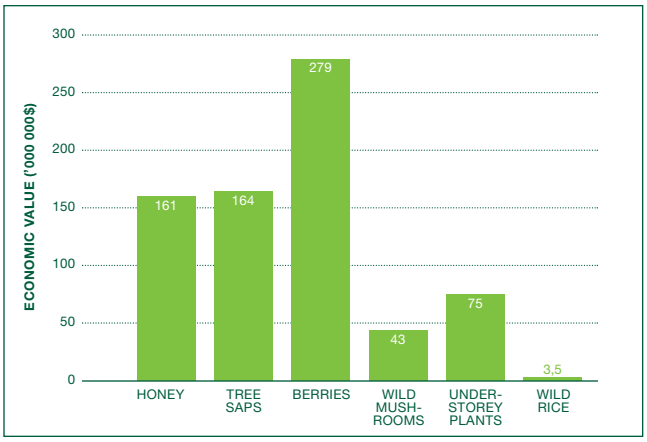
There are more than one hundred forestry-dependent communities throughout the Boreal Forests of Ontario and Quebec, and many of them are considered single-industry towns. Numerous communities grew up around the forest industry, or were designed and built by forestry companies themselves, often of American origin. Towns such as Keewatin, Terrace Bay and Iroquois Falls, Ontario or Baie-Comeau, Quebec were 'planned communities,' built as town sites by large forestry companies in the early to mid-20th century.

For decades, these communities had a certain measure of prosperity. Mill workers were subject to cyclical periods of instability, but received some of the best wages in the Boreal region and were often unionized. For several generations, sons could rely on following their fathers into the mill, often without completing high school.

Little economic diversification took place in these communities and entrepreneurs did not flourish, in part from lack of need, but also due to the tight control wielded by forestry companies.[lxviii] The companies were an imposing presence, providing not only the lion's share of jobs and municipal tax revenue in

FIGURE 3

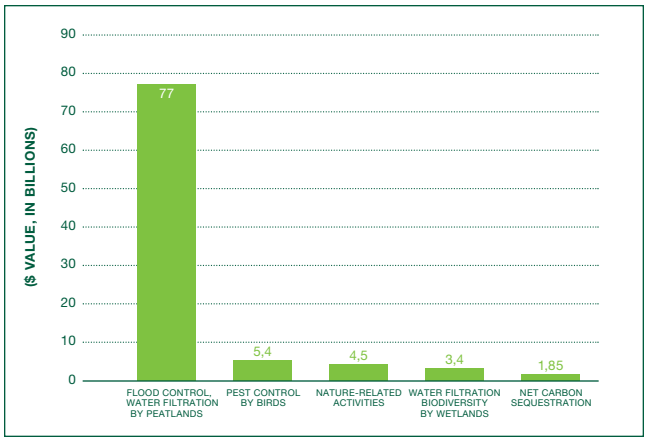
ECONOMIC VALUE OF SELECT NON-TIMBER FOREST PRODUCTS IN CANADA



Source: Wetzel et al., 2006.

FIGURE 4

NON-MARKET VALUE OF SELECT BOREAL ECOSYSTEM SERVICES FOR CANADA IN 2002



Source: Anielski and Wilson, 2005.

these towns, but many community services as well. Beyond the core group of mill employees, many others–women, woods workers, First Nations people–had few economic options.[lxix]

Forestry companies chose a new approach with the onset of globalization in the 1970s, emphasizing mechanization, consolidation and restructuring, and reliance on a non-unionized, contract labour force.[lxx] While mill work was still fairly well paid and unions persisted in many mills, full-time jobs were increasingly replaced by "spared" positions with little job security and lower wages. Attrition became a common strategy to offset labour reductions, and contributed to social problems in communities as young people could no longer count on employment. Labour unrest became more frequent as workers struggled to maintain jobs, wages, and working conditions. Overall, forest-dependent communities in the Boreal region have been in a period of hardship and decline since the 1970s. Research shows that they have higher levels of poverty and unemployment, and lower levels of education, than rural communities in non-Boreal regions of Canada, and these differences appear to be increasing.[lxxi]

While forest communities are accustomed to a certain amount of economic instability, the current economic downturn is unprecedented in its severity. For the many small and isolated towns in the Boreal region, closure of a mill and the associated loss of jobs reverberates through the economy. It is estimated that every forestry job supports approximately 1.5 indirect jobs.[lxxii] Goods and services, including retail and housing, depend on the disposable incomes of forestry workers.[lxxiii]

There are few employment prospects for laid-off workers. They are forced to accept lower-paying jobs in service industries, to rely on the limited benefits afforded by unemployment insurance or welfare, or to move elsewhere in search of a job. Additionally, forestry workers face particular challenges in transitioning to other sectors. In comparison with other industries, the forestry sector has a greater proportion of low-skilled and less-educated workers; for example, 60 per cent of forestry sector workers have only a high school education compared with 47 per cent for other industries.[lxxiv] The forestry workforce is also aging. More than 40 per cent of workers are over 45 years old, and younger generations are not choosing careers in the forestry sector, perhaps due to the perception that it is a "sunset industry," or low-tech or low-paid. This is creating a skill gap in terms of finding the right profile of workers to reinvigorate the industry.[lxxv]

Downsizing of the forest industry has led to shrinking community populations as residents, especially young people, leave their homes in search of employment. Between 2000 and 2005, the Boreal region across Canada lost 50,000 people, with the greatest decreases occurring in northern Ontario and Newfoundland.[lxxvi] In Quebec, it is estimated that most rural regions will lose between 10 per cent and 18 per cent of their population between 2001 and 2026.[lxxvii] The exception to this trend is with First Nations, whose populations are growing rapidly but who also face economic challenges and joblessness. Declining populations have many implications for communities, including the erosion of the local tax base, service reductions, and the loss of social capital as the pool of volunteers and community leaders becomes smaller. In the industry town of Iroquois Falls, Ontario, for example, local service organizations shut down as employment dwindled, due to a lack of participation by younger members of the community who were part of the "contingent" labour force and had little time or money to devote to charitable causes.[lxxviii]

The economic crisis has other social dimensions as well. Sudden unemployment and the ensuing disruption of routine have been found to lead to feelings of humiliation related to loss of independence, challenges with parenting, pressures on family relationships, and loss of the workplace social network.[lxxix] Reed, who has studied the impact of joblessness on forestry communities, writes: "the threats of job loss were more than economic; they also undermined the ideas of self-reliance, hard work and independence that composed part of the identity of forestry communities, particularly for men who worked in the industry."[lxxx]

The northern communities that have developed in tandem with the forestry industry are facing innumerable pressures. Their future is inevitably intertwined with the Boreal Forest they are surrounded by, but a new path forward is needed.

PART 2.

POLICY ACTIONS NEEDED TO BUILD A JUST GREEN ECONOMY

AS SEEN IN PART ONE, the challenges facing the forestry industry and the many communities that depend on it are clear. The traditional forestry sector is in decline, the integrity of the forest itself is under threat, and many communities have lost the basis for their local economies. This situation has been years in the making and is the result of a complex mix of factors, including a narrow, timber-dominated approach to forest management, the absence of adequate economic diversification, and insufficient measures for environmental protection. The next step is to move beyond looking at the current problems, to what ecologically sustainable, viable and stable economies would look like in forest-based communities in the Boreal regions of Ontario and Quebec, and what policy changes are needed to make them a reality. The opportunity still exists to reorient the development of the Boreal regions of Ontario and Quebec towards a greener future, while revitalizing the forestry sector.

At the heart of this new vision lies the idea that it is possible to support communities without compromising the natural environment. Some call this a conservation-based approach. Governments have an important role to play in fulfilling this vision for forests and communities, including building strategy, fostering cooperation, supporting business development, designing policy and regulations and funding research and development.

The nine recommendations that follow represent a series of concrete measures which provincial and federal governments can take towards building a green Boreal economy. It is oriented towards Ontario and Quebec, but is likely to hold relevance for other Boreal jurisdictions as well.

1. DEVELOP A NATIONAL STRATEGY FOR BUILDING A GREEN BOREAL ECONOMY

- → **create an inclusive national forum with stable government funding aimed at building and implementing a green economy in the Boreal Forest, with an initial "Green Forest Economy Summit" to develop an action plan for revitalizing a new sustainable forest industry**
- → **organize annual Green Boreal Economy Forums to set targets, report on results, build cooperation and design new initiatives**

Better coordination and cooperation between and within provinces is essential in order to implement "green reform" in the Boreal Forest. Canada faces the challenge of having twelve separate forestry regimes in place across its landbase. Forest policies have tended to operate "in a silo", not only between the provinces and territories, but also within them. For example, in Quebec responsibility for matters related to forest management, such as protected areas, Aboriginal relations, and environmental sustainability, fall under at least six different ministries. Yet forestry issues – such as invasive species, wildlife conservation, climate change and Aboriginal rights – do not conform to provincial boundaries.

There have been efforts to develop a national vision towards forest management in Canada, most notably the National Forest Strategy (NFS), a forum which extends back more than 20 years.[lxxxi] The NFS has helped build consensus around a series of evolving priorities for the forest, but it has not led to sustained and coordinated action between the many participants, from government, industry and civil society, who have signed on.[lxxxii] What is needed is a forum with federal and provincial governments, civil society, industry and First Nations that is dedicated specifically to forging and implementing a common vision for building a green economy in the Boreal Forest. It must develop a clear action plan, delegate tasks, set timelines and monitor results. It should include coordinated programs on major Boreal issues such as climate change, species at risk, and green technologies. Ontario and Quebec are ideally situated to be the drivers behind such a concerted national effort, as together they account for nearly 25 per cent of the Boreal Forest and have the largest forestry industries in the Boreal region. Funding for the forum, including annual meetings, should come from provincial and federal governments and could include contributions from industry and other actors.

2. ADOPT AN ECOSYSTEM-BASED MANAGEMENT APPROACH TO FOREST PLANNING

- **enshrine ecosystem-based management as the leading approach to forest management in provincial law and policy**
- **develop specific forestry regulations in accordance with the principles of ecosystem-based management**

Improving the future of the forestry sector relies on sustaining a healthy forest resource. The adoption of ecosystem-based management (EBM) is an important step in this direction. EBM is an approach that seeks to integrate ecological, social and economic goals, while ensuring the ecological integrity of a region. It aims to minimize variations between natural and managed landscapes in order to maintain all ecological functions. It emphasizes regional landscape and watershed-level planning, the adoption of an adaptive management approach (monitoring the impacts and progress of an approach and adjusting it over time) and collaborative decision-making.[lxxxiii] In considering environmental functions before planning human activities, EBM helps enhance the quality of the forest environment and reduce the impacts of industrial activity on all species.

Few provincial governments have adopted ecosystem-based management as a distinct practice. However, Quebec recently announced that ecosystem-based management would be a leading strategy of the new *Sustainable Forest Development Act,* to be implemented by 2013; what this commitment will look like in practice remains to be seen. The law requires the Quebec government to determine a strategy for sustainable forest management, and to produce a new set of regulations that reflect the commitment to ecosystem management and integrated resource management. Environmental organizations lobbied hard to have EBM included in the recent reform and are also pushing to ensure that the sustainable forest management strategy, the new set of regulations and the standards of the Forest Stewardship Council are coherent *(see recommendation 3, page 23)*.

The application of ecosystem-based management in the Boreal Forest of Ontario and Quebec must be substantive on the ground, not merely a verbal aspiration. It should include, but not be limited to, the following actions (some of which have already been initiated in part):

- Using independent science to determine the level of original forest that must be maintained to ensure ecological integrity over time.
- Establishing new protected areas based on recommendations by leading independent conservation biologists and other stakeholders. Protected areas should include intact forests on a scale large enough to provide contiguous habitat for large-range species such as woodland caribou, and must respect the right of First Nations to carry out traditional activities on traditional territory.
- Improving data collection in order to design ecologically-appropriate management objectives and strategies. This should include improved knowledge of the pre-industrial state of the forest, natural disturbance patterns, biodiversity and human use.
- Adopting a planning strategy that incorporates multiple spatial scales (from sub-region, to large landscape, to small landscape, watersheds and sites) and long timeframes in order to maintain ecological integrity over time.
- Determining timber harvest levels only *after* consideration of ecological constraints and economic and social needs of communities and the public (for example, access needed for non-timber forest products, recreation, tourism, and cultural activities).
- Developing a “human well-being” metric to ensure that ecosystem-based management is embedded in social and ecological considerations.
- Minimizing the impacts of industrial development through coordinated strategies (for example coordinated road building across industries and a policy of road decommissioning).

- Integrating First Nations knowledge, values and decisions into the planning process in meaningful ways and ensuring that the landscape-level needs of First Nations, for example for trapping and hunting, are respected.
- Ensuring that all interest groups are included in the planning process and that their respective values and interests towards the forest are incorporated into management plans.
- Determining restoration needs and putting in place a plan for rehabilitating ecosystems.
- Setting up monitoring programs that allow progress to be measured and strategies to be adjusted over time (implementing adaptive management).
- Investing in research and monitoring in order to better understand and plan for ecosystem adaptation to climate change.

3. SUPPORT FOREST STEWARDSHIP COUNCIL (FSC) CERTIFICATION

- **harmonize government regulations with FSC standards in order to ease the certification process for companies**
- **provide financial assistance and capacity-building for companies preparing for FSC certification**

Forest Stewardship Council (FSC) certification is a mechanism to ensure an additional level of forest management rigour and social accountability in the forest. Like other forest management certification systems (competing systems in Canada include the Canadian Standards Association and Sustainable Forest Initiative), FSC involves voluntary adherence by forestry companies to a specific standard of practice. FSC is widely considered to have the most complete program of environmental, social and economic obligations and is the only certification system supported by the majority of environmental organizations in Canada.[lxxxv] All regional FSC standards (there are four in Canada) are based on the same principles and criteria. In Canada, they have many features in common, such as prohibiting the conversion of natural forests to plantations, requirements for the protection of high conservation value forests, the establishment of protected areas and the requirement that Aboriginal rights be respected.

The FSC certification process is already well established in Canada. In Ontario and Quebec, as of fall 2010, a total of 42 certificates have been issued covering 27.6 million hectares.[lxxxvi] Environmental organizations have been instrumental in persuading forestry companies to opt for FSC certification, and have also convinced many large institutions and companies to adopt procurement policies favouring FSC-certified products. Organizations and businesses such as RONA, Kimberly-Clark, Indigo Books, Toronto Hydro, and the Government of Ontario all have such procurement policies in place. This has helped build the market share for FSC products, which, even in the current adverse economic climate, has remained strong and even grown.[lxxxvii] For example, according to Canopy, a non-profit organization that works to transform the environmental practices of the publishing sector, the number of environmental printing and writing grade papers available in North America more than doubled over a recent 18-month period.[lxxxviii]

There is a growing demand from major companies that make up a large percentage of the market share for a stable supply of paper products from non-controversial, FSC-certified sources. For example, in August 2009, the world's largest tissue product manufacturer, Kimberly-Clark, pledged that its sourcing in the Boreal Forest would only be from FSC-certified tenures by the end of 2011 and would exclude endangered and high conservation value forests.[lxxxix] When its former supplier, Buchanan Forest Products, refused to meet the fundamentals of this new policy, Kimberly-Clark ended its purchases from Ontario's Terrace Bay pulp mill and took its business elsewhere. As late as 2004, the company had been purchasing 90 per cent of the pulp produced by this mill, approximately 395,000 tonnes, which at a market price of $600 per tonne was valued at approximately $227 million US.

CASE STUDY:

ECOSYSTEM-BASED CONSERVATION PLAN IN INNU TERRITORY[lxxxiv]

The Boreal Forests of south-central Labrador (specifically District 19) have been under an ecosystem-based planning process since 2001. District 19 is a seven million hectare forest management unit that is part of the traditional territory of the Innu, known as Nitassinan. The Innu are involved in treaty negotiations under Canada's land claims process. These forests are highly valued by the Innu, amongst other things for traditional activities such as hunting, trapping and fishing. Although there had been little commercial wood harvesting in the forests since the 1970s, there is a history of protest and social unrest around forestry activities on the part of the Innu dating back to this time.

In 2001, the provincial government signed an agreement with the Innu Nation to jointly produce an ecosystem-based forest management plan for District 19. The planning process had significant stakeholder participation, including public workshops and focus groups to identify key issues and management options. Sessions were held in the Innu language in order to ensure participation by elders. Based on stakeholder input, the planning team set out to describe the ecological, cultural and economic features of the landscape at a range of spatial scales. Specific objectives were developed for the protection of cultural heritage values, landscape aesthetics, hunting and trapping, non-timber forest products, socio-economic factors and domestic forest products.

One of the first planning initiatives, facilitated by the Silva Forest Foundation, was the design of a landscape-level protected areas network that incorporated ecological and cultural areas of significance. The resulting network provides interim protection on more than 60 per cent of the landbase. On the remaining landbase, where commercial forestry is allowed, a guideline of 30 per cent canopy retention was established. Furthermore, the calculation of the annual allowable cut in these areas factored in socio-economic and cultural variables at the outset, resulting in harvest levels half those adopted under conventional planning approaches. Another notable feature of the process was the development of a series of Environmental Protection Guidelines. These guidelines are generally more stringent than provincial guidelines for Newfoundland and Labrador, and include stipulations around riparian buffers, measures for retention of tree stand structure, protection of snags and coarse woody debris, and silvicultural prescriptions designed to match successional patterns. A monitoring system with specific indicators was also established.

The governments of Ontario and Quebec have an important role to play in supporting the adoption of FSC certification in the Boreal Forest. Provincial forestry regulations are not always compatible with the FSC standards, and should either be harmonized or changed to ensure they are flexible enough to accommodate more stringent management practices. Governments should also establish assistance programs for FSC certification, which would ease the financial burden for those adopting it. As part of this, support should be prioritized for small forest tenure holders and private landowners, which rarely have the capacity on their own to become FSC certified. There are precedents for this type of support, such as the "Certification Bas-St-Laurent," a regional organization created to assist forestry companies and private landowners with the certification process, which benefited from both provincial and federal government funding. Finally, provincial governments should adopt a clear position in favour of FSC certification, including promotion of FSC-certified products internationally, in order to help distinguish the Boreal region as a global leader in sustainable forest management.

4. ENACT ECOLOGICAL FISCAL REFORM

→ **expand economic instruments that encourage companies to adopt green practices in the Boreal Forest (e.g. tax credits, conservation funding, programs for research and development)**

Ecological fiscal reforms (EFRs) are market-based tools used by government to influence business and citizens to behave in an environmentally-friendly manner. EFR has been defined as "a strategy that redirects a government's taxation and expenditure programs to create an integrated set of incentives to support the shift to sustainable development."[xc] This approach is based on the notion that companies – and governments – should be held accountable for, and internalize, the environmental costs of their activities. Measures for ecological fiscal reform can and should be used in combination with traditional charges, fees and penalties imposed for pollution, waste disposal and environmentally-harmful practices. However, EFR tools have the benefit that they encourage a shift towards more sustainable practices without direct penalty or "command and control" regulations. Examples include tax rebates, permit-trading, direct spending and tax credits.

EFR is not a commonly-used policy strategy in Canada. However, there are a few recent examples, such as federal government grants for energy-efficient home renovations and the Scientific Research and Experimental Development Tax Incentive Program (SRED), which gives companies cash refunds and/or tax credits for their expenditures on research and development.[xci]

Ecological fiscal reform should be adopted by provincial and federal governments in order to encourage greener forestry sector practices in the Boreal Forest. There are many economic instruments that could be targeted at the forestry sector specifically; for example, tax deductions for companies that acquire environmentally-friendly equipment and technology (such as light-footprint harvesting methods, low-impact road-building, etc.) or tax credits to help offset the costs associated with FSC certification.[xcii] Another avenue is the creation of a green economy or conservation fund that would come directly out of stumpage payments, which would be used for the creation, development and management of new and existing protected areas and restoration of areas already impacted by logging. It could also be directed towards value-added industries and non-industrial forest-based activities like NTFPs and eco-tourism, and include support for First Nations employment in forest-based sectors.

Finally, the federal government should improve and expand access for forestry companies to the Scientific Research and Experimental Development Tax Incentive Program. This would allow them to obtain refunds and tax credits for undertaking research and development promoting sustainable forestry practices, and encourage the development of new forestry products and green technologies.

CASE STUDY:

COMMUNITY FORESTRY IN QUEBEC AND BRITISH COLUMBIA – LEADING THE WAY[xcv]

Of all Canadian provinces, British Columbia and Quebec are furthest ahead in the implementation of community forestry on Crown land. The government of British Columbia has shown political leadership in this area since the late 1990s. In 1998, following many years of public pressure, the government created a distinct tenure called the Community Forest Agreement licence. Local governments, First Nations and community organizations are eligible for the tenure, which provides rights to timber and non-timber forest products, on a probationary (five-year) and then long-term basis. In 2004, the government shifted to an invitation-only basis for selecting new community forests. Thus far, nine long-term Community Forest Agreements (CFAs) and 25 probationary CFAs have been issued, as well as 18 invitations to apply. The total area allocated to community forests (potential and actual) is almost one million hectares (with a total volume of 1,400,000 cubic metres).[xcvi]

The types of community forests are diverse, including some with a strong ecological orientation and others that prioritize commercial harvest for community revenue generation. Despite a difficult economic context, the community forests have shown favourable results. Community forestry actors in BC have formed a provincial association, called the British Columbia Community Forest Association, which is active in capacity-building, outreach and lobbying for government reform.[xcvii]

In Quebec, there is strong grassroots support for community forestry amongst rural communities, but commitments on the part of government have been less consistent. In the mid-1990s, the Quebec government formed a series of 14 "inhabited forest" pilot projects. The projects varied, but most lacked clear tenure rights to the landbase and therefore had limited revenue-generating potential. Government did not renew support for these projects, and many fell by the wayside.

In the early 2000s, the government created a new mechanism for community-based forest management, called the Forest Management Contract. These are similar to standard industrial tenures but are attributed to community bodies (local governments, First Nations organizations, non-profits, etc.) and do not require the licencee to possess a mill. Around the same time, the government transferred responsibility for intra-municipal lands (scattered parcels of Crown land within municipal boundaries) to some regional municipalities, known as MRCs.

A large number of community forests were created in this period, which, while operating on a small scale (the average size was around 10,000 hectares), represent examples of community management. They have generated benefits for communities in terms of jobs, revenues injected into municipal infrastructure, and new forest activities.

The Quebec government is now poised to introduce a new concept, called the local forest (forêt de proximité), which appears in the new Sustainable Forest Development Act. While the details have yet to be worked out, it appears that this initiative will either allow community organizations to retain existing tenures on Crown land or increase their access to nearby forests.

5. REFORM FORESTRY TENURE SYSTEMS

- → **allocate a greater portion of the timber supply to community-based initiatives, including those of First Nations, and support capacity-building in the early stages**
- → **award tenure and timber supply to forestry companies and/or organizations demonstrating strong environmental performance and value-added processing**

Tenure (licensing and allocation) arrangements are one of the primary ways government influences the behaviour of forestry companies operating on Crown land. Ontario and Quebec have so far relied mainly on allocating major tenures, designed specifically for large-scale and highly mechanized forestry operations on a vast landbase. The eligibility requirements for these tenures – in particular the obligation for applicants to possess a timber processing facility – has had the effect of concentrating tenures in the hands of a few large, integrated forestry companies. This structure, and associated regulations, has perpetuated a timber-dominated approach to forest management, with little diversity of either actors or forestry activities

Tenure reform must be a cornerstone of a green transition in the Boreal economy. A greater range of tenures needs to be instituted in order to encourage the entry of new players and the adoption of more environmentally and socially responsible practices. This should include tenures for communities, both First Nations and non-First Nations. Communities tend to have a vested interest in the long-term health of the forests surrounding them, and are well-placed to use a diverse range of activities to maximize economic benefits from the forest. Governments should consider including such things as non-timber forest products and carbon in community tenures, in order to support this economic diversification. It is important that community tenures be designed specifically for communities; historically, community tenures have required communities to abide by the same conditions and regulations as major tenures, resulting in a heavy financial and regulatory burden. Governments will also need to offer capacity-building support for new First Nations and community tenures.

As noted in Part One, Ontario's Ministry of Northern Development, Mining and Forestry recently released its draft proposal for reforming Ontario's tenure and pricing system. The proposal calls for a new model that ends stumpage fees and forest licences as they currently exist and replaces them with large "Local Forest Management Corporations" that will aim to generate revenue, re-investment and profit-sharing with the province. In theory, these LFMCs will be more responsive to community and First Nations interests, but given their proposed size, it is unclear that this would be the case in practice. As well, the proposal ignores critical areas of consideration, like value-added industries and woodland caribou conservation.

Community forests are only part of the picture of tenure diversification. Governments should also prioritize wood allocation to businesses or communities that show strong performance and innovation in the area of environmental sustainability and value-added processing. In the report "Public Forests, Public Returns: A Way Forward for Ontario,"[xciii] Parfitt recommends that the government of Ontario take back and reallocate 10 per cent of timber volumes and make this accessible to timber companies (including the existing licencee) that have forged a partnership with an Ontario secondary wood product manufacturer. The same type of reallocation could be made for companies meeting high environmental standards or applying green technologies, whether in their operations or processing. This would involve decoupling harvesting rights from processing facilities, as is taking place in Quebec and proposed in Ontario under the current tenure reform, in order to allow new and innovative businesses to gain access to the timber supply.

Governments should also make it easier to transfer tenures from one licence-holder to another, in order to avoid the situation of companies holding on to their timber volume allocations despite having ceased operations. The Ontario government has taken tentative steps in this direction by offering up unused wood supply (11 million cubic metres) to businesses interested in developing alternative uses and value-added opportunities;[xciv] however, a number of these may take the form of poorly regulated biomass projects *(see recommendation 8, page 31)*.

CASE STUDY:

COLLABORATIVE GOVERNANCE IN THE GREAT BEAR RAINFOREST[cii]

The Great Bear Rainforest is a large area of coastal forest in British Columbia stretching from Bute Inlet to the Alaska border. It makes up one quarter of the world's remaining coastal temperate rainforest, encompassing 74,000 square kilometres, including Haida Gwaii. It is home to more than a dozen First Nations, many living in small, isolated communities. The area has tremendous natural beauty and ecological significance. However, the region has also been plagued by controversy and social conflict, because of concerns over the absence of sustainable jobs for local communities and the loss of old-growth forest due to unsustainable forestry practices.

Greenpeace launched international campaigns about the loss of this ancient forest and took its concerns directly to the marketplace, enlisting the support of many businesses, some of which cancelled contracts with forestry companies operating in the region. This prompted major companies to agree to a logging moratorium in more than 100 key pristine valleys, which provided the space for discussions between the divergent parties. The discussions led to the formation of a common structure called the Joint Solutions Project, which became a forum for dialogue between environmental organizations and logging companies to develop long-term, durable solutions.

In 2001, environmentalists, First Nations, the B.C. government and major logging companies agreed on a framework to deal with the land-use conflict. It involved the adoption of an ecosystem-based management approach (EBM) to managing the land base that would ensure a healthy rainforest for future generations. The approach would be created by an independent science team and include a large network of protected areas, a commitment to building a more sustainable and diverse economy, and a new relationship between the B.C. government and First Nations that recognized First Nations as governors and decision-makers over their traditional territories.

After years of collaboration with the logging industry, labour unions, local communities, governments, and businesses that included land-use planning, traditional knowledge collection, conservation area design, socio-economic analysis, and pilot projects that fed into negotiations between First Nations and the B.C. government, the Great Bear Rainforest Agreement was reached in 2006. It designated one-third of the land base (2.1 million hectares) as protected from logging, more restrictive logging regulations elsewhere, a commitment to preserve 70 per cent of the natural levels of old growth forest from logging by 2014 and $120 million for sustainable economic development and conservation management by First Nations.

This agreement has been called a "greenprint" for successful forest conservation: a living model of solutions to land-use conflict through collaboration. It follows through on many of the initial components of the framework (EBM, financing for community economic development, and plans to implement shared decision-making between the government of British Columbia and First Nations) and has been heralded for its integration of conservation and community well-being goals. However, the final success of the Agreement will only be realized with the achievement on the ground of its goals of ecological integrity and improved community well-being, which all parties have agreed to reach by 2014.

6. INSTITUTE NEW COLLABORATIVE GOVERNANCE ARRANGEMENTS ON PUBLIC LAND

- → **increase use of collaborative processes for resource management**
- → **increase co-management arrangements and collaborative land-use planning processes with First Nations**

In Canada, decision-making about forest management and use has been dominated by provincial and federal governments and industry with limited input from First Nations or the public. Consultation processes with First Nations offer a forum for First Nations feedback on proposed management plans, but make no pretense of dealing with First Nations on a government-to-government basis. There is little or no room to incorporate First Nations decision-making over traditional lands or make major adjustments to operations based on First Nations planning or priorities.

The mechanisms for stakeholder engagement, such as public review of management plans and creation of citizen advisory groups, have increased in recent decades after pressure from civil society. However, they do not extend any real power to influence broad management outcomes. Research by Parkins showed that citizen advisory groups are often effectively controlled by forestry companies, subject to agenda-setting and barriers to information transmission.[xcviii]

The governments of Ontario and Quebec should make greater use of collaborative resource management processes in the Boreal Forest to integrate both First Nations decision-making and the interests and concerns of stakeholders. Collaborative resource management is broadly defined as a process in which "diverse stakeholders work together to resolve a conflict or develop and advance a shared vision."[xcix] It promotes integrated involvement of diverse groups and equal decision-making. While this process often entails additional effort and expense (and does not always result in consensus), it is also known to reduce conflict, build trust and improve social learning.[c] Collaboration may not be the appropriate strategy for all public forests, but it has proved to be effective, especially in cases where there are contentious issues to be dealt with. The Great Bear Rainforest in British Columbia is a recent Canadian example *(see case study, page 28)*.

Instituting co-management arrangements with First Nations is another key to governance reform in the Boreal Forest. Co-management formalizes the process of joint decision-making between provincial and First Nations governments in traditional territories. There are examples of forest co-management with varying degrees of success in northern Canada. Although functioning examples of co-management have so far not afforded equal decision-making authority to First Nations, they have led to improvements in the integration of First Nations values in the planning process, capacity-building and measures to increase First Nations employment.[ci] The governments of Ontario and Quebec should prioritize improved implementation of co-management or similar arrangements in areas where such arrangements are sought by a First Nation or that have especially great cultural importance or value for a First Nation.

7. PROVIDE TRANSITION FUNDING FOR FOREST-DEPENDENT COMMUNITIES

- → **target funding towards 'non-traditional' green initiatives that help diversify local economies**
- → **support training in First Nations communities**

Forest-based communities need support in order to successfully diversify their economies and transition away from dependence on one or several large forestry companies. Diversification is the key to building a more stable economy in the Boreal region, and it must include both broadening the range of forest-based activities and expanding into other economic sectors. As well, since young people are moving away from employment in traditional industries such as forestry (enrollment in Canadian forestry schools, for example, has plummeted in recent years), communities need to look to new sectors that have greater youth appeal, such as technology or outdoor recreation, in order to attract and keep young people in the local population.

CASE STUDY:

VALUE ADDED – THE EXAMPLE OF CHANTIERS CHIBOUGAMAU

Chantiers Chibougamau is a private forest company operating in northern Quebec. Started in 1961 as a family-run business with a portable sawmill and five employees, the company has built itself up over 40 years and now provides around 600 jobs to people in the Chibougamau region, the majority in its value-added activities. The company diversified its processing techniques gradually, acquiring new technologies that permit it to offer a specialized range of lumber and engineered wood products. Modern digital technology allows the company to maximize wood recovery, and it has sought out markets and value-added products in various construction industries (residential and commercial I-joists, columns, glued laminate posts and beams), primarily in the United States.

The company's value-added activities allow it to hire considerably more people per cubic metre of wood than a conventional forest company (one job per 1,000 m^3 versus one job per 3,500 m^3).[cvi] There is strong regional support for the company amongst workers, the business community, elected officials and the community at large. A committee created in support of the company even organized public rallies, road blockades, and information sessions in response to political decisions likely to affect the profitability of the business.[cvii] The company also sought FSC certification on two Crown forest units under its management, awarded in 2009. The company sees FSC certification as both a sign of its commitment to sustainable practices and delivering a clear market advantage in the current difficult economy.[cvii]

Funding for communities should prioritize transition towards activities that are compatible with reducing ecological impacts, such as clean energy manufacturing, value-added processing, and non-timber forest products. This could include funding for community planning processes, such as development of strategies and feasibility studies, money for skills development and retraining, and grants and low-interest loans for new compatible businesses. Governments should target transition funding directly to communities, not to failing forestry business as has been done in the past. Funding must also include all forest-based communities and First Nations, not simply those currently reliant on the forestry industry. Some of these communities are facing among the highest unemployment rates in the country and should be prioritized for training and employment support.

8. SUPPORT GREEN INDUSTRIES

- → **support mill buy-outs by communities**
- → **provide funding for ecotourism and other sustainable initiatives based around parks and protected areas**
- → **encourage value-added industries and niche green industries through wood supply allocation**
- → **reject unregulated and unproven biomass energy projects**

The governments of Ontario and Quebec have everything to gain from supporting and promoting green businesses in the Boreal Forest. By positioning themselves as green leaders internationally, Ontario and Quebec will gain a competitive advantage in capturing new, growing markets and generate increased quality employment opportunities for Boreal residents, while sustaining the forest resource. There are several steps governments can take to achieve this.

Governments should support community initiatives to purchase wood processing facilities that have been idled because of the current economic crisis. Several communities have already launched such initiatives in order to save jobs, but have faced barriers in accessing capital and timber supply. Government can offer support by setting up low-interest loans and community tenures, especially in cases where communities are seeking to capitalize on green products and markets (such as supplying FSC-certified wood and products). There are worker-run mills in Ontario, Quebec and the rest of Canada that have generated significant profits for community shareholders.[ciii]

There are also economic opportunities to be developed around parks, protected areas and heritage areas (with the exception of protected areas created specifically to preserve ecological or cultural values). Parks generate direct employment through staffing, construction, research, and maintenance. Governments should extend their economic impact by adopting local purchasing policies for goods and services acquired for parks and protected areas, prioritizing those with a green footprint, such as green construction materials.

Parks and protected areas also create indirect jobs in tourism and service industries, like food, accommodation, transportation, and guiding. There are several trends that point to a promising future for nature-related tourism and ecotourism, such as the retirement and corresponding growth in leisure time for the baby-boomer generation and the growing popularity of sustainable tourism. A study by the Canadian Tourism Commission found that the fastest growing sector within the industry was adventure travel and ecotourism.[civ] By supporting the development of ecologically and socially appropriate activities in parks and protected areas, governments will achieve greater buy-in for the establishment of parks amongst local populations while generating additional social and economic benefits for nearby communities.

Ecological restoration also deserves financial support from government, as it helps recover landscapes that have been degraded by industrial activity and increases their value for the future, both in terms of ecological functions (water filtration, carbon capture, wildlife habitat, etc.) and aesthetics. There are precedents for this type of initiative, such as the Civilian Conservation Corps in the United States, where targeted job-creation funding helped to reforest lands, maintain parks, improve inventories and carry out research.

Building a green economy also means gaining more local economic value from every tree that is harvested. Governments should encourage the development of value-added and specialty industries in the Boreal Forest, as this will help relieve pressure on the forest by creating new employment for Boreal communities even with a reduced harvest level. Recent research has shown there is considerable growth potential in sectors such as new building materials, engineered wood products (beams, trusses, housing components), and green, specialty papers.[cv] Government can also provide incentives for companies to move to green industries that fit niche markets; for example, converting mills to produce specialty grades of packaging materials with high levels of recycled content, or Total Chlorine Free paper, which makes up a significant portion of the market in Europe, but not yet in North America. Better ways of finely sorting timber before it is processed can also maximize the value obtained from each tree. Combining local value-added processing with Forest Stewardship Council (FSC) certification provides an additional market advantage. Value-added processing should be a condition for access to some wood supply allocations. Government should also improve infrastructure and training opportunities for developing skills in value-added and wood design sectors. Existing support for value-added manufacturers, such as the Ontario Wood Promotion Program and the Forest Sector Loan Guarantee Program, and “Fonds d’aide au municipalité monindustrielles” in Quebec, should be renewed.

Finally, it should be recognized that there are opportunities within the entire life cycle of products and services created from the forest to retool in favour of more environmentally-friendly practices. There are countless examples, including ‘light footprint’ harvesting methods, low-impact road building, energy-efficient transportation, clean processing technology, and value-added manufacturing. Governments should therefore provide support to research and development in these areas and fiscal incentives for companies starting up businesses in these areas. The Quebec government has taken a step in this direction with the creation of the Program for the Demonstration of Green Technologies (a total budget of $12 million) and both Quebec and Ontario have specific programs for projects that reduce greenhouse gas emissions; however, a more sustained effort is required.

One industry misguidedly being embraced today as “green” is that of biomass production to burn for electricity. (Biomass production is defined here as the harvest of trees, and use of tree parts and residue not being used for conventional forest products). There has been little research done on the ecological effects of this activity, and many environmental organizations, including Greenpeace, are concerned about potential negative impacts. The risks include removing too much woody material from the forest, thereby reducing nutrients and adversely affecting site productivity, and reducing biodiversity, particularly within the forest floor. The carbon footprint of biomass production is also a major concern, especially when accounting for carbon released during harvest and the use of fossil fuels in harvesting, transportation and processing. Biomass production also carries potential economic risks, including reducing wood supply available for other industries, such as small-scale value-added manufacturing, and changing the way a forest’s value is assessed. The governments of Ontario and Quebec have so far embraced biomass production as an economic solution for forest-based communities, but have put in place few regulations for when, where and how biomass harvesting should take place. Many outstanding questions surrounding the sustainable implementation of this activity need to be answered before it should be applied.[cix]

9. SUPPORT RESEARCH AND DEVELOPMENT OF NON-TIMBER FOREST SECTORS AND ENVIRONMENTAL SERVICES

- → **fund research and development on sustainable harvest and cultivation of non-timber forest products (NTFPs)**
- → **provide marketing support and start-up funds for entrepreneurs in these sectors**
- → **support research on ecological services provided by the Boreal Forest and integrate their value into planning and decision-making**

There are important opportunities to be harnessed in the area of non-timber forest products and activities. These sectors have the advantage of a low environmental impact if carried out appropriately and with clear limits. They are also generally more labour intensive and less capital intensive than traditional extractive industries, making them a good fit for small communities. First Nations have a long tradition of harvesting non-timber forest products for subsistence, medicinal, cultural and economic purposes. Non-timber sectors already contribute a surprising amount to the Boreal Forest economy: hunting and fishing activities rival logging in terms of employment in the Boreal Forest[cx] and non-timber forest products and the economic output of forest-based foods is estimated to be between $700 million and $1.3 billion.[cxi] There are a number of emerging markets in this area, including passive recreation activities such as outdoor recreation, education and agro-tourism in forest environments (for example, visiting sites of blueberry or wild rice production), and the harvesting and production of wild meat (red deer, wild boar, elk, wild turkey), fish (walleye, trout, pickerel, perch), and wild mushrooms.

Governments should facilitate the development of these activities in several ways. A critical first step is for governments to redesign tenure rights around non-timber products and activities in order to give individuals or businesses harvesting rights in specific areas. This will allow entrepreneurs to build small-scale infrastructure, manage resources and charge access fees, while allowing individuals continued public access.

Government funding support for these sectors will also be essential. This would include marketing support and start-up funding or low-interest loans to entrepreneurs. Quebec has administered one such program, the “Programme de mise en valeur des resources du milieu forestier–Volet II”, allowing local organizations to benefit from funding for forest-related projects (silviculture, habitat restoration, recreation, etc.) on public or private forests. Financing should also be used to build access to new markets for non-timber forest products in Ontario and Quebec. New product development and technology will also require government investment. Lastly, support for research to improve NTFP inventories and identify sustainable harvest levels and cultivation techniques, as well as best practices in the area of recreation and tourism development, is necessary in order to ensure that non-timber sectors are compatible with conservation of the Boreal Forest.

As identified in Part One, ecological services, such as flood control and water filtration by wetlands, pest control by birds, and carbon sequestration and storage, are essential to the health of the planet, yet are rarely factored into public accounts and decision-making. Currently, there is little information available about the economic value of these services, or the costs we face when they are impaired. In order to appropriately assess their contribution and internalize the cost of their loss, governments need to invest resources in inventorying and accounting for environmental services. Municipal, provincial and federal governments should then integrate these economic values into land-use planning and decision-making. Recent research indicates that the value of ecosystem services far exceeds that of natural resource extraction, indicating a need for expansion of protected areas in the Boreal region.[cxii]

CONCLUSION

CANADA'S BOREAL REGION is gaining unprecedented attention worldwide for its roles in conserving biodiversity and mitigating the impacts of climate change. Decisive political action to preserve the rich ecological values of the Boreal Forest is essential, and as has been discussed in this report, it must be combined with strong economic strategies that will ensure the well-being of the communities living there. The fortunes of many forest-based communities in the Boreal region have for many years been closely tied to those of large forestry companies. These communities have lived through cyclical boom and bust periods, but are currently facing a period of unparalleled economic distress. Fully one-third of the forestry workforce in Ontario and Quebec has disappeared in the past decade, while for those towns that have lost their mill, the impact is felt throughout the community. There is a growing awareness amongst communities that new economic strategies that help solidify and diversify their economic base are needed. However, government programs so far have primarily been aimed at providing temporary relief to the forestry sector rather than creating an integrated strategy of economic diversification and ecological sustainability.

This report has also highlighted the considerable influence that provincial government policy has had in shaping the economy of the Boreal region. Provincial governments in Ontario and Quebec have opted to apply tenure regimes on Crown lands which clearly favour timber harvesting over other forest-related activities, and which give exceptional power to large forestry companies when it comes to both operational and management decisions. While historically, this system has had the effect of generating wealth for companies and provincial governments, it has also limited the range of benefits from the forest, has served to marginalize First Nations and stakeholders from decision-making and revenue sharing opportunities, and has taken a toll on the health of the forest. Despite the compelling evidence of the growth potential associated with non-timber forest products and activities and the tremendous contribution of ecological services such as carbon sequestration from undisturbed Boreal Forest, provincial governments in Ontario and Quebec have yet to recognize or actively promote these activities in policy or planning.

Yet, there are reasons to be optimistic. There is evidence of some appetite for change within governments, demonstrated in policy proposals such as both Ontario and Quebec's northern plans, with their unprecedented commitments to forest protection in the northern Boreal Forest, and policy discussion surrounding value-added manufacturing and forest certification. There are positive market forces, such as the current wave towards greener and ethically-sourced products, including increased demand for Forest Stewardship Council-certified products. There is also momentum amongst other actors, such as forest-based communities, small business owners, and environmental organizations, to devise new initiatives that will strengthen the many communities facing the outfall of the economic downturn in the forestry industry. This report seizes the current moment to put forward a set of policy recommendations that, together, represent a more comprehensive approach to development than has been used in the Boreal Forest until now–one which touches on all three tenets of sustainability: social, economic and ecological. The vision behind this is the idea of building a "green" or "conservation-based" economy. This will require a shift to ecosystem-based management, a holistic approach to land-use planning which prioritizes maintaining ecological integrity, but seeks to integrate other forest values as well. Strong standards verified by independent auditing through the Forest Stewardship Council certification process will ensure rigour and accountability in forest management, and will open up access to expanding green markets.

Governments should employ collaborative decision-making arrangements in land-use and forest management, and implement co-management between provincial governments and First Nations. Establishing community-based and First Nation tenures will empower communities to take charge of forest management on local lands and apply economic strategies that ensure a greater share of profits stays within the region. Increased support and training is needed for development of green businesses, whether in nature-based tourism, value-added processing, ecological restoration or others. Governments can also use ecological fiscal reform to provide incentives for businesses to adopt environmentally-friendly practices.

A new path forward is needed in the Boreal Forest, for the people and communities struggling today and the biodiversity and other ecological values that have to be protected for the future. Changing the course of Boreal development towards greater ecological and economic health is possible. Making this vision a reality will require a sustained effort from government, which has been the focus of this report, as well as mobilization and engagement on the part of all sectors of society concerned with the future of the Boreal Forest.

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