




QUÉBEC FORESTS



Rigorous and Adaptive Forest Management Main Highlights

The Forest Act places sustainable forest management in the forefront. It attempts to create a balance in the three fundamental aspects of sustainable development (social, economic and environmental) in the management of Québec's forests.



THE QUÉBEC FOREST AND ITS MANAGEMENT

- Québec forests represent 20% of all Canadian forests and 2% of the world's forests.
- The dense forest zone of Québec covers some 761,100 km² or the equivalent of the surface area of Sweden and Norway combined (551,400 km² of continuous boreal forest, 98,600 km² of mixed forest and 111,100 km² of hardwood forest). Of this area, 424,100 km² are part of the productive forest (so-called commercial forests) which is 55% of the dense forest zone.
- 90% of the forest is public. Private woodlots contribute about 20% of wood supplies to Québec factories.
- So far, nearly 170,000 km² of public and private forests are certified through a forest certification standard, which represents approximately twice the total area of New Brunswick and more than 40% of Québec's productive forest territories.
- Since the *Loi sur les forêts* (Forest Act) was enacted in 1986, the government has constantly adapted its management methods and requirements to the evolution of knowledge about Québec forests, more often than not for environmental considerations.
- In 2005, Québec enacted a major decrease in the annual allowable cut, of 20% for softwood species and 5% for hardwoods. The decrease was 25% on the territory of the Paix des Braves. This prudent move was made to insure the sustainability of wood resources in public forests. The new annual allowable cuts will come into effect April 1st, 2008.
- In Québec, the annual allowable cut is determined by the Chief Forester, under the provisions of a law which makes this function neutral and independent.
- The ministère des Ressources naturelles et de la Faune is present throughout the territory where, every year, it verifies management activities to insure that the laws and regulations are respected.
- Québec forests are the habitat of more than 200 species of birds, 60 species of mammals and 100 species of fish.
- Forests are also one of the major economic motors of Québec's regions, generating some 80,000 direct jobs in forestry and wood processing.

Harvest and Regeneration

- On average, 1% of Québec commercial forests are harvested every year.
- Since the adoption of the Forest Protection Strategy in 1994, forest management in Québec emphasises, first and foremost, natural regeneration. Harvesting methods have also evolved, as much as possible, to protect regeneration already underway.
- Companies are responsible for insuring that sufficient regeneration remains following the harvest. In this way, 100% of public forests must be regenerated after logging.
- When natural regeneration is insufficient, which happens in less than 20% of the total areas harvested, reforestation is introduced.
- Some 150 million seedlings are planted each year in public and private forests to complete the regeneration of harvested areas.
- For more than forty years, Québec has conducted an important program to genetically improve seedlings used in reforestation. In 2007, 80% of seedlings planted were from genetically improved sources (no genetically modified organisms (GMO) are permitted in public forests).
- Québec is also the only place in North America where, in order to protect the environment, the use of chemical phytocides is prohibited for the clearing of plantations. This approach has led to the development of new techniques to insure the success of reforestation programs, including the production of oversized seedlings.
- In good years as in bad, Québec invests approximately 150 million dollars in public forests and 38 million dollars in private forests in various silvicultural projects, particularly reforestation and pre-commercial thinning.

Protected areas

- The first protected areas were created in Québec around the end of the 1890's with, among others, the *Montagne tremblante* (now Mont Tremblant National Park).
- By 2000, Québec had succeeded in turning 1.1% of its territory into protected areas. In 2007, Québec has protected 4.79% of its surface area, which is a four-fold increase in only seven years.

- Québec's network of protected areas covers, as of September 2007, a little more than 80,200 km², which is 162 times the area of the island of Montreal, and is larger than the entire province of New Brunswick.
- More than half of the area of protected areas created in Québec since 2002 is located in the continuous boreal forest.
- Québec's objective for protected areas is 8% of the total surface area of the province and includes the ambitious target that it should be representative of Québec's biodiversity. This demanding approach is a first for any government.
- Québec is also one of the rare places in the world which provided a legal definition of a protected area (more strict than that of the World Conservation Union) which is an integral part of the *Loi sur la conservation du patrimoine naturel* (Natural Heritage Conservation Act).
- Québec recognises 22 designations for protected areas. For example, the ministère des Ressources naturelles et de la Faune is responsible for 123 Exceptional Forest Ecosystems (old-growth forests, rare forests and shelter forests for threatened or vulnerable species) which are officially listed in the protected areas register. Others will be added soon. These forests are excluded from territories in which the harvesting of wood is permitted.
- Local and regional stakeholders are consulted in choosing protected areas, an essential step in insuring social acceptance of designated sites.

Participatory Management

- There are different ways in which the population can express their opinions on the direction forestry management and development should take, under an information and consultation policy which is part of the Forest Act.
- Local and regional stakeholders (Regional County Municipalities, native communities, wildlife organisations, etc.) are consulted when forest management plans are prepared.
- Aboriginal communities also occupy an important place in the planning and conducting of forest management activities. They benefit, among other things, from special programs to encourage their training and participation in these activities, to promote job creation in forestry and to support their communities.

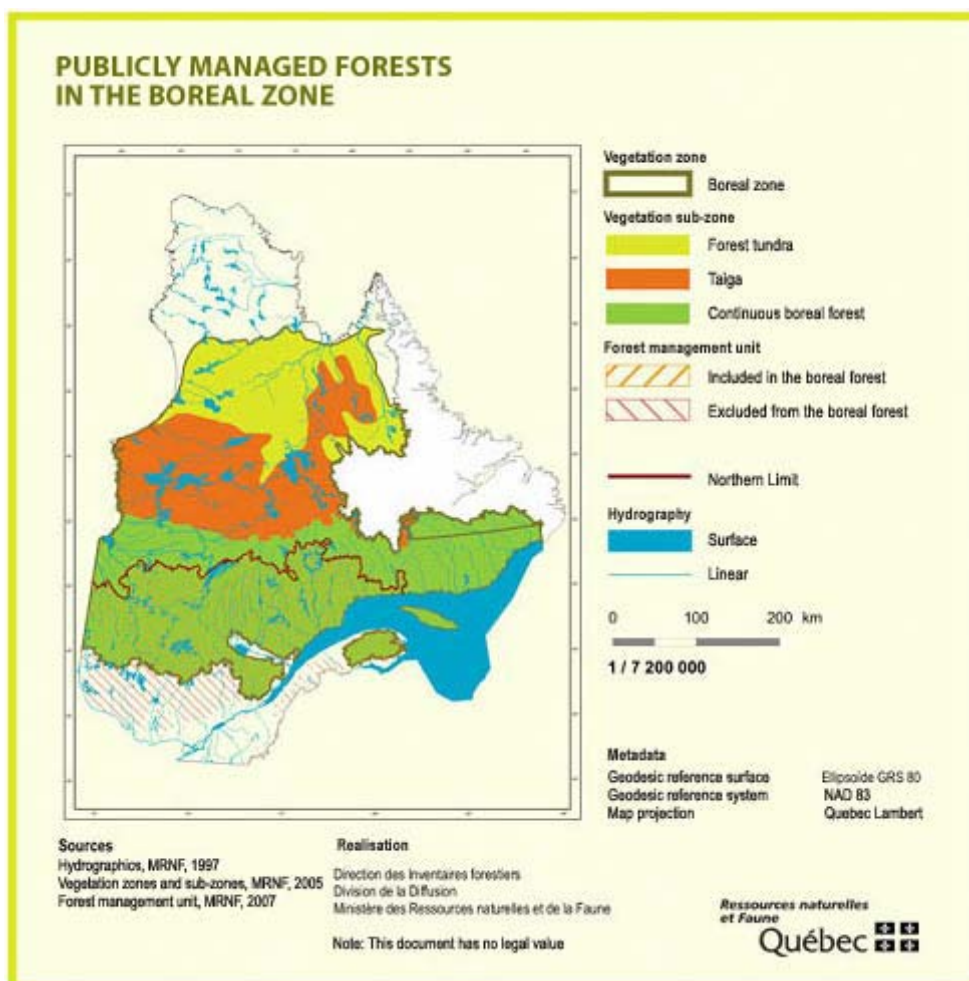
Protecting the Forest

- The protection of Québec forests, both public and private, is based on the prevention and detection of fires, insects and diseases, rather than combating them.
- Since 2000 (in application of the Forest Protection Strategy adopted in 1994), Québec eliminated the use of chemical pesticides for eradicating insects and diseases in public forests, one of the rare governments on the planet to take such a step towards environmental protection.
- As a world leader in the prevention, detection and fight against forest fires, Québec cooperates regularly in efforts to fight fires and insects in other Canadian provinces and even overseas.



Sustainable Forest Management

- In Québec, forestry management is founded on the combined establishment of a network of protected areas and use of sustainable forest practises. This allows the preservation of the main natural characteristics and ecological functions of the forests.
- Québec forest managers must respect the *Règlement sur les normes d'intervention dans les forêts du domaine de l'État* (Regulation respecting standards of forest management for forests in the domain of the State). The aim of this regulation is to insure the maintenance or reconstitution of the forest cover, the protection of forest resources, including the quality of water and wildlife habitats, and the compatibility of forest management activities with other usage of the territory.
- In 2005 Québec's legislation was amended to introduce the concept of *ecosystem-based management*. This new approach attempts to insure that biodiversity is maintained and ecosystems remain viable while meeting socio-economic needs, and respecting social values related to the forests. In order to do so, new silvicultural approaches are tested and pilot projects were implemented, in partnership with regional and scientific communities.
- Forest management plans that will come into effect in 2008 provide that mature and overmature forests are maintained. These ecosystems have special ecological attributes (structure, woody debris and microclimates) which are often essential for certain species of birds, small mammals, mushrooms and insects. Québec is in the process of adding a vast network of biological refuges to its network of protected areas in which there will be no harvesting of forest products.
- Over the last forty years, Québec has carried out three forest inventory programs: the network now consists of more than 28,000 ecology observation points. These inventories have permitted the analysis of the forest ecosystems' evolution, their fragility, their productivity and their wood volume; they are also essential in locating protected areas.
- By drawing a line on a map above which the harvesting of wood is not allowed, the government protects the northern territories whose special characteristics may adversely effect the forest ability to regenerate itself or grow (climate, soil, natural perturbations). The result of this northern limit is to exclude nearly 70% of the boreal vegetation zone from exploitation (including the tundra forest, the taiga and a part of the continuous boreal forest) yet allow other activities to take place.





Québec forests: to everyone's advantage!

For Québécois...

- The forest products sector is one of Québec's major economic motors.
- Almost one third of all municipalities owe their socio-economic development to the processing of wood products (sawmills, pulp and paper, panels, other value-added products).
- These companies contribute 80,000 direct jobs spread throughout the province, including urban centres.
- Exports in 2006 reached 11.1 billion dollars with a net trade balance of 9.2 billion dollars in forest products.
- The non-timber forest products industry is an emerging one, coexisting with the wood harvest, and generating increasingly important revenues. It consists of four major sectors, i.e. food products (ex.: wild fruits), ornamental products (ex.: Christmas trees), pharmaceutical and nutraceutical products (ex.: Canada yew extract) and manufactured products or materials (ex.: resins, alcohol, essential oils). In 2005, blueberry sales amounted to 38 million dollars and the production of Christmas trees were valued at 50 million dollars.
- Hunting, fishing, recreational tourism and ecotourism enthusiasts spend some 3 billion dollars each year in Québec. This accounts for more than 32,000 jobs and generates close to 450 million dollars.

...and for the planet!

- Sustainable development of forests and forest products has a positive impact on climate change, particularly on carbon storage and sequestering (CO₂).
- Wood is the only material which is a renewable resource; it is biological, recyclable, biodegradable and ecologic.
- A forest which is growing helps to diminish climate change by contributing to the sequestration of CO₂.
- The construction of wooden buildings also helps sequester the CO₂ in trees and avoids the carbon emissions which take place in the production of non-renewable products such as steel, cement and aluminium. For example, a recent study at the Université du Québec à Chicoutimi (UQAC) showed that the manufacture of a steel beam produces 76 kg of CO₂, while the production of a wooden beam sequesters 101 kg. Seen from the point of view of climate change, the use of wood products is a winning choice for the environment.
- Wood, as a source of energy for vehicles and buildings, has an undeniable environmental advantage over fossil fuels. The carbon emitted during the use of wood for energy is a part of the natural cycle of carbon and it is recaptured by vegetation, including forests, while the burning of fossil fuels contributes to the excess carbon in the atmosphere. One of the aims of Québec's Energy Strategy is to encourage the use of the forest biomass to produce energy and thus reduce Québec's consumption of fossil fuels.

QUÉBEC'S BOREAL FOREST

- The boreal vegetation zone covers more than 1,000,000 km². More than 70% of this area (the forest tundra, the taiga, and a part of the continuous boreal forest) is excluded from the so called commercial forests; forest crops on these vast territories will not be harvested.
- Of the remaining area, i.e. the so called commercial boreal forest, approximately one third is unsuitable for forest management activities (unproductive lands, steep inclinations, etc.). The portion of the Québec boreal forest which is presently managed represents less than 20% of the surface area of the boreal vegetation zone. These activities, as described in the *Loi sur les forêts* (Forest Act), must be conducted from the perspective of sustainable forest management and respect other forest users.
- The requirements of forestry practices attempt, among other things, to maintain existing biodiversity. For example, the habitat of the forest caribou, which is considered a vulnerable species, is covered by a special management plan that aims at retaining enough of its essential characteristics to insure the survival of the species. According to existing knowledge, the preferred tactics are retaining forest islands and conducting adapted forest cuts.
- In the continuous boreal forest (excluding the taiga in which there is no wood harvesting), protected areas account for 6.85% of the territory, which is bigger than the size of Switzerland.
- Québec invests considerable resources to constantly improve the knowledge of the boreal zone forests. For example, there are some 5,700 permanent forest survey plots in which samples are taken every ten years. Over the last forty years, these sample plots have been measured at least three times. Regular survey allows us to observe the evolution of the forest.
- For twenty years now, Québec has performed ecological surveys. The network in the boreal forest consists of more than 15,000 ecology observation points.