Reflection process on the future of forests

SUSTAINABLE MANAGEMENT AND FOREST PRODUCTIVITY

Votre gouvernement

Québec

Ministère des Ressources naturelles et des Forêts
Legal deposit - Bibliothèque et Archives nationales du Québec, 2024
ISBN (PDF): 978-2-550-96868-9

Table of Contents

Theme 1. Sustainable Management and Forest Productivity

Sub-theme 1. Sustainable Forest Management Approach in Québec

Assessment

The goal of sustainable forest management is to preserve or improve the long-term health of the forest ecosystems for the benefit of everyone, while ensuring environmental, economic and social outlooks that meet the needs of the present and future generations. It is at the core of all the laws, policies, regulations and government actions in the matter.

Sustainable forest management contributes more specifically to:

- conservation of biodiversity;
- maintenance and improvement of the condition and productivity of our forests;
- soil and water conservation;
- maintenance of the contribution of ecosystems to the major ecological cycles;
- maintenance of the multiple socio-economic benefits that the forests provide to society;
- accounting, in the development choices, for the values and needs expressed by the populations concerned.

Its implementation notably depends on the Sustainable Forest Development Act, the Sustainable Forest Management Strategy and the Regulation respecting the sustainable development of forests in the domain of the State.

The Sustainable Forest Development Act identifies ecosystem-based development as a tool to achieve sustainable forest management. This type of development consists in ensuring the preservation of the biodiversity and viability of ecosystems by reducing the differences between developed and natural forests. When significant differences are observed, they then translate into ecological issues that are taken into account in forest management.

To set the record straight on forest management in Québec and on the progress achieved in this matter, the government, every five years, produces a report on sustainable forest management.

Probably, in the coming decades, the forest ecosystems will be exposed to a different climate than the one in which they are currently evolving. These climate changes will result in consequences for the economic, ecological and social benefits the forests provide. This requires a review of the bases of forest management to adapt it to the challenges of the future, as recommended in the notice of the Chief Forester published on September 5, 2023 (see *Additional Discussion Documents)*.

Plentiful scientific knowledge and tools to account for the effect of climate change in forest management have been developed over the past few years. In particular, production of

forest seedlings better adapted to reforestation and implementation of scientifically tested adaptation solutions (e.g. mixed planting of hardwood and softwood species to favour resilience to forest fires). In addition, in 2021, the MRNF proceeded with a public and Indigenous consultation on a draft *Climate Change Adaptation Strategy for Forest Management and Development.* Its purpose is to improve the resilience of Québec forests to climate change and reduce the associated risks for infrastructures and for the local and Indigenous communities.

Additional Discussion Documents

- Conseil du Forestier en chef. Changements climatiques : Réflexion sur notre aménagement forestier. (Advice of the Chief Forester. Climate Change: Reflection on our Forest Management) Gouvernement du Québec [Online], [forestierenchef.gouv.qc.ca/wp-content/uploads/Conseil_Reflexion-_Amenagement_forestier_CC_20230901-1.pdf].
- Aménagement durable des forêts. (Sustainable Forest Management) Données Québec. Gouvernement du Québec [Online], [quebec.ca/agriculture-environnement-et-ressources-naturelles/forets/gestion-forets-publiques/amenagement-durable-forets].
- Sustainable Forest Development Act Gouvernement du Québec [Online], [legisquebec.gouv.qc.ca/en/document/lc/A-18.1/20120530].
- Stratégie d'aménagement durable des forêts. (Sustainable Forest Management Strategy) Gouvernement du Québec [Online], [quebec.ca/agriculture-environnement-et-ressources-naturelles/forets/gestion-forets-publiques/amenagement-durable-forets/strategies-nationales-amenagement/strategie-amenagement-durable].
- Regulation respecting the sustainable development of forests in the domain of the State. Gouvernement du Québec [Online], [mffp.gouv.qc.ca/RADF/guide/].
- État d'avancement de l'action climatique gouvernementale. (Government climate action progress report) Gouvernement du Québec [Online], [quebec.ca/gouvernement/politiques-orientations/plan-economie-verte/gouvernance-diffusion-resultats/etat-avancement-action-climatique-gouvernementale] (actions 3.6.1.1b and 3.3.1.1c).

Sub theme 2. Forest Productivity

Assessment

In Québec, the forests cover an area of nearly 907,000 km^2 and 92% of them are public, which means they belong to all Québecers. They are under the responsibility of the government, which manages all of the activities carried on there. In a context of sustainable forest management, several years are excluded from forest harvesting. They are excluded for reasons of land protection (e.g. protected areas), absence of forest productivity or low forest productivity (e.g. northern boundary of the attributable forests), protection of wetlands and aquatic environments, etc. As a result, the net area available for forest management is about 236,000 km^2, totalling nearly 29% of all public forests. About 1,800 km^2 is harvested each year on public land, or approximately 0.2% of the 907,000 km^2 of forest land.

The forests contribute naturally to the fight against climate change, because they sequester and store carbon. Forest conservation can increase their carbon mitigation potential. Forest management also contributes to this by increasing forest productivity and harvesting timber to transform it into forest products. The increased use of wood in construction is one of the objectives the government has adopted to reduce its carbon footprint and grow our contribution to decarbonization of the economy.

The Québec Timber Production Strategy deployed in 2020 prefers an approach focused on increasing the productivity of developed forests, whether public or private. The improvement of wood characteristics favours harvesting of a greater volume meeting the needs of industry and the markets. It calls for regional implementation, adapted to local realities.

The exceptional magnitude of the 2023 forest fires and the government commitments on sustainable development, protection and conservation of biodiversity raise important challenges regarding long-term maintenance of the current timber harvesting levels in Québec forests. Indeed, some areas contributing to timber production have been bequeathed for conservation purposes over the past decades. In 2023, the protected areas covered a total of nearly 17% of Québec territory and the government commitments seek to reach 30% of the area by 2030, which will have the effect of reducing the available areas for forest management.

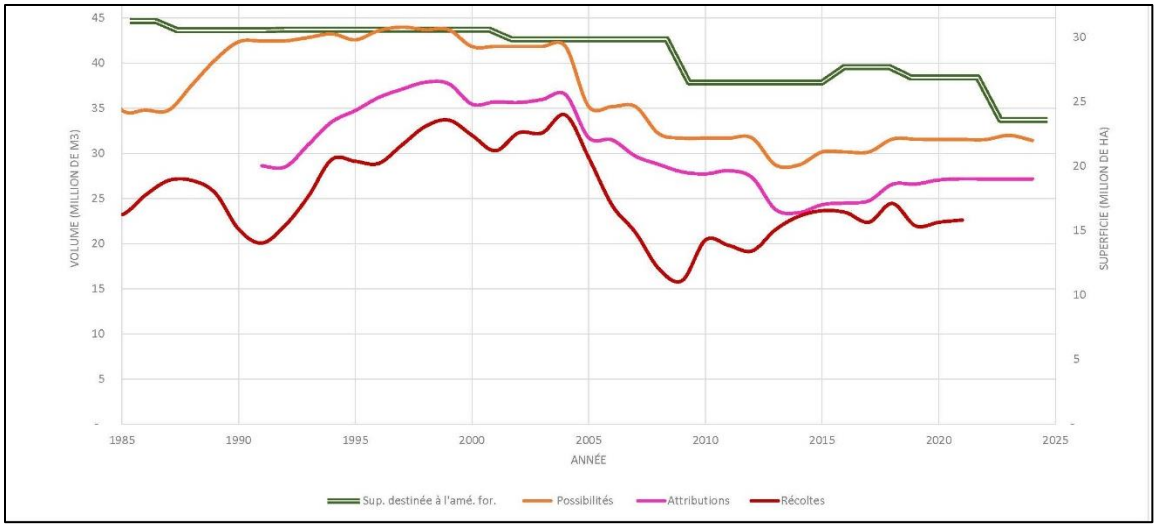

Figure 1. Evolution from 1980 to date of allowable cuts (millions of cubic metres), timber attributions (millions of cubic metres), harvesting (millions of hectares) and area intended for forest management (millions of hectares).

The above figure notably illustrates the reduction of areas available for forest management and the variation of allowable cuts since the 1980s. Increased timber production is one of the options set out in the Sustainable Forest Development Act (SFDA). It involves performing forest operations with the aim of increasing growth and improving the quality of trees, while favouring harvesting over shorter periods. This option has the potential to offset all or part of these losses of areas contributing to timber production. Indeed, the quantity of timber available sustainably (allowable cut) is sustained by the annual performance of silvicultural treatments with four functions: regenerate, tend, improve and harvest a forest areas. The sequence of silvicultural treatments to be performed on an area, the silvicultural scenario, is projected before the harvest.

The silvicultural scenarios are grouped in four categories, based on their intensity:

- The extensive scenarios: based on the presence and protection of natural regeneration during the harvest.
- The basic scenarios: based on the presence of natural regeneration, but the competing species are controlled (e.g. clearing, cleaning, etc.) to increase the yield of the desired species. Reforestation is used as needed.
- The intensive scenarios: based on reforestation. The purpose of the operations is to increase growth and improve the quality of the desired trees. Several operations are identified over time (e.g. thinning) to favour the best trees and reduce the delays before harvesting.
- The elite scenarios: based on reforestation of improved seedlings (indigenous, hybrid or exotic). The operations are intended to optimize growth (e.g. fertilization) and improvement of the quality of the trees (e.g. pruning of branches) to produce quality wood over short revolutions.

The intensity of the silvicultural scenario is determined notably by the presence or absence of natural regeneration, the quality and location of the site, economic profitability, availability of labour, land uses and the available budgets. In general, the greater the intensity of the scenario, the higher the costs, the greater the value produced should be

and the shorter the delay before the harvest should be. In Québec, forest management is particularly extensive and little intensive silviculture is practised.

The deployment of Areas of Increased Timber Production (AIPL) is possible according to the Sustainable Forest Development Act (sections 36 and 37). These are territories intended for priority timber production, but do not benefit from any legal status to ensure the sustainability of the investments, as is the case for the areas intended exclusively for conservation. It is a challenge to ensure the profitability and security of these investments. Areas of Increased Timber Production (AIPL) have been little used despite their inclusion in the SFDA, due to the difficulties of harmonization with the other users of the territory. The area of the territories constituted as Areas of Increased Timber Production is 4,122 km^2, essentially located in the Bas-Saint-Laurent and Gaspésie regions. An official register of Areas of Increased Timber Production is available for the general public.

The Chief Forester recommends in his notice, published on September 5, 2023 (see *Additional Discussion Documents* section), the preparation of a management strategy specially differentiated by appropriate zoning of the territory. By organizing the territory according to a variety of objectives, reflected by zoning of public land, it then would become possible to adopt different biodiversity protection and forest production strategies according to an intensity gradient. This will make it possible to concentrate and secure forest management activities, act at the right time, protect silvicultural investment better and maintain the forest's role in mitigation of climate change.

Additional Discussion Documents

- Conseil du Forestier en chef. Changements climatiques : Réflexion sur notre aménagement forestier. (Advice of the Chief Forester. Climate Change: Reflection on our Forest Management) Gouvernement du Québec [Online], [forestierenchef.gouv.qc.ca/wp-content/uploads/Conseil_Reflexion-_Amenagement_forestier_CC_20230901-1.pdf].
- Sustainable Forest Development Act Gouvernement du Québec [Online], [legisquebec.gouv.qc.ca/en/document/lc/A-18.1/20120530].
- Stratégie nationale de production de bois. (Québec Timber Production Strategy) Gouvernement du Québec [Online], [quebec.ca/agriculture-environnement-et-ressources-naturelles/forets/gestion-forets-publiques/amenagement-durable-forets/strategies-nationales-amenagement/strategie-production-bois].
- Stratégie pour les caribous forestiers et montagnards de la Gaspésie. (Strategy for the Woodland and Mountain Caribou of Gaspésie) Gouvernement du Québec [Online], [quebec.ca/gouvernement/ministere/environnement/publications/strategie-caribous-forestiers-montagnards-gaspesie].
- Portrait statistique du secteur forestier (Statistical Profile of the Forest Sector) [Online], [quebec.ca/agriculture-environnement-et-ressources-naturelles/forets/entreprises-industrie/publications-statistiques-industrie-forestiere/portrait-statistique].
- Registre des aires d'intensification de la production ligneuse. (Register of Areas of Increased Timber Production) Données Québec. Gouvernement du Québec [Online], [donneesquebec.ca/recherche/fr/dataset/aire-d-intensification-de-la-production-ligneuse-aipl].
- Registre des aires protégées au Québec (Register of Protected Areas in Québec) [Online], [donneesquebec.ca/recherche/fr/dataset/aires-protegees-au-quebec].

- Cadre mondial de la biodiversité de Kunming-Montréal. (Kunming-Montréal Global Biodiversity Framework) Gouvernement du Québec [Online], [quebec.ca/nouvelles/actualites/details/cadre-mondial-de-la-biodiversite-de-kunming-a-montreal-quebec-salue-les-engagements-historiques-et-y-adhere-fierement-44913].
- Plan Nature 2030 (2030 Nature Plan). Gouvernement du Québec [Online], [quebec.ca/nouvelles/actualites/details/plan-nature-2030-plus-de-144-m-pour-accelerer-la-conservation-de-la-biodiversite-dans-le-sud-du-quebec-52315].
- Limite territoriale des forêts attribuables (Territorial Limit of Attributable Forests) [Online], [quebec.ca/agriculture-environnement-et-ressources-naturelles/forets/recherche-connaissances/inventaire-forestier/types/nord-quebecois#c228505].

Sub theme 3. Access to Public Forest Land

Assessment

The network of multi-purpose roads in forests in the domain of the State extends over more than 470,000 km. It benefits multiple users, including hunters, trappers, vacationers, the forest, maple production and mining industries and the members of the Indigenous communities.

These roads are essential to ensure protection of the forests (e.g. forest fires) and carry on economic activities for sustainable forest management. They are also important for public safety to conduct emergency operations.

The MRNF maintains an inventory of bridges located in public forests. A total of 3,084 bridges are inventoried with different statuses, ranging from “closed to traffic” to “new construction”. The bridges are inspected according to a predetermined sequence that allows those that are no longer safe to be identified and closed. In 2022-2023, there are a little more than 3,000 bridges in the public forest and about 1,900 are open to traffic.

Roadwork in public forests depends on the user pay principle. Thus, the construction, improvement, repair, maintenance and closure of multi-purpose roads are at the expense of the users of these roads, particularly the forest industries, ZEC and outfitter managers, maple producers, vacationers, silvicultural businesses, etc. However, road construction is heavily incumbent on the forest industry, representing investments estimated at $256 million per year.

The MRNF deploys financial measures to support the users, particularly the Sustainable Forest Management Program with an annual budget of $7.6 million, the Program for reimbursement of costs for forest development on multi-purpose roads, for an amount of $50 million in 2023-2024 and an annual budget envelope for restoration of watercourse crossings for a total of $8.5 million. The investment needs are growing to maintain a network of forest roads and bridges in adequate condition, particularly due to exceptional events in a context of climate change.

The Sustainable Forest Development Act and the Regulation respecting the sustainable development of forests in the domain of the State (RSDF) regulate and govern forest management activities in forests in the domain of the State, particularly activities related to forest roads.

Additional Discussion Documents

- Sustainable Forest Development Act Gouvernement du Québec [Online], [legisquebec.gouv.qc.ca/en/document/lc/A-18.1/20120530].
- Regulation respecting the sustainable development of forests in the domain of the State. Gouvernement du Québec [Online], [mrnf.gouv.qc.ca/RADF/guide/].
- Ponts et chemins en milieu forestier (Forest Roads and Bridges) [Online], [mrnf.gouv.qc.ca/les-forets/services-entreprises-et-organismes/ponts-et-chemins-en-milieu-forestier/].

- Norme relative aux ponts et aux ouvrages amovibles dans les forêts du domaine de l'État (Standard respecting removable bridges and structures in forests in the domain of the State) [Online], [mrnf.gouv.qc.ca/wp-content/uploads/norme-ponts.pdf].
- Ressources et industries forestières du Québec, portrait statistique 2021, MRNF, novembre 2022 (Québec forest resources and industries, 2021 statistical profile, MRNF, November 2022) [Online], [cdn-contenu.quebec.ca/cdn-contenu/forets/documents/entreprises/RA_portrait_statistiques_industries_forestieres_MRNF.pdf].
- Programme d'aménagement durable des forêts (Sustainable Forest Management Program) [Online], [cdn-contenu.quebec.ca/cdn-contenu/forets/documents/CN_programme_amenagement_durable_foret_MFFP.pdf].
- Programme de remboursement des coûts pour des activités d'aménagement forestier sur des chemins multiusages (Program for reimbursement of costs for forest development on multi-purpose roads) [Online], [bmmb.gouv.qc.ca/publications-et-reglements/valeur-des-traitements-sylvicoles/determination-des-aides-financieres-dans-le-cadre-du-prccm-2022-2023/].

Ressources naturelles et Forêts
Québec