THE LAND AND ITS OCCUPANTS

SUPPORT DOCUMENT FOR THE
TACTICAL INTEGRATED FOREST MANAGEMENT PLANS 2023–2028

Outaouais Region

Courtesy translation. If there is a discrepancy in interpretation due to the translation, please note that only the official document in French has legal value.

Votre gouvernement

Québec

Indigenous Presence

Forest land is central to the lifestyle of most Québec Indigenous communities. The Indigenous peoples use and visit forest land, particularly to exercise their activities for food, domestic, ritual or social purposes. Consequently, respect for Indigenous rights and consideration of the concerns, values and needs of the Indigenous communities are an integral part of sustainable forest management.

Indigenous communities

The Outaouais region is situated on the traditional territory of five Anishinabeg communities who have occupied and used the land for thousands of years to practice their food, domestic, ritual or social activities. Figure

Location of Québec Indigenous Communities situates the Indigenous communities of the province.

Nations	Communities	Residents	Non-residents	Total
Anishinabeg	Kitigan Zibi Anishinabeg	1647	1843	3490
Anishinabeg	Algonquins of Barriere Lake	622	172	794
Anishinabeg	Anicinape Community of Kitcisakik	405	114	519
Anishinabeg	Anishinabe Nation of Lac-Simon	1831	424	2255
Anishinabeg	Wolf Lake First Nation	-	236	236
Source : https://www.quebec.ca/gouv/portrait-quebec/premieres-nations-inuits/profil-des-nations/populations-autochtones-du-quebec				

The Anishinabeg Nation has over 12,600 members, distributed among nine communities located in Outaouais and Abitibi-Témiscamingue. The language of use varies between English and French, depending on the communities. Even today, Anishinabemowin remains a living language, spoken by many people. The forest and the practice of hunting, fishing, trapping and gathering activities are at the heart of the Anishinabeg way of life.

The economic activity of the Anishinabegs has been greatly transformed over the past decades. In addition to the activities mentioned above, today it gravitates around logging, tourism, handicrafts and public services (education, health, housing and infrastructure development). More specifically for the forest field, several communities wish to favour their growth through silvicultural work. Depending on their interests, they participate in reforestation, site preparation or intermediate treatments. In addition, some communities also wish to participate in timber harvesting, whether for felling or forest road activities. These forest management activities allow generation of jobs for members of the Anishinabeg communities and constitute a revenue source for the communities.

On the other hand, certain communities, over the past few years, have developed the non-timber forest products (NTFP) sector, either by commercialization of food products (mushrooms, berries, plants) or by various tests to reconcile logging and NTFP production. Finally, several communities wish to develop a recreational tourism component, and some are already proposing offers to the public, whether accommodations, circuits or various cultural immersion activities.

Kitigan Zibi Anishinabeg

This community is a neighbour of Ville de Maniwaki. The Kitigan Zibi reserve was created in 1851. This community has many infrastructures that allow it to provide several services to its population, particularly a Natural Resources Department. It is also active in many different economic sectors, such as operation and development of forest resources, and in the maple syrup production sector with Awazibi Maple Syrup. Kitigan Zibi also has its own Guardians team, which acts as a team of ecological and forest technicians, and also promotes traditional knowledge and activities.

The Kitigan Zibi Anishinabeg Band Council holds a timber harvesting permit for the purposes of supply of a wood processing plant. The community has also created a company that performs various non-commercial silvicultural work annually in the territory. Kitigan Zibi, Rexforêt and the Ministère des Ressources naturelles et des Forêts (MRNF) have collaborated for several years to train community members in various specializations, such as brushing, pruning and tree felling.

Kitigan Zibi promotes a forest management approach that emphasizes respect for wildlife and protection of biodiversity and water. It also claims co-management of forest land in its ancestral territory.

The community has deployed different research initiatives and participates in projects in wildlife matters on species in a precarious situation such as wood turtles and sturgeon.

Algonquins of Barriere Lake

This community is located near Lac Rapide in the territory of La Vérendrye Wildlife Reserve.

Various agreements have been made to help the community promote its economic development. In 2021, the Implementation Agreement of the 2006 Joint Recommendations of Québec and Algonquins of Barriere Lake Special Representatives was signed. This Agreement should allow the implementation, in particular, of integrated management plans for resources and the creation of a Natural Resources Office for the territory of application. The deployment of these measures will ensure predictability of forest harvests from the territory. The supplies stipulated in the timber supply guarantees of the Management Units concerned thus can be respected, while allowing the members of this community to use the environment's resources for their needs.

Anicinape Community of Kitcisakik

The Anicinape Community of Kitcisakik is an Algonquin community of 519 members, located in the northern part of the La Vérendrye Wildlife Reserve in the Abitibi-Témiscamingue region. The department of Natural Resources (Aki), under the Council of the Anicinapek of Kitcisakik Community currently handles forest consultations. Aki has given itself the mission to protect, define and promote the Aki territory and the Kitcisakik cultural heritage to meet the needs of the community and future generations by implementing development and land management projects and favouring the acquisition and sharing of traditional and scientific knowledge. The role of the Aki Department is thus to accompany families during field visits, to convey to the Council the concerns and proposals of the families, to transmit to the industry the decisions of the Council, to continuously develop an appropriate consultation process and approve consultation participation measures. Its mandate focuses not only on forestry, but also on mining, wildlife and the environment.

A forest cooperative also exists within the community, named “La Coopérative de solidarité Wenicec”, which was established in March 2009. The Cooperative brings together a skilled workforce, ready to perform the mandates assigned to them and thus meet the imminent forest employment needs in the community. Since its existence, the Cooperative’s workers have accomplished many things, such as timber cutting and processing, renovation of homes and rustic camps. Moreover, the community benefits from a volume of annually recurring silvicultural work and carries out brushing work. These actions are truly beneficial to the well-being of the community and enable significant progress.

Anishinabe Nation of Lac-Simon

The Anishinabe Nation of Lac-Simon has 2,255 members and is located near the Louvicourt sector of Ville de Val-d’Or, via Route 117, on the north shore of Lac Simon.

The community has created a company called Menitik Resources to generate permanent forest jobs for its members. This company performs land preparation, reforestation and brushing work and obtains an annually recurring volume of silvicultural work. Moreover, in 2018, the Ministry issued a timber harvesting permit for the purposes of supplying a wood processing plant (PRAU) to the Anishinabe Nation of Lac-Simon. This permit gives the community the right to harvest an annual timber volume fixed by the Ministry.

In addition, the community is interested in non-timber forest products. It is currently conducting various studies to develop ways of managing the forest to reconcile timber harvesting with NTFP harvesting.

Wolf Lake First Nation

The Wolf Lake First Nation has 235 members. The community has a settlement at Hunter’s Point, located 35 km form Ville de Témiscaming, on the shores of Lac Hunter’s Point. However, the majority of the members live outside the community. The community is interested in tourist development. Its company, The Algonquin Canoe Company, offers organized canoe-kayak circuits on the Dumoine, Coulonge, Kipawa, Matabichewan, and Ottawa Rivers, and on Lac Témiscamingue and Lac Ostaboningue.

For additional information, see:
Amerindians and Inuit — Profile of Québec’s Indigenous Nations
First Nations and Inuit — Profile of the Nations
Location of Québec’s Indigenous Communities

Special agreements

The ministère des Ressources naturelles et des Forêts participated, along with the Secrétariat aux affaires autochtones, in the negotiation of agreements with the Indigenous communities on matters specific to forest land. These negotiations resulted, in particular, in:

- the Implementation Agreement of the 2006 Joint Recommendations of Québec and Algonquins of Barriere Lake Special Representatives between the Barriere Lake Community and the Gouvernement du Québec, which was signed in 2021.

The Ministry contributes to the implementation of the agreements made regarding matters specific to sustainable forest management.

For additional information, please see:
Agreements, Demands and Negotiations
List of Agreements Reached, By Nation and by Community

Aboriginal Participation Program in Sustainable Forest Management

The Aboriginal Participation Program in Sustainable Forest Management (PPA) has the purpose of supporting the participation and contribution of Indigenous communities in the forest regime. The funding offered under this program thus allows maintenance of the participation of Indigenous communities in the consultation processes relating to sustainable forest management and contribution to their socioeconomic development through projects related to sustainable forest management.

Description of Public Land

The forests in the domain of the State, or public forests, are used extensively, not only by the forest industry and the Indigenous communities, but also for a wide range of other purposes including hunting, fishing, trapping, vacations and harvesting of non-timber forest products. Forest users must coexist within the same area, and the MRNF must consider all their concerns. The following sections present the many different ways in which the region's public land is used.

Location and description of the Management Units

Québec has 33 local offices containing lands in the domain of the State, including the Management Units. This administrative subdivision of land in Québec serves as the basis for the government's forest management activities. There are currently 59 Management Units, which encompass virtually all Québec's forests. It is important to note that a Management Unit may not be situated entirely within a single administrative region but may overlap into neighbouring administrative regions.

Located in southwestern Québec, the Outaouais administrative region covers more than 3.4 million hectares (ha). It combines the regional county municipalities of Pontiac, Papineau, Collines-de-l'Outaouais and Vallée-de-la-Gatineau, as well as the territory of Ville de Gatineau.

The perimeter of the Outaouais administrative region is divided into six Management Units bearing the following identifiers: 071-51, 071-52, 072-51, 073-51, 073-52 and 074-51. Management Units 073-52 and 074-51 overlap a portion of the Vallée-de-l'Or regional county municipality in the Abitibi-Témiscamingue administrative region. The perimeter of these 6 Management Units constitutes the Outaouais "forest region". In this document, the term "region" is used, for the sake of simplicity, to refer to the Management Units in the same forest region.

The Direction de la gestion des forêts de l'Outaouais (DGFo-07, Outaouais Forest Management Department) has a regional office located in Gatineau and three local offices:

- Located in Mansfield, local office de la Coulonge ensures management of Management Units 071-51 and 071-52;
- Located in Gatineau, local office de la Basse-Lièvre ensures management of Management Unit 072-51;
- Located in Maniwaki, local office de la Haute-Gatineau et du Cabonga ensures management of Management Units 073-51, 073-52 and 074-51.

Management Unit 071-51

Covering a total area of 249,710 ha, Management Unit 071-51 is entirely located in the southern part of the Outaouais region.

This Management Unit is bounded on the north by Management Unit 071-52, on the northeast by Management Unit 073-51, on the east by Management Unit 072-51 and on the west by the Ottawa River. The territory in which forest management activities are carried on is mainly located in the Pontiac regional county municipality.

The main municipalities near or in the territory of the Management Unit are Mansfield-et-Pontefract, Shawville, Otter Lake, Danford Lake, Fort-Coulonge, L'Isle-aux-Allumettes, Clarendon and Bristol.

Bounded on the southwest by the Ottawa River, this Management Unit contains several major rivers and lakes, including Lac McGillivray, Lac la Pêche, Lac de l'Achigan, Lac Galarneau, Lac Schyan, Lac Jim and Lac à la Truite and the Noire, Coulonge, Picanoc, Schyan and Kazabazua Rivers.

The main access routes to the Management Unit are Chemins du Bois Franc, Chemin Schyan and Chemin de la Picanoc. A well-developed secondary road network is attached to the main accesses, but its condition and maintenance vary greatly depending on its use by the various forest users.

Management Unit 071-52

Covering a total area of 542,627 ha, Management Unit 071-52 is entirely located in the west central part of the Outaouais region.

This Management Unit is bounded on the north by Management Unit 073-52, on the south by Management Unit 071-51, on the east by Management Unit 073-51 and on the west by the Abitibi-Témiscamingue region. The territory in which forest management activities are carried on is located in the Pontiac regional county municipality.

The municipality of Rapides-des-Joachims is found on the southwestern edge of the territory of Management Unit 071-52.

The main bodies of water are Lac Saint-Patrice, Lac Bryson, Lac Lynch, Lac Nigaut, Lac Dix Milles, Lac Duval, Lac Aumond and the Coulonge, Noire, and Corneille Rivers.

The main access routes to the Management Unit are Chemin du Bois Franc, Chemin Rapides-des-Joachim, Chemin Usborne, Chemin Maniwaki-Témiscamingue, Chemin Manitou, Chemin Schyan, Chemin du Dépôt, Chemin de la Grande-Chute and the Rapides-Manitou and Lac Charrette crossings. The secondary road network is well developed, but its condition and maintenance vary greatly depending on its use by the various forest users.

Management Unit 072-51

Covering a total area of 139,447 ha, Management Unit 072-51 is entirely located entirely in the southeastern part of the Outaouais administrative region.

This Management Unit is bounded on the north and east by the Laurentides region and on the northwest by Management Unit 073-51. On the south, east and west, this Management Unit is mainly bounded by other management modes, such as private forests and municipal territories. The territory in which forest management activities are carried on is shared among three regional county municipalities, Papineau (81%), Vallée-de-la-Gatineau (14%) and Collines-de-l'Outaouais (5%).

The main nearby municipalities are Gatineau, Saint-André-Avellin, Thurso, Papineauville, Ripon and Plaisance.

The main lakes and rivers of Management Unit 072-51 are Lac Simon, Lac Gagnon, Lac des Plages and the Poisson Blanc Reservoir, as well as the Gatineau, De la Petite Nation and Du Lièvre Rivers.

The main access routes to the Management Unit are Chemin de la Baie de l'Ours, Chemin du Lac Gagnon Ouest, Chemin Sioui, Chemin du Smallian and Chemin Saint-Denis. The Papineau-Labelle Wildlife Reserve is crossed by several road, including Routes 1, 2, 3, 4, 6, 7, 12, 25 and 32. The western part of Management Unit 072-51 is well served by the municipal and provincial road networks.

Management Unit 073-51

Covering a total area of 408,533 ha, Management Unit 073-51 is entirely located in the east central part of the Outaouais administrative region.

This Management Unit is bounded on the north by Management Units 073-52 and 074-51, on the south by Management Unit 071-51 and other management modes, on the east by the Laurentides region and on the west by Management Unit 071-52. The eastern part of the Management Unit is enclosed by private lands. The territory in which forest management activities are carried on is shared between two regional county municipalities, Vallée-de-la-Gatineau (88%) and Pontiac (12%).

The main nearby municipalities are Maniwaki, Gracefield, Déléage, Messines, Grand-Remous and Low. The Kitigan Zibi First Nations reserve is also found in this territory, bordering the central part of the Management Unit.

The main lakes are Lac des Trente et Un Milles, Lac Désert, Lac Dumont and Lac Pythonga. The main rivers are the Désert, Gens des Terres, and Serpent Rivers. The Gatineau River crosses the territory from north to south. Northeast of the Management Unit is the Baskatong Reservoir.

Provincial Routes 105 and 117 are the most important road axes. A well-developed forest road network, including Chemin Caméronian-Taylor, Chemin de l'Aigle, Chemin de la Corneille, Chemin de la Picanoc, Chemin du Dépôt, Chemin Maniwaki-Téminscamingue, Chemin Messines-Black-Rollway, Chemin Pythoga, Chemin Usborne and the Perdrix-Blanche, Klukeville and Tortue crossings complete the provincial and municipal network.

Management Unit 073-52

Management Unit 073-52 covers a total area of 373,008 ha. It is partially contained in the northwestern part of the Outaouais administrative region. The portion of the territory on which forest management activities are carried on superimposes 2 regional county municipalities in Outaouais, namely Pontiac (65%) and Vallée-de-la-Gatineau (23%). A portion of this territory is located in Vallée-de-l'Or regional county municipality (12%).

It is bounded on the north by Management Unit 074-51, on the south by Management Unit 071-52, on the east by Management Units 073-51 and 074-51 and on the west by the Abitibi-Témiscamingue region.

The main bodies of water included in or near the Management Unit are Lac Jean-Péré, Lac Byrd, Lac Poulter, Lac Kondiaronk, Lac Brûlé, Lac Antostagan, Lac Grand, Lac Larive and Lac Canimina, and the Coulonge, De l'Orignal and O'Neil Rivers.

The main access is Route 117. The forest road network includes Chemin Usborne, Chemin Pomponne, Chemin Manitou, Chemin du lac Byrd, Chemin Gamain and Chemin du Bois-Franc.

Management Unit 074-51

Covering a total area of 939,205 ha, Management Unit 074-51 is partially contained in the Outaouais administrative region, its northeastern part is located in the Abitibi-Témiscamingue administrative region. The territory in which forest management activities are carried on is therefore shared between two regional county municipalities, Vallée-de-la-Gatineau (60%) and Vallée-de-l'Or (40%).

This Management Unit is bordered on the south by Management Unit 073-51, on the east mainly by the Laurentides region, and on the west by Management Unit 073-52 and the Abitibi-Témiscamingue region.

This Management Unit is found mainly in unorganized territories (Réservoir-Dozois, Lac-Pythonga, Lac-Moselle, Lac-Lenôtre, Dépôt-Échouani and Lac-Nilgaut) and on a southern portion of the municipality of Senneterre. The Lac Rapide First Nations reserve is located in this Management Unit.

In addition to the Dozois and Cabonga Reservoirs, the main lakes are Lac Camachigama, Lac Cawatose, Lac Échouani, Lac des Augustines and Lac O'Sullivan. The main rivers are the Ottawa, Gatineau, Capitachouane and Festubert Rivers.

The main access is Route 117. The forest road network includes Chemin Poignan, Chemin Lépine-Clova, Chemin Landron, Chemin du Sunshine, Chemin du Gull, Chemin de l'Aéroport and Chemin Bark Lake.

The following 3 maps present:

1- The location of the Management Units of the Outaouais region and their geographic references;
2- The region's main hydrographic network;
3- The region's road infrastructures.

See the Gouvernement du Québec's ecoforest data portal
Forêt Ouverte: Management Units

Figure 1 Location of the Management Units of the Outaouais Region (French only)

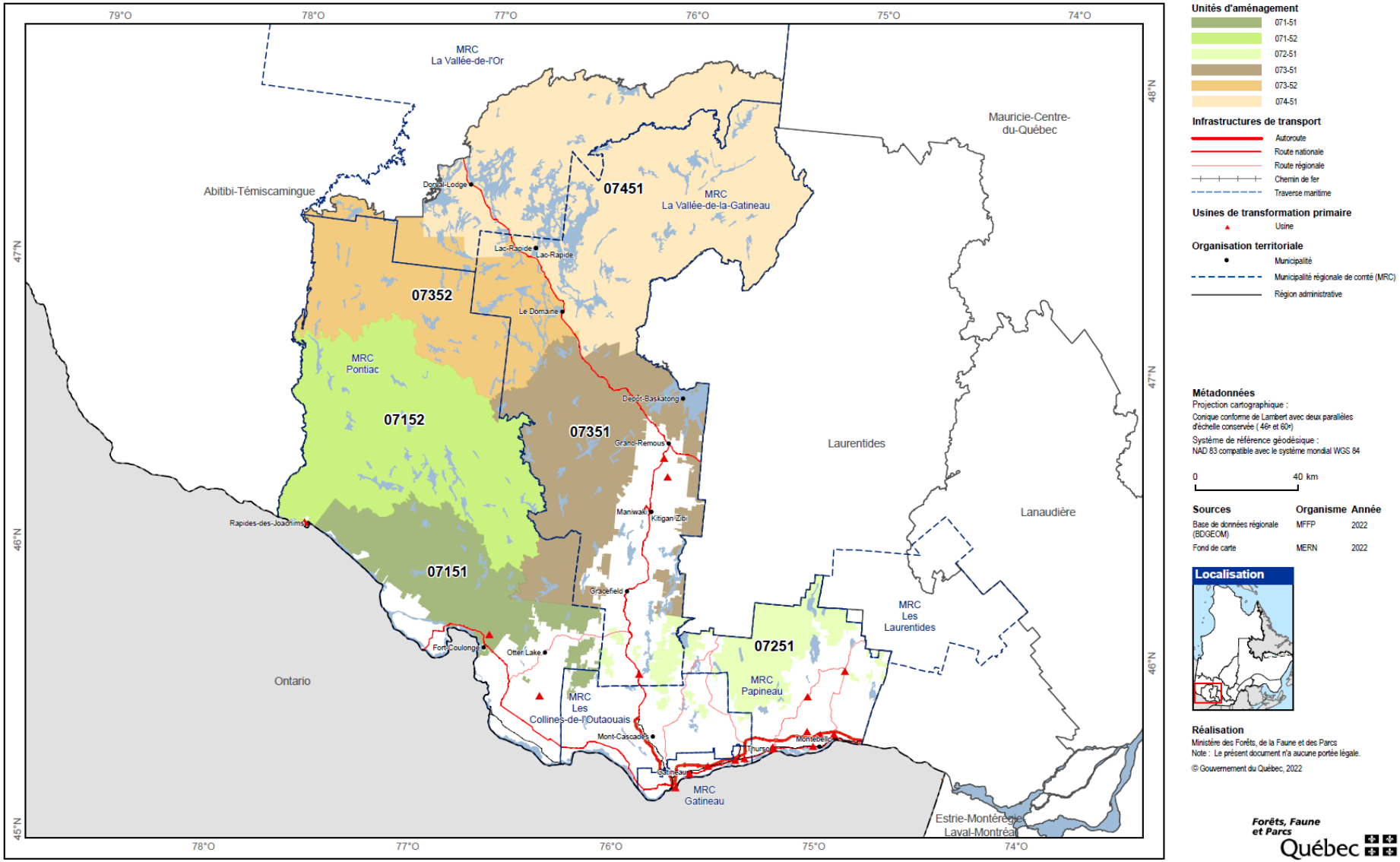
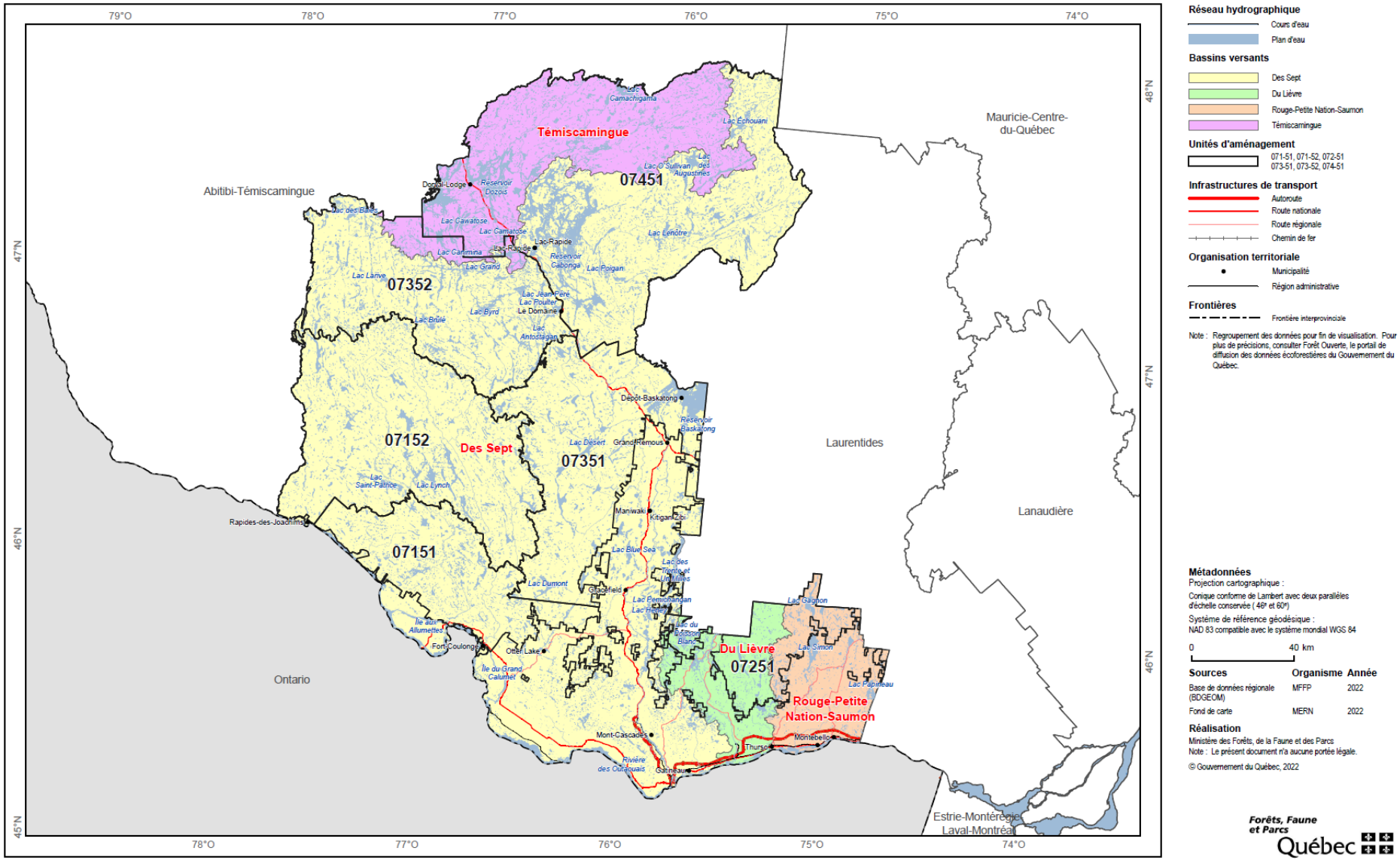


Figure 2 Hydrographic Network of the Outaouais Region (French only)



Réseau hydrographique
- Cours d'eau
- Plan d'eau

Bassins versants
- Des Sept
- Du Lièvre
- Rouge-Petite Nation-Saumon
- Témiscamingue

Unités d'aménagement
- 071-51, 071-52, 072-51
- 073-51, 073-52, 074-51

Infrastructures de transport
- Autoroute
- Route nationale
- Route régionale
- Chemin de fer

Organisation territoriale
- Municipalité
- Région administrative

Frontières
- Frontière interprovinciale

Note : Regroupement des données pour fin de visualisation. Pour plus de précisions, consulter Forêt Ouverte, le portail de diffusion des données écoforestières du Gouvernement du Québec.

Métadonnées

Projection cartographique :
Conique conforme de Lambert avec deux parallèles d'échelle conservée (46° et 60°)

Système de référence géodésique :
NAD 83 compatible avec le système mondial WGS 84

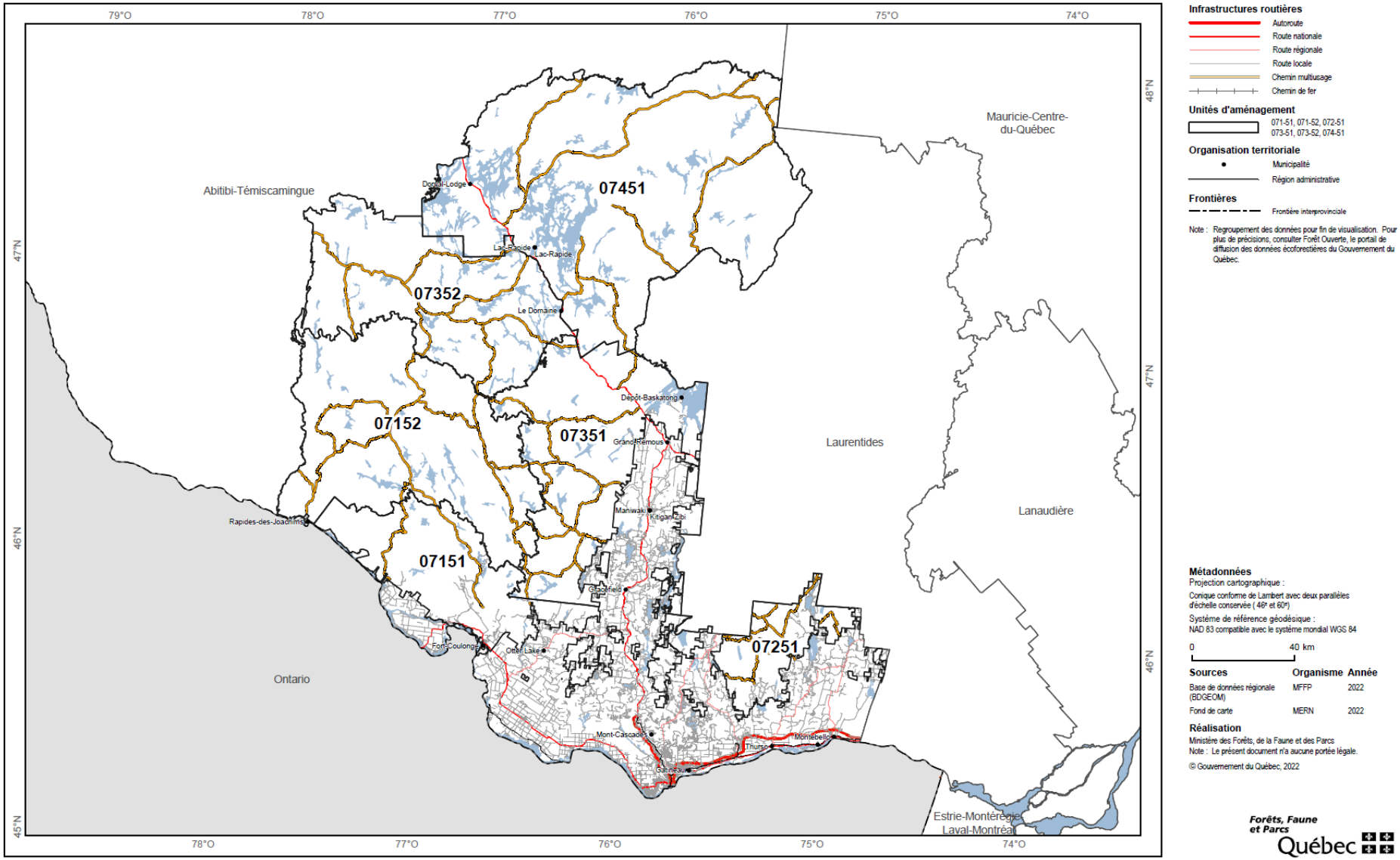
0 40 km

Sources	Organisme	Année
Base de données régionale (BDGEOM)	MFFP	2022
Fond de carte	MERN	2022

Réalisation
Ministère des Forêts, de la Faune et des Parcs
Note : Le présent document n'a aucune portée légale.

Forêts, Faune et Parcs
Québec

Figure 3 Road Infrastructure of the Outaouais Region (French only)



Area in which forest development activities are carried out

The public forest consists in the area of forest under provincial jurisdiction, located south of the northern limit for timber allocations, which may be developed. It therefore excludes all federal and privately-owned land. The public forest, excluding any residual forests, is subdivided into Management Units in which particular territories or areas are distinguished according to their use for timber production:

- Areas located outside the Management Units (e.g. Residual forests among others);
- Unproductive areas;
- Areas exempt from forest management (protected areas, provincial parks, steep slopes, etc.);
- Areas intended for forest management (the remaining area in which forest management is permitted).

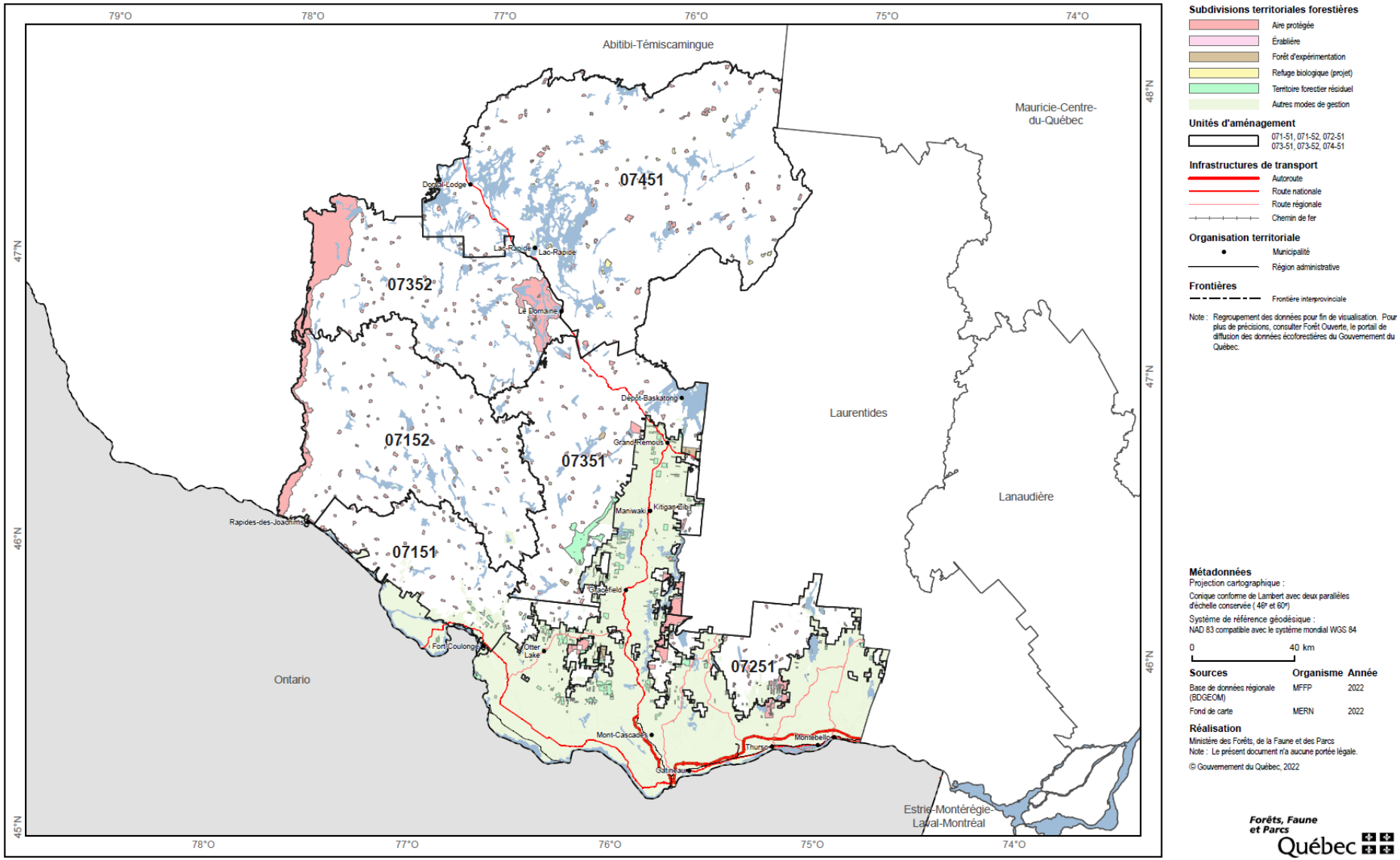
The Forest Land Subdivision system includes all the areas delimited within the public forest. According to the *Sustainable Forest Development Act* (SFDA), the public forest is composed of Management Units, residual forests, teaching and research forests, experimental forests, exceptional forest ecosystems and biological refuges. In some types of area, rights may be granted with special conditions, while other areas may be exempt from forest management activities. The public forests must be mapped in order to plan and monitor forest management work. In Outaouais, Management Units have a total area of 2,652,530 ha, which represents 68% of the region's land (see table below). The other management mode categories account for 32% of the region's area, including 19.5% private lands. The table and the map below provide an overview of the different management modes used in the public forest.

Table 1 Area of the Management Unit and Other Management Mode Categories

Category of management mode	Area (ha)	Area (%)
Management Unit		
071-51	249,710	6.4%
071-52	542,627	13.9%
072-51	139,447	3.6%
073-51	408,533	10.5%
073-52	373,008	9.6%
074-51	939,205	24.1%
	2, 652,530	**68.0%**
Other categories		
Residual forest	54,651	1.4%
Experimental forest	2,538	0.1%
Teaching and research forest	1,198	0.0%
Protected area	207,604	5.3%
Major lakes and rivers	191,834	4.9%
Indigenous territories	21,638	0.6%
Other public land	10,289	0.3%
Private land	758 782	19.5%
	1, 248,534	**32.0%**
	3,901,064	**100.0%**

See the Gouvernement du Québec's ecoforest data portal, Forêt Ouverte
Forêt Ouverte : Forest Territorial Subdivisions

Figure 4 Forest Territorial Subdivisions of the Outaouais Region (French only)

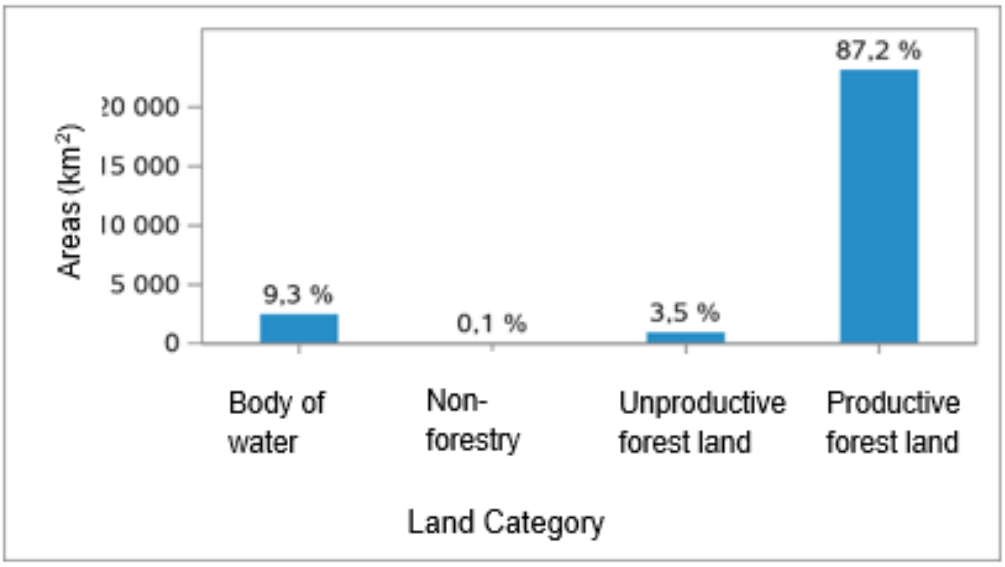


The productive forest included in these Management Units represents 23,127 square kilometres (km^2), or 87.2%, the rest being composed, in order of importance, of expanses of water (9.3%), unproductive areas (3.5%) and land with a non-forest vocation (0.1%). For forest inventory purposes in Québec, a forest area is considered productive if it is capable of producing a minimum volume of 30 cubic metres/hectare (m^3/ha) in commercial species within a 120-year period. The following table and figure present the areas and proportion per land category.

Table 2 Area Per Land Category of Each Management Unit

Management Unit	Body of water		Non-forestry land		Unproductive forest land		Productive forest land		Total	
	(km^2)	(%)	(km^2)	(%)	(km^2)	(%)	(km^2)	(%)	(km^2)	(%)
071-51	258	10.3%	2	0.1%	51	2.0%	2,187	87.6%	2,497	100%
071-52	443	8.2%	3	0.0%	125	2.3%	4,855	89.5%	5,426	100%
072-51	122	8.7%	1	0.1%	25	1.8%	1,247	89.4%	1,394	100%
073-51	372	9.1%	5	0.1%	105	2.6%	3,602	88.2%	4,085	100%
073-52	395	10.6%	4	0.1%	128	3.4%	3,203	85.9%	3,730	100%
074-51	869	9.2%	7	0.1%	484	5.2%	8,033	85.5%	9,392	100%
	2,460	**9.3%**	**21**	**0.1%**	**919**	**3.5%**	**23,127**	**87.2%**	**26,525**	**100%**

Figure 5 Area (km^2) Per Land Category of All Management Units



Protected land or sites to which special conditions apply

Rather like a Gruyère cheese, the Management Units are peppered with exclusion zones or sites to which special conditions apply. The Regulation respecting the sustainable development of forests in the domain of the State (RSDF) contains a number of measures designed to:

- Protect forest resources (water, wildlife, timber, soil);
- Maintain or reconstitute the forest canopy;
- Make forest development more compatible with the other activities that take place in the forests;
- Contribute to sustainable forest management.

Under the Regulation respecting sustainable development of forests in the domain of the State, sites that are exempt from forest management and sites to which special conditions apply are used mainly to:

- Protect recreational and tourism sites, including visually sensitive landscapes;
- Maintain the quality of wildlife habitats mapped pursuant to the regulation respecting wildlife habitats;
- Protect cultural sites and public utility sites;
- Protect sites of importance to the indigenous peoples;
- Protect soils and water;
- Protect fragile ecosystems (e.g. The spruce-lichen forest).

The *Natural Heritage Conservation Act* stipulates that a Register of Protected Areas must be kept. A protected area is a portion of territory for which the State provides legal protection by exempting it from all forms of intervention and forest development. The Ministère de l'Environnement et de la Lutte contre les changements climatiques, de la Faune et des Parcs (MELCCFP) circulates and updates the information contained in the Register. The MRNF is involved in developing Québec's network of protected areas in the forests by fostering targeted conservation of particular or outstanding elements of biological diversity. These forests may be classified as exceptional forest ecosystems or biological refuges within the meaning of the *Sustainable Forest Development Act* or as wildlife refuges under the *Act respecting the conservation and development of wildlife*.

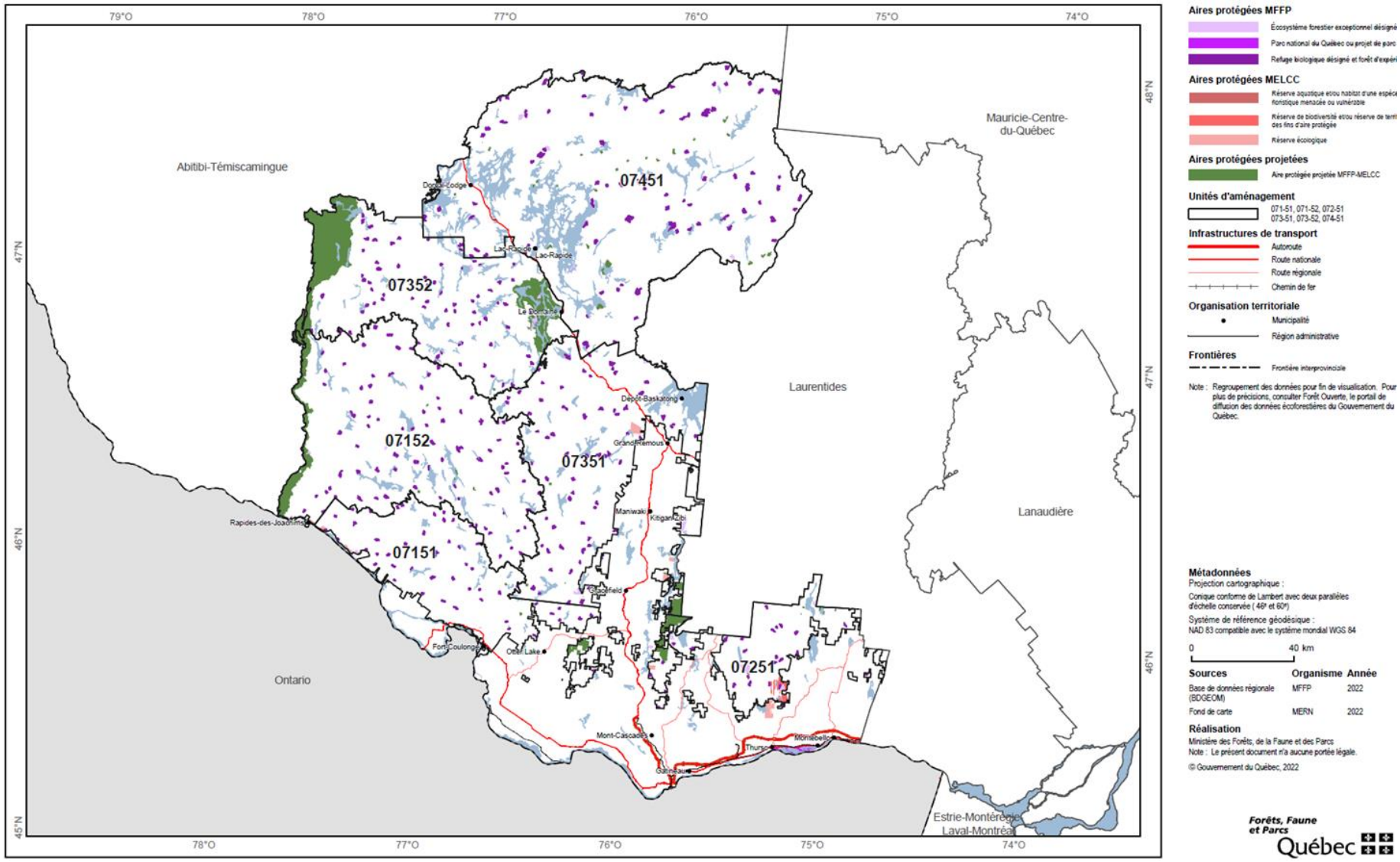
During the process of designating protected areas, zones that have not yet received legal protected status are withdrawn from the allowable cut and from the plan once they have gone through all the steps required for final delimitation and have been given administrative protection by the MELCCFP. In doing this, the MRNF protects the areas proposed by the MELCCFP and for which the government departments concerned have reached an agreement following an in-depth examination of all the issues.

Digital files showing all these sites are considered during planning and in the field. These sites, which are not covered by the applicable regulation (the RSDF), are protected or are subject to special conditions. For example:

- Habitats of threatened or vulnerable plant and wildlife species (including habitats of species likely to be designated as threatened or vulnerable) are taken into account;
- Protected areas whose boundaries have been acknowledged by the Québec government are excluded from forest management;
- Exceptional forest ecosystems are excluded from forest management;
- Biological refuges in forests intended to preserve the biological diversity associated with mature and over-mature forests are also excluded from forest management activities;
- Special conditions apply to certain wildlife sites of interest.

Please see the Gouvernement du Québec's ecoforest data portal, Forêt Ouverte
Forêt Ouverte: Protected Areas

Figure 6 Protected Areas of the Outaouais Region (French only)



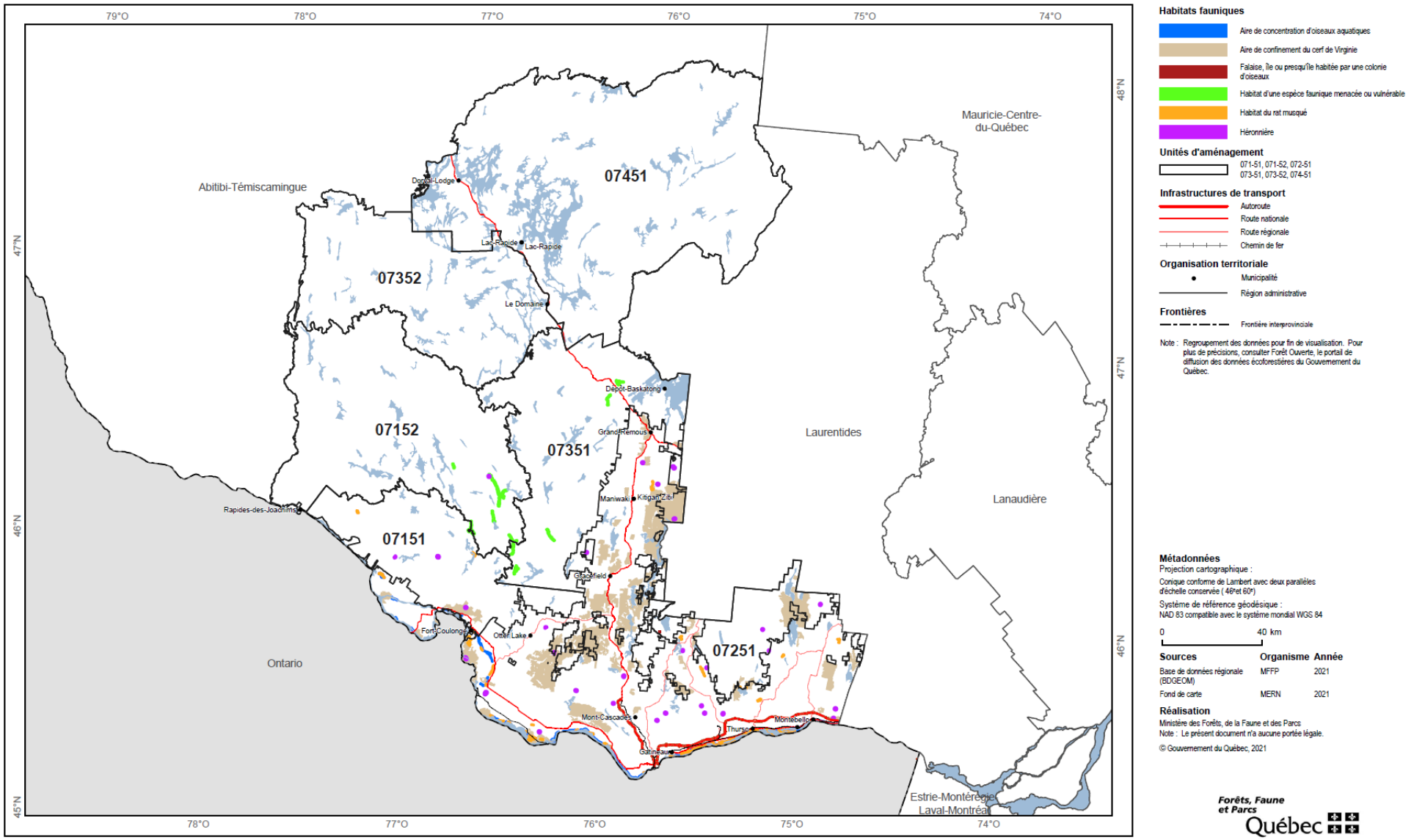
Wildlife Habitats

The main wildlife habitats of the region are aquatic bird concentration areas, white-tailed deer yards, cliffs, islands or peninsulas inhabited by a bird colony, habitats of a threatened or vulnerable wildlife species, muskrat habitats and heronries.

The following map presents the region's main wildlife habitats.

Please see the Gouvernement du Québec's ecoforest data portal, Forêt Ouverte: Wildlife Habitats

Figure 7 Wildlife Habitats of the Outaouais Region (French only)



White-tailed deer yards

In Québec, the white-tailed deer is at the northern limit of its range, and winter is the main factor that limits population growth. At our latitude, snow depth, temperature and wind may have a major influence on the survival of white-tailed deer. To minimize energy losses and maximize their survival rate, the deer take refuge in forest environments where the climate is more clement and where they can maintain a network of trails allowing them to have easy access to food and flee predators. These sectors are called “white-tailed deer yards” (WTDY).

A WTDY corresponds to a wooded area of at least 250 ha where white-tailed deer gather during the period when the depth of the snow layer exceeds 50 centimeters (cm) or 40 cm (if the territory is located south of the St. Lawrence River or west of the Chaudière River).

The majority of the WTDYs located on the lands in the domain of the State are part of the Québec network of protected areas, as a Category IV protected area[1], which are lands managed to maintain the habitat of the species for which they were designated.

In Outaouais, the WTDYs cover more than 160,000 ha, 20% of which are located on lands in the domain of the State. The WTDYs are located in Management Units 071-51, 072-51 and 073-51. Among the WTDYs found partially or completely on public lands, 9 are large enough to necessitate forestry plans, which are currently being written. Together, they cover over 4% of the manageable areas of the region.

Table 3 White-tailed Deer Yards, at Least One Port of Which is Located on Public Lands in the Outaouais Region

WTDY	Land area Outaouais (ha)	Areas in Management Units (ha)	MANAGEMENT UNIT	Forestry plan necessary (yes/no)
Aylwin Station	6,115	60	072-51 et 073-51	No
Davidson	4,755	1,270	071-51	Yes
Duhamel	12,285	7,780	072-51	Yes
Lac de la Sucrerie	730	310	072-51	No
Lac de l’Orignal	345	25	072-51	No
Lac des Trente et Un Miles	31,410	11,630	073-51	Yes
Lac du Goéland	410	5	072-51	No
Lac Gagnon	285	285	072-51	No
Lac Gardiner	455	175	072-51	No
Lac Gareau	345	5	073-51	No
Lac Heney	12,820	1,445	072-51 et 073-51	Yes
Lac Larivée	830	50	072-51	No
Lac Long	530	300	072-51	No
Lac Manitou	1,650	590	072-51	Yes
Lac McFee	2,800	1,400	072-51	Yes
Lac Morin	280	30	072-51	No
Lac Papineau	1,575	15	072-51	No
Lac Rond	890	830	073-51	Yes

[1] MINISTÈRE DE L’ENVIRONNEMENT ET DE LA LUTTE CONTRE LES CHANGEMENTS CLIMATIQUES (december 2021) https://www.environnement.gouv.qc.ca/biodiversite/aires_protegees/registre/reg-design/aire-confinement-cerf-virginie.pdf.

WTDY	Land area Outaouais (ha)	Areas in Management Units (ha)	MANAGEMENT UNIT	Forestry plan necessary (yes/no)
Lac Trilby	660	35	073-51	No
Lady Smith	19,120	3,815	071-51	Yes
Notre-Dame-de-la-Paix	4,420	10	072-51	No
Petit lac Plat	140	140	072-51	No
Point Comfort	470	130	073-51	No
Val-des-Bois	475	40	072-51	No
Venosta	14,930	3,415	071-51 et 072-51	Yes
Total	**118,725**	**33,790**	-	-

Species designated or likely to be designated as threatened or vulnerable

The *Act respecting threatened or vulnerable species* (CQLR, chapter E-12.01) governs protection of threatened or vulnerable species or species likely to be designated threatened or vulnerable (TVLS) in Québec. It is under the joint responsibility of the MELCCFP and the MRNF. Under this *Act*, a species may be designated as threatened when its disappearance is apprehended, or vulnerable when its survival is precarious, even if its disappearance is not apprehended in the short or medium term. Added to this are the species likely to be designated threatened or vulnerable and that are included on a list published in the Gazette officielle du Québec. In Québec, the term “threatened or vulnerable” species also includes the species likely to be designated threatened or vulnerable.

Certain habitats of designated threatened or vulnerable are legally recognized by regulation. Plant habitats are identified in the Regulation respecting threatened or vulnerable plant species and their habitats (CQLR: E-12.01, r.3) while wildlife habitats are designated under the Regulation respecting wildlife habitats (CQLR: C-61.1, r.18). The *Sustainable Forest Development Act* (CQLR, chapter A-18.1; hereinafter SFDA) also allows the legal classification of exceptional forest ecosystems of the forest refuge type, specially created to protect one or more TVLS plant species.

Despite the available regulatory provisions, not all known TVLS sites are legally protected. Some of these TVLS species are associated with the forest environment and may be sensitive to forest management activities. To act in complementarity with the regulatory protection, the protection in the public forest of certain TVLS wildlife or plant species is provided through an administrative agreement (TVS Agreement). This agreement is a tool that was established in 1996 by the MRNF and the MELCCFP to favour the safeguarding of the TVLS species present on Québec forest land. The TVS Agreement, in particular, allowed the development of protective measures for targeted species. The mechanisms required for their implementation are governed by the instructions developed under Environmental Management Systems and Sustainable Forest Management (SGE-ADF ISO 14001).

The approach, which ensures adequate protection of TVLS species and their habitats, is described in the ministerial directions related to ecological issues. It has three stages, which involve:

1) Establishing the list of TVLS wildlife and plant species present in the territory of the region in accordance with SGE-ADF ISO 14001:

Common name	Latin name	Provincial status	Federal status	TVS Agreement protective measure (yes/no)	Legal habitat (yes/no)
Wildlife					
Birds					
Bald Eagle	*Haliaeetus leucocephalus*	Vulnerable	None	Yes	No
Peregrine Falcon	*Falco peregrinus anatum*	Vulnerable	Special Concern	Yes	No
Reptiles					
Wood Turtle	*Glyptemys insculpta*	Vulnerable	Threatened	Yes	Yes
Amphibians					
Four-toed Salamander	*Hemidactylium scutatum*	Likely	None	Yes	No
Fish					
Sunapee Trout	*Salvelinus alpinus oquassa*	Likely	None	Yes	No
Plants					
Walking Fern	*Asplenium rhizophyllum*	Likely	None	Yes	No
American Ginseng	*Panax quinquefolius*	Threatened	Endangered	Yes	No
Round-leaf Monkey-flower	*Mimulus glabratus*	Threatened	None	Yes	No
Butternut	*Juglans cinerea*	Likely	Endangered	Yes	No
Ram's Head Lady's Slipper	*Cypripedium arietinum*	Vulnerable	None	Yes	No
Showy Lady's Slipper	*Cypripedium reginae*	Likely	None	Yes	No
American Cancer-root	*Conopholis americana*	Vulnerable	None	Yes	No
Wild Leek	*Allium tricoccum*	Vulnerable	None	Yes	No

2) Precisely map the TVLS sites where protective measures apply. These sites can be classified in three categories:

   a) habitats benefiting from legal protection;
   b) TVS Agreement protection sites;
   c) data related to the observations reported by the sighting form process;[2]

   This mapping information is available to forest managers.

3) Apply the conditions of protection according to the category in the planning and performance of forest management activities:

   a. Habitats benefiting from legal protection:

[2] A sighting form can be used to highlight unlisted social or environmental characteristics, such as observing a threatened or vulnerable species, and can be provided by referring to the management unit in the area.

No forest management activity is permitted under the legislation and regulations applicable in a designated plant or wildlife TVS habitat and in an exceptional forest ecosystem.

b. TVS Agreement protection sites:

A protective measure applies according to a zoning principle. It is possible to find 1) an integral protected area where no forest management activity is authorized and 2) an area where special conditions apply (for example, dates to be respected, types of treatment authorized). Depending on the species, the protective measure will include one of these areas, or a combination of the two. All of the protective measures are available on the TVS Agreement website.

c. Data related to the observations reported by the sighting form process.

For sightings of species that benefit from protective measures developed under the TVS Agreement, the conditions provided must be applied on the observation sites. This regional information must be protected until its inclusion in the TVS Agreement protection sites. For TVLS sightings that do not benefit from a protect measure under the TVS Agreement, the type of protection and the conditions that will be applied will be established in the region.

Please see:

Workbook 7.1 Issues related to threatened or vulnerable species
Specific protection measures for public forest flora and wildlife

Wildlife sites of interest

A wildlife site of interest is defined as a:

> "specific location comprising one or more biological or physical factors conducive to the maintenance or development of a wildlife population or community whose biological or social value renders it remarkable in the local or regional context."

In this region, most areas designated as wildlife sites of interest are located in and around aquatic habitats. These sites were chosen to protect lakes, watercourses, or habitat components that are in scarce environments, meet the criteria for significant productivity of fish of economic interest, or include protection measures for sensitive populations.

Others excluded territories

The islands of the region represent nearly 40,000 ha, 96% of which are located in Management Unit 074-51. The large islands over 250 ha are all located in this same Management Unit. Although these islands can legally be the object of forest management work, they are mainly found in reservoirs, such as the Cabonga, Dozois and Baskatong Reservoirs, which have hydroelectricity production as their priority vocation.

Ever since timber floating was stopped in the early 1990s, these islands are very difficult to access for logging, because this requires construction of ice bridges. Their establishment is practically impossible due to the drawdown caused by draining the reservoirs, which reduces the water level by nearly 10 metres from January to April on the Baskatong Reservoir and its tributary, the Cabonga Reservoir. This draining is essential to allow the accumulation of water influxes from the spring flood and ensure regulation of the water levels of the Ottawa and Gatineau Rivers. For these reasons, the islands of these reservoirs have been removed from the territory offered for timber harvesting since 1990.

Added to these excluded territories are the various biophysical constraints that render forest management impracticable. These constraints include steep slopes (slope over 40%), very poor drainage (water) and unproductive forest lands.[3]

Digital files presenting all of these sites are available at the local offices where they can be consulted. These files are continuously updated and are considered during operational planning and in the field.

Socio-economic context

Natural resource exploitation has always been the trigger for territorial occupation. Even today, it plays a significant role in social and economic development. Over the years, new industrial, commercial, institutional, recreational and cultural activities have enriched the social and economic spheres.

Land use history

The last glacial period that covered the Outaouais region erased any traces of land occupancy that preceded it. The first traces of human occupancy of the Ottawa Valley date back about 6,000 years[4]. The First Nations used the various resources available and cleared the underbrush by burning to favour hunting and development of the plants they used. In the early 1800s, the Napoleonic blockade led England to turn to its colonies for its timber supply. Commercial logging led to colonization of the region and the development of agriculture to support this nascent economy.

[3] Unproductive forest lands include forest areas with a market timber volume per hectare of less than 30 m^3, such as wet or dry bare areas and alder groves.

[4] GAFFIELD, Chad (sous la dir.) (1994). Les premiers habitants de l'Outaouais : 6000 ans d'histoire. Dans *Histoire de l'Outaouais*. Institut québécois de recherche sur la culture : Québec, pp. 42-65.

LALIBERTÉ, Marcel (été 1996). 40 siècles de présence humaine, dans *Continuité.* no 69. pp 20-21.

Different logging periods followed, based on the species sought. Oak and large pine were exported to England first, then to the United States around 1830, when spruce and pine were used in the expansion of American cities. This was the era of the log drive and the main rivers of the Outaouais region, flowing north to south, long served as an economical means of softwood transportation. The pulp and paper boom led to construction of a first mechanical pulp mill in Buckingham in 1901-1902. The growing demand for these products in the United States led to construction of several pulp mills and hydroelectric dams in Outaouais around 1920.

Starting in the south, logging ascended the rivers and their tributaries and increasingly extended northward. A tugboat called the Pythonga navigated the Baskatong Reservoir and towed timber for 65 years, from 1928 to 1993. After the First World War, the development of the railway made it possible to transport hardwood over longer distances. Hardwood diameter limit logging began with harvesting of the best stems. The species must sought were Yellow Birch, Basswood, White Ash, Black Cherry, Red Oak and Sugar Maple. The harvesting of the biggest trees continued until 1994, when selection cutting replaces this non-sustainable mode of exploitation of hardwood resources. Around this same period, poplar processing added some diversity to the region's economic structure.

The Outaouais' Forest History multimedia website will allow readers to learn more about the historical use of the territory from a forest perspective: http://www.histoireforestiereoutaouais.ca/en/

The forestry sector

The gross domestic product (GDP) contribution made by the wood and paper product manufacturing sectors is shown in the table below. Diversification into new markets such as non-residential construction, bio-products and bioenergy provides an opportunity to reduce the forestry sector's vulnerability to economic cycles. These wood by-products can also be used to replace products with a greater carbon footprint as part of the global fight against climate change.

Table 4 Contribution of the Pulp and Paper Product Manufacturing Sectors to the GDP and Employment in the Outaouais Region

Sector or industry	GDP (2019)[5]	Jobs (nbr) (2018)[6]
Industry		
Paper manufacturing (322)	148,074,000	1,700
Wood product manufacturing (321)	120,245,000	980
Forest sector		
Agriculture and forest industry support activities (115)	33,531,000	
Forestry and logging (113)	43,380,000	500

[5] Gross domestic product at basic prices by industry, administrative regions, census metropolitan areas, Quebec (quebec.ca) available online at the following address: https://statistique.quebec.ca/

[6] Jobs: Statistics Canada, Special request from the Labour Force Survey, NAICS codes 113, 1153, 321 et 322. Ministry calculations to adjust Survey of Employment, Payrolls and Hours employment data.

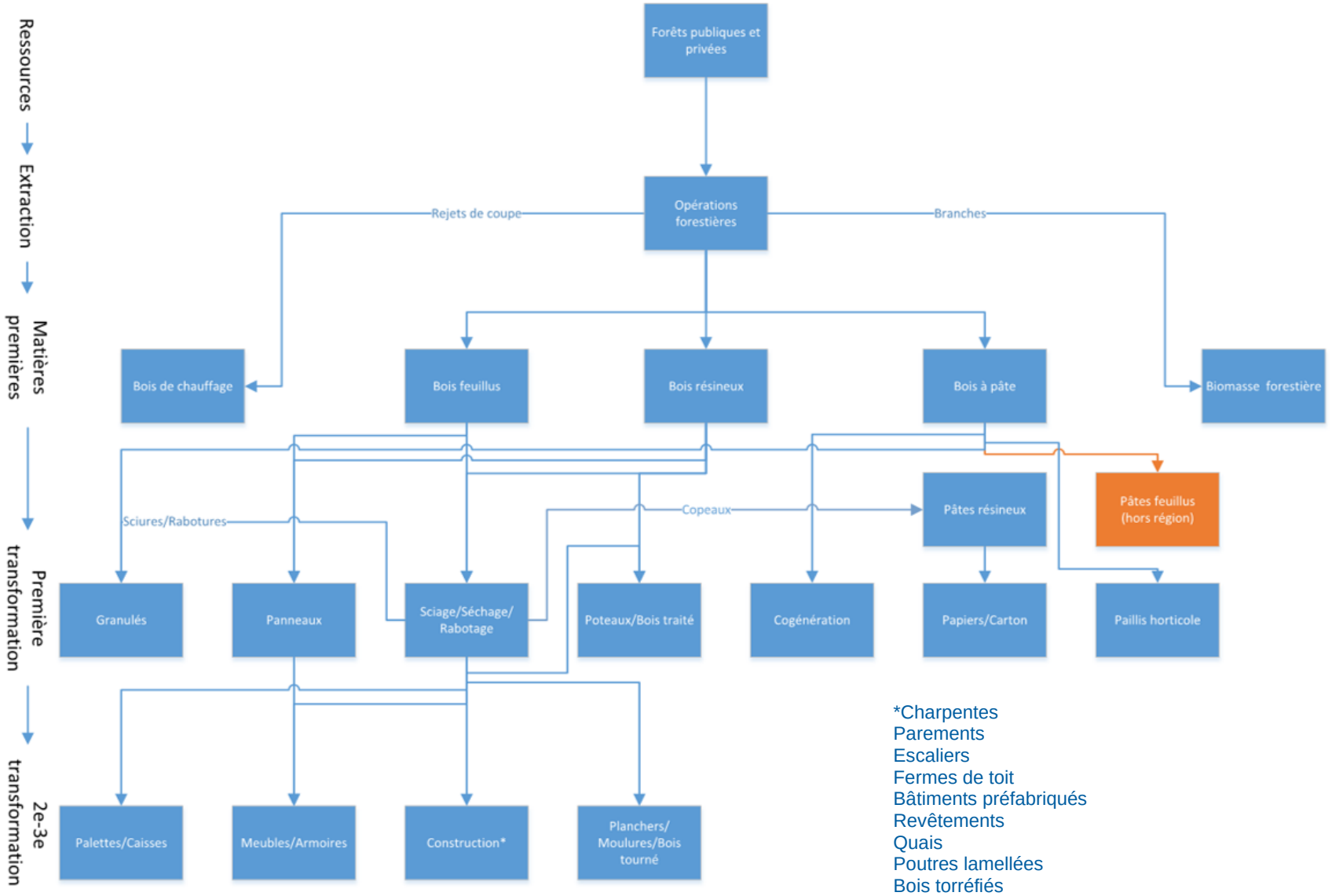
The purpose of allowing forest development on public land is to ensure a fairly constant flow of raw materials. The main rights granted in the Management Units are supply guarantees and permits to harvest timber to supply wood processing plants. These rights provide secure access to wood and help to maintain stable supplies for primary processing mills. The list of the holders of forestry and industrial rights, from inside and outside the region, that obtain their supplies from the region is likely to change, please click on the links for up-to-date information.

Please see:
Forestry rights granted
Director of holders of forestry rights on lands in the domain of the State

The MRNF has expanded access to timber by auctioning 25% of timber volumes from the public forest. Any individual or organization can take part in the auction process and obtain a contract for a specific volume of wood. The government introduced this competitive system to focus more on productivity, allowing the most efficient and innovative companies to benefit and hence encouraging optimal use of forest resources. The government adjusts its management methods to the realities and needs of local and regional communities. The free market for timber also provides a solid point of reference that is used to establish the fair market value of timber based on auction sale prices from the last five years.

Forest development is a major economic driving force for many municipalities. For example, impacts were felt during the economic crisis in the United States that shook the lumber market in the period from 2008 to 2012. The closure of the hardwood pulp mills in Portage-du-Fort in 2008, and more recently in Thurso in 2019, had significant impacts on the region's forest sector. Changes in consumer habits have also forced the pulp and paper industry to adapt to declining world demand for newsprint, printing paper and writing paper and to take advantage of expanding markets for products such as pulp, packaging and tissue paper. The regional wood sector map shown in the diagram below illustrates the connections between the forest and the mills, and between the mills themselves. The regional wood sector map can be used to identify the actors and characterize the flows of products and services in order to identify bottlenecks and potentials.

Figure 8 Mapping of the Regional Timber Sector (French only)



Forest biomass

The MRNF issues two types of permits to harvest timber to supply a wood processing plant: permits for merchantable wood and permits for forest biomass. In addition, individuals may obtain permits to harvest firewood on lands in the domain of the State.

Biomass is defined as unused trees or parts of trees forming part of the allowable cut, as well as trees, bushes, crowns, branches and foliage that do not form part of the allowable cut. Processing waste from mills (bark, sawdust and shavings) is also considered to be biomass.

It is measured in green metric tonnes (GMT). For the region, the biomass potential estimated by the Chief Forester[7] for the 2018-2023 period is about 1,571,531 GMT per year.

Recreational, tourist and wildlife use

The recreational and tourism sector generates significant economic spinoffs, mainly from hunting and fishing activities. In the public forest, the supply of services associated with these activities is concentrated around structured wildlife territories.

In addition to hunting and fishing activities, these territories have diversified their supply of services by adding related recreational activities such as wildlife observation, hiking and vacation accommodation (cottages, camping, etc.).

The protection objectives and permitted activities differ by type of territory.

- Community wildlife area: a public body of water (lake or river) for which an exclusive lease for community fishing purposes has been issued, and which is managed by a non-profit corporation;
- Outfitter: an enterprise that offers lodging and services or equipment, in exchange for payment, for recreational hunting, fishing or trapping;
- Controlled zone (ZEC): an area established for the purpose of developing, harvesting or conserving wildlife or a particular wildlife species and, to a lesser extent, for recreational use;
- Wildlife reserve: an area set aside for the conservation, development and use of wildlife and, to a lesser extent, for recreational use.

Wildlife harvesting activities are more important in less urban regions. In Québec, nearly 35% of hunting-related expenditures are incurred in a region other than the one in which the hunters live. As a result, several million dollars are transferred each year from the urban regions to the resource regions.

The region has 2 wildlife reserves, 8 ZECs, 25 outfitters with exclusive rights, one community wildlife area and 2 Small water bodies with exclusive fishing rights. The table below presents the region's structured wildlife territories.

Please see the Gouvernement du Québec's ecoforest data portal, Forêt Ouverte
Forêt Ouverte: Structured Wildlife Territories

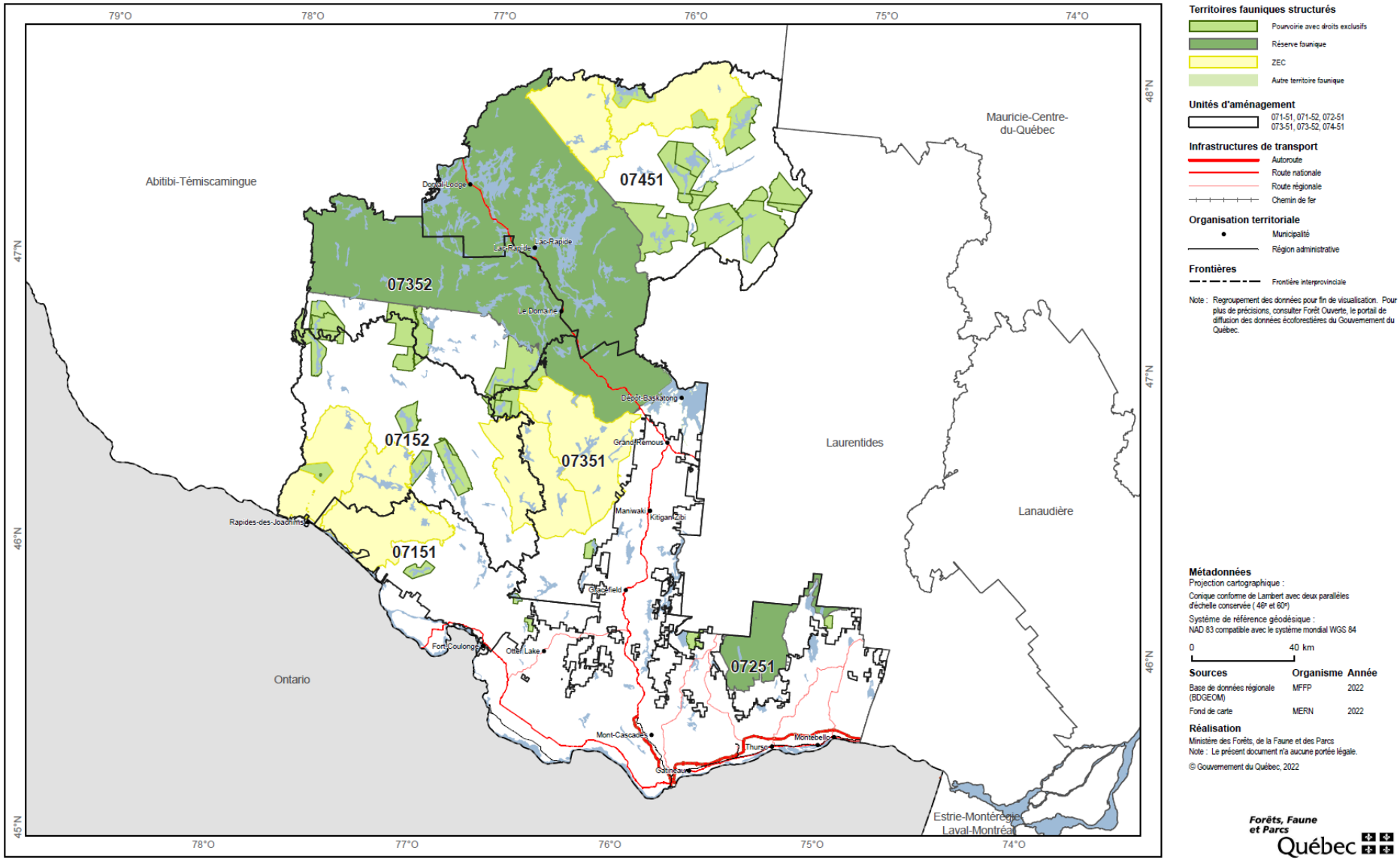
[7] BUREAU DU FORESTIER EN CHEF (2017). Estimation des quantités récoltables de biomasse forestière dans les forêts du domaine de l'État à compter du 1er avril 2018. 3 p.

Table 5 Area of Structured Wildlife Territories

Structured wildlife territory		Management Units											
Category and	Area	071-51		071-52		072-51		073-51		073-52		074-51	
Name of territory	(km²)	(km²)	(%)	(km²)	(%)	(km²)	(%)	(km²)	(%)	(km²)	(%)	(km²)	(%)
Community wildlife area													
Baskatong Reservoir Community Wildlife Area	316	0	0%	0	0%	0	0%	0.2	0%	0	0%	0	0%
		0	**0%**	**0**	**0%**	**0**	**0%**	**0.2**	**0%**	**0**	**0%**	**0**	**0%**
Small artificial lake													
Lac Salomon	0.3	0	0%	0	0%	0	0%	0.3	0%	0	0%	0	0%
Lac Supérieur	0.3	0	0%	0	0%	0	0%	0.2	0%	0	0%	0	0%
		0	**0%**	**0**	**0%**	**0**	**0%**	**0.5**	**0%**	**0**	**0%**	**0**	**0%**
Outfitter with exclusive rights													
Chalet du Lac McGillivray/Lac McGillivray Camps	46	43	2%	0	0%	0	0%	0	0%	0	0%	0	0%
Club de Chasse et Pêche Lac O'Sullivan/O'Sullivan Lake Lodge	152	0	0%	0	0%	0	0%	0	0%	0	0%	129	1%
Club de Chasse et Pêche Stramond/Stramond Lake Lodge	111	0	0%	0	0%	0	0%	0	0%	0	0%	110	1%
Club Lac Brûlé	152	0	0%	62	1%	0	0%	0	0%	88	2%	0	0%
Domaine du Lac Bryson/Bryson Lake Lodge	142	0	0%	116	2%	0	0%	0	0%	0	0%	0	0%
Domaine Stoddart	75	0	0%	55	1%	0	0%	0	0%	0	0%	0	0%
Le Domaine Shannon Inc.	331	0	0%	0	0%	0	0%	0	0%	0	0%	322	3%
Le Pourvoyeur De L'est Canadien/Eastern Canada Outfitters	27	0	0%	0	0%	0	0%	25	1%	0	0%	0	0%
Pavillon Richer Inc.	240	0	0%	0	0%	0	0%	0	0%	0	0%	211	2%
Pavillon Wapus Inc.	268	0	0%	0	0%	0	0%	0	0%	0	0%	262	3%
Pourvoirie Camachigama	216	0	0%	0	0%	0	0%	0	0%	0	0%	66	1%
Pourvoirie Chevreuil Blanc Inc.	42	0	0%	0	0%	33	2%	0	0%	0	0%	0	0%
Pourvoirie Club Des Douze	14	0	0%	0	0%	14	1%	0	0%	0	0%	0	0%
Pourvoirie De La Rivière Coucou Inc./CouCou River Lodge	136	0	0%	0	0%	0	0%	0	0%	0	0%	131	1%
Pourvoirie Domina Gravelle	11	11	0%	0	0%	0	0%	0	0%	0	0%	0	0%
Pourvoirie du Lac Dix Milles	128	0	0%	50	1%	0	0%	0	0%	0	0%	0	0%
Pourvoirie du Lac Doolittle	120	0	0%	15	0%	0	0%	97	2%	6	0%	0	0%
Pourvoirie Du Lac Forant/Lac Forant Outfitter	62	0	0%	61	1%	0	0%	0	0%	0	0%	0	0%
Pourvoirie du Lac Marie	263	0	0%	0	0%	0	0%	0	0%	0	0%	0.2	0%
Pourvoirie Lac de L'indienne	11	6	0%	0	0%	0	0%	5	0%	0	0%	0	0%
Pourvoirie Moselle-Natakim Inc.	313	0	0%	0	0%	0	0%	0	0%	0	0%	306	3%

Structured wildlife territory		Management Units											
Category and	Area	071-51		071-52		072-51		073-51		073-52		074-51	
Name of territory	(km²)	(km²)	(%)	(km²)	(%)	(km²)	(%)	(km²)	(%)	(km²)	(%)	(km²)	(%)
Pourvoirie Pavillon La Vérendrye Lodge	153	0	0%	94	2%	0	0%	0	0%	59	2%	0	0%
Pourvoirie Triple R/Triple R Outfitters	59	0	0%	52	1%	0	0%	0	0%	0	0%	0	0%
Territoire de L'orignal	165	0	0%	24	0%	0	0%	0	0%	136	4%	0	0%
Territoire de Pêche et de Chasse Poirier Inc.	321	0	0%	0	0%	0	0%	62	2%	238	6%	0	0%
		61	**2%**	**529**	**10%**	**46**	**3%**	**189**	**5%**	**527**	**14%**	**1,537**	**16%**
Wildlife reserve													
La Vérendrye Wildlife Reserve	12,500	0	0%	0	0%	0	0%	953	23%	2,249	60%	3,791	40%
Papineau-Labelle Wildlife Reserve	1,627	0	0%	0	0%	663	48%	0	0%	0	0%	0	0%
		0.0	**0%**	**0.0**	**0%**	**663**	**48%**	**953**	**23%**	**2,249**	**60%**	**3,791**	**40%**
ZECs													
ZEC Bras-Coupé-Désert	1,208	0	0%	0	0%	0	0%	1,136	28%	0	0%	0	0%
ZEC Capitachouane	861	0	0%	0	0%	0	0%	0	0%	0	0%	798	8%
ZEC Festubert	1,229	0	0%	0	0%	0	0%	0	0%	0	0%	913	10%
ZEC Lesueur	776	0	0%	0	0%	0	0%	0	0%	0	0%	3	0%
ZEC Petawaga	1,185	0	0%	0	0%	0	0%	0	0%	0	0%	0.9	0%
ZEC Pontiac	1,195	0	0%	506	9%	0	0%	623	15%	0	0%	0	0%
ZEC Rapides-des-Joachims	896	22	1%	754	14%	0	0%	0	0%	0	0%	0	0%
ZEC Saint-Patrice	1,347	769	31%	501	9%	0	0%	0	0%	0	0%	0	0%
		791	**32%**	**1,761**	**32%**	**0**	**0%**	**1,760**	**43%**	**0**	**0%**	**1,715**	**18%**
		852	**34%**	**2,290**	**42%**	**709**	**51%**	**2,902**	**71%**	**2,776**	**74%**	**7,043**	**75%**

Figure 9 Structured Wildlife Territories (French only)



Wildlife resources

The MELCCFP's mission includes the conservation and development of wildlife species and their habitats. Wildlife management plans have been prepared for the species targeted by hunters, anglers and trappers in Québec, presenting the population's status and establishing conditions for harvesting.

Hunting

Hunting is an emblematic activity that is anchored in the identity and economy of Québec's regions. Hunting enthusiasts often practise more than one type of hunting for which a licence is required.

Québec is divided into 29 zones. Since Zone 25 only exists for fishing, there are 28 hunting zones, Zones 1 to 24 and 26 to 29. In some cases, these zones are subdivided to apply special rules depending on a species.

Game harvesting differs from one hunting zone to another and from year to year depending on various factors. The main species hunted are White-tailed Deer, Moose, Wild Turkey, Bear, Snowshoe Hare and Ruffed Grouse.

Trapping

Several fur-bearing species are harvested in Québec, including the marten, Canada lynx and beaver among others. These species are present throughout the area in varying densities, depending on habitat availability. Trapping activities are governed by the *Act respecting the conservation and development of wildlife*, and all trappers must obtain a professional trapping licence.

The main species trapped in Outaouais[8] are Marten, Beaver, Muskrat, Fisher, Raccoon, Weasel, Mink, North American River Otter, Red Fox, Coyote and Squirrel. Wolf, Black Bear, Skunk, Canada Lynx and Bobcat are also trapped.

It is possible to consult the hunting and fishing statistics on the Forêt ouverte interactive map via the following website:

Statistics on hunting and trapping in Québec

Fishing

Sport fishing is the wildlife-related activity that attracts the most attention from outdoor enthusiasts in Québec. Roughly 30 of the 118 freshwater and migratory fish species present in Québec are fished for sports or commercial purposes in Québec. In the case of some of these species, such as the walleye, lake trout and Atlantic salmon, management plans have been prepared to improve population health and fishing quality.

[8] MINISTÈRE DES FORÊTS DE LA FAUNE ET DES PARCS (2021). Quantités de fourrures brutes vendues par UGAF et par région - Saison 2020-2021 (du 1er septembre 2020 au 31 août 2021). 5 p.

Québec territory is divided into 29 fishing zones that account for distribution of species for which the regulations may vary, depending on the fishing zone, the body of water, the desired species and the period of the year.

The species most sought for fishing in Outaouais are Brook Trout, Lake Trout, Walleye, Pike, Muskellunge and Bass.

Biophysical profile

The profiles presented in this section were produced from the ecoforest stand maps generated by the fifth ten-year inventory program, and were up-to-date as of March 31, 2021. It is important to note that the observations apply only to forests in which forest management activities can be carried out, i.e. the manageable forests.

Natural forest disturbance regime

Natural disturbances are an integral part of the dynamics of forest ecosystems. Their frequency, extent and severity exert a direct influence on stand succession and forest management.

The main disturbances encountered in Québec's forests are fire, spruce budworm and windthrow. Some Management Units are more susceptible to fires, while others encounter more insect infestations or windfall. Special development plans are used to ensure that the damaged wood is salvaged.

Overall, the dominant disturbance regimes go with the bioclimatic domains: there is a mutual influence of climate, biophysical characteristics, including vegetation, and the type of natural dominant disturbances.

Fire

Fires vary significantly in terms of severity, and in terms of prevalence from one year to the next. In addition, although fires are usually perceived to be serious, a high percentage of fire-damaged areas may be composed of partially burned stands. Fire variability is caused by a combination of climate-related and edaphic factors. Fire cycles throughout Québec have tended to increase in length over time, from the historical period to the recent period (1940-2020). However, the fire risk will continue to be high for decades to come.

Since the end of the last glaciation, forest fires have allowed development and renewal of pine and oak forests in the southwest portion of Outaouais. Since the deployment in 1894 of the first forest fire protection network in Outaouais, forest fires have been fought intensively to protect the forests and the various facilities developed in the territory. The last major fire date back to the 1950s. Nowadays, the areas burned annually are small.

The ecological districts[9] served as study areas in a research paper[10] on the establishment of territorial zoning of the main fire regimes identified in southern Québec. According to this study, the principal

[9] The ecological district is a portion of the territory characterized by a pattern of topography, geology, geomorphology and regional vegetation. Their delineation is based on analyzing and identifying how these elements are organized in the environment. The vegetation is conditioned by physical characteristics and climate that is considered homogeneous across the ecological district.

[10] COUILLARD, P.-L, M. BOUCHARD, J. LAFLAMME et F. HÉBERT (2022). Zonage des régimes de feux du Québec méridional. Gouvernement du Québec, ministère des Forêts, de la Faune et des Parcs, Direction de la recherche forestière. Mémoire de recherche forestière no 189. 23 p.

Outaouais fire cycle would be around 300 years. The eastern part of the region, Management Unit 072-51 and the eastern Management Units 073-51 and 074-51, have a fire cycle estimated at 840 years. Species that depend on or are well adapted to fire for regeneration, such as jack pine, white pine and oak, are present in several MUs. fires would be more frequent than crown fires, but their importance and their effects on the forest mosaic are difficult to quantify.

Spruce budworm

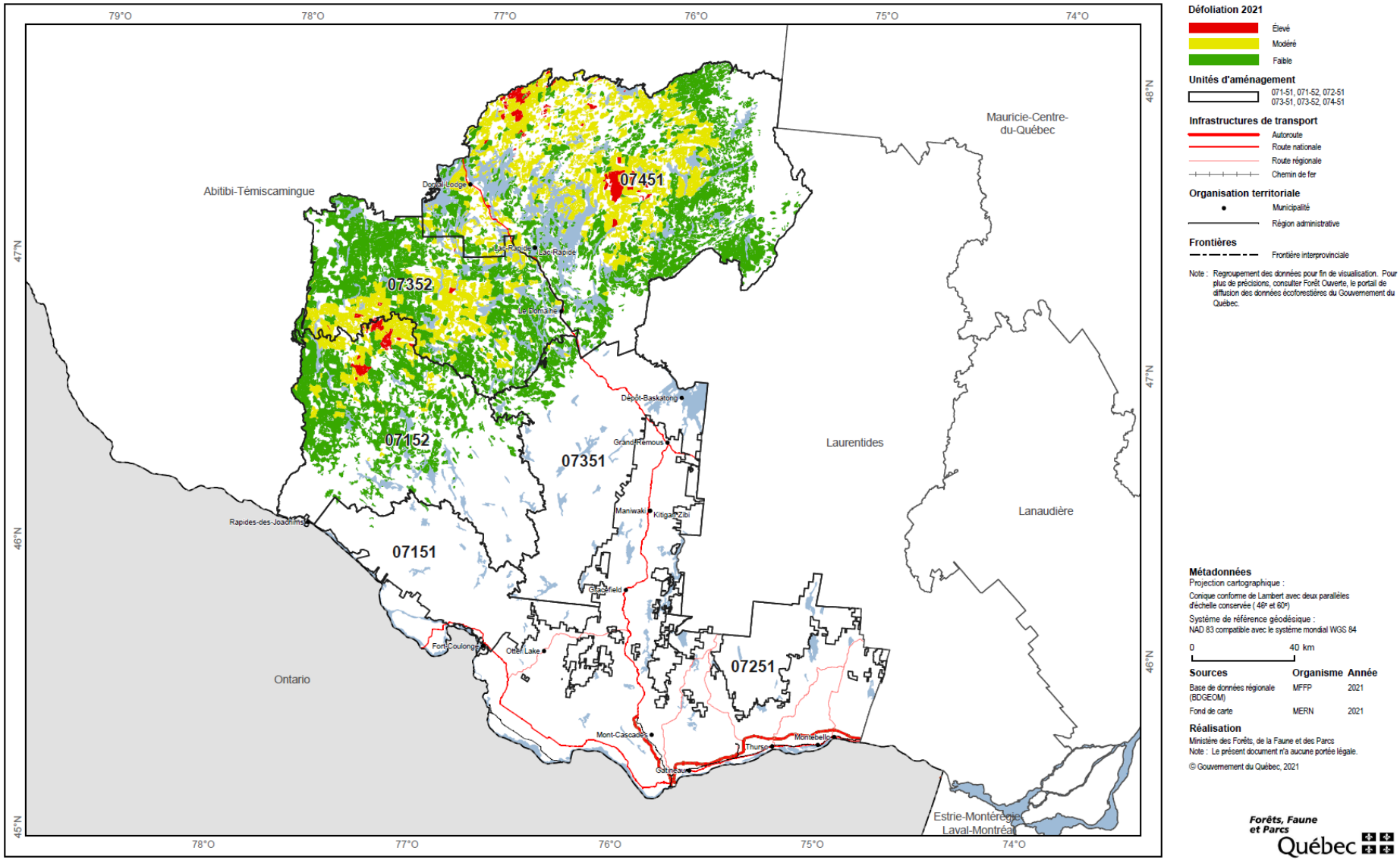
The spruce budworm is the insect that causes the most damage in Québec. It defoliates new shoots, killing the trees or reducing their growth. The most vulnerable species are fir, white spruce and, to a lesser extent, red spruce and black spruce. Infestations occur every 30 to 40 years or so, with the interval being conditioned by a complex dynamic between the insect and its natural enemies. An infestation is currently underway, mainly in the Côte-Nord, Saguenay–Lac-Saint-Jean, Gaspésie, Abitibi-Témiscamingue and Outaouais regions.

The spruce budworm's impacts vary by region, among other things due to stand structure and composition. A stand's vulnerability increases according to the percentage of host trees (e.g. fir, white spruce), tree age and site conditions. Mature fir forests are generally more vulnerable than other types of stands. A significant presence of hardwood trees at landscape and stand level can reduce the impacts of spruce budworm infestations on host species. The last two infestations occurred mostly in Management Units located in the fir-yellow birch and fir-white birch domains, due to the large number of fir stands in those areas. The insect's range appears to be shifting northwards as a result of climate warming.

The fir stands of the Outaouais region have been regenerating since the last epidemic, which ravaged them in the 1970s. The current epidemic entered Outaouais in 2018. It spread rapidly, affecting 1,024,700 ha to various degrees in 2021. The Management Units most affected are 073-52 and 074-51 and the northern part of Management Unit 071-52. The following mapping presents the annual defoliation caused by the spruce budworm on host trees for 2021 according to the three defoliation classes adopted:

- Mild = loss of foliage in the upper third of the crown of some trees;
- Moderate = loss of foliage in the upper half of the crown of the majority of the trees;
- Severe = loss of foliage over the entire length of the crown of the majority of the trees.

Figure 10 Defoliation Caused by spruce budworm in 2021 in Outaouais (French only)



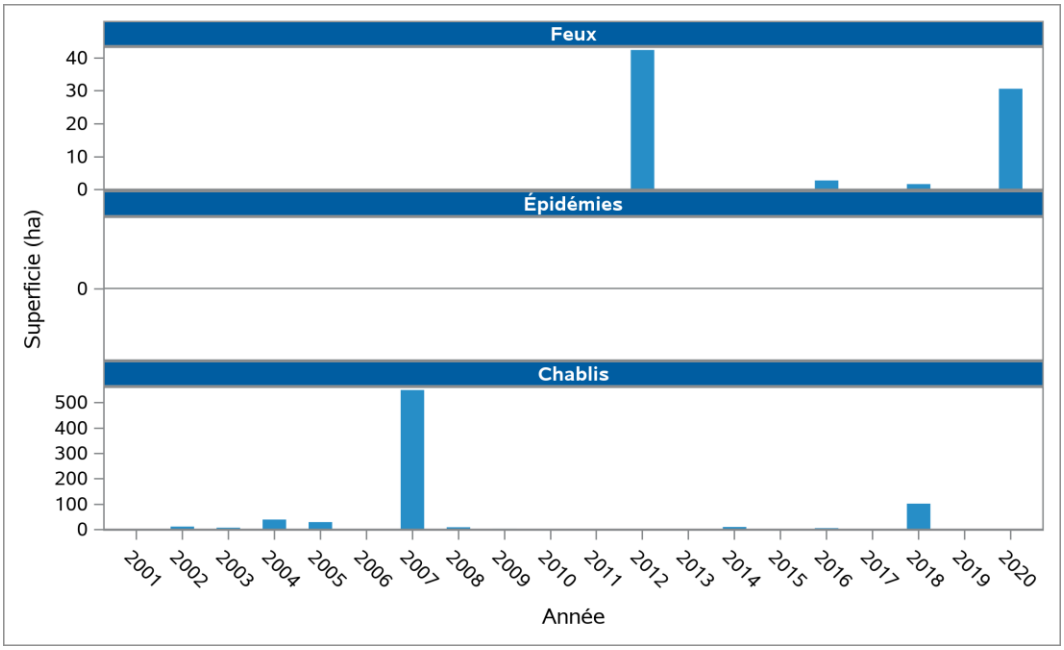
Windthrow

The term “windthrow” refers to the overturning (uprooting or breakage) of a tree or group of trees, usually due to age, disease or climatic elements such as wind, snow or ice. Windthrow is more frequent along the edges of recent cuts, usually in the first 20 to 30 metres, as well as in waterside strips, logging separators and other residual stands. Vulnerability to windthrow also depends on exposure to wind (e.g. strip orientation, topographical position). Major windfall affected the Témiscamingue and Outaouais regions in 2006. More recently, several tornado and intense wind episodes led to partial or total windfall.

Overview of recent natural disturbances

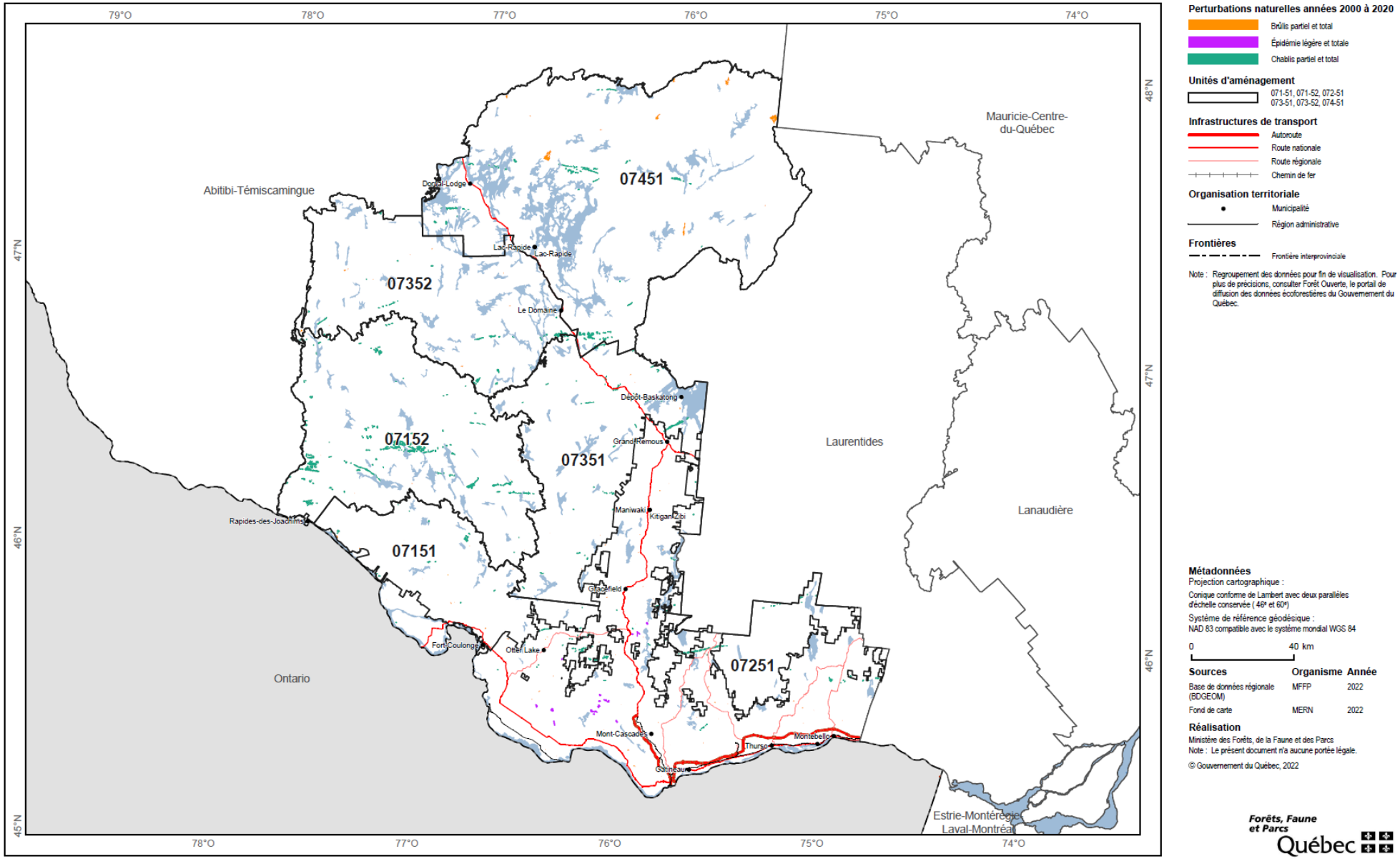
The diagram below shows the main natural disturbances occurring in the period 2000 to 2020. It is important to note that partial disturbances (25% to 75% of the canopy damaged) and total disturbances (more than 75% of the canopy damaged) are presented without distinction. In the specific case of infestations, the figures do not refer to annual defoliation, but to deaths resulting from several years of defoliation.

Figure 11 Regional Annual Area of Fires, Epidemics and Windfall Established for the 2001 to 2020 Period (French only).



Please see the Québec Government’s ecoforest data portal, Forêt Ouverte
Forêt Ouverte: Natural Disturbances — Fires
Forêt Ouverte: Natural Disturbances — Insects and Diseases

Figure 12 Natural Disturbances for the 2000 to 2020 Period (French only)



Diseases and others disturbances

Beech Bark Disease leads to degradation of the stems and eventually causes the death of the infected trees. Its progression in the region has increased constantly since its discovery in 1998.

The **Emerald Ash Borer** has held media attention over the past few years due to the high mortality rate observed in the urban and periurban environment. The absence of economically feasible means to fight the emerald ash borer, combined with the low volume of ash trees and their dispersion in Outaouais public forests, generally limit the possible insect control actions.

The **White Pine Weevil** attacks the terminals leaders, which wither and turn brown during the summer, and then die shortly after. After a few years of attacks, the tree is deformed and loses its commercial or aesthetic value.[11]

Originating in Asia, **White Pine Blister Rust** is widespread throughout the Eastern White Pine's range. This exotic disease is considered to be the main obstacle to Eastern White Pine regeneration and its presence leads to the performance of phytosanitary pruning work in Eastern White Pine plantations.

Western Gall Rust generally attacks seedlings and saplings of Jack Pine plantations and natural stands. It mainly triggers a sharp reduction of growth but may lead to the death of small trees over a period of 2 to 5 years after infection, depending on their size.[3]

Other insect pests and diseases are present in the region, specifically the Eastern Hemlock Looper, the Swaine Jack Pine Sawfly, the Forest Tent Caterpillar Moth, the European Gypsy Moth, the Sugar Maple Borer, the Wooly Apple Aphid, Brown Spot Needle Blight and White Pine Needle Disease.

In a context of climate change, attention is paid to other disturbances, such as freezing rain and drought. Insects and diseases not yet present in the region are under surveillance (aphids, nematodes and Oak Wilt).

Ecological classification

Québec’s territory is extremely diverse in terms of its geology, relief, hydrography, soils and climate. All these components interact and also have an individual impact on forest ecosystem dynamics. The Hierarchical Ecological Classification System is used to describe the ecological diversity and distribution of Québec’s forests. It has 11 levels, with each level being distinguished in the upper scales by its climate, dominant vegetation and disturbance regime (vegetation zones or subzones and bioclimatic domains or subdomains), and in the lower scales by its physical environmental characteristics such as altitude, relief and surface deposits. This system is one of the information tools that is needed for forest development and protection.

[11] MINISTÈRE DES FORÊTS DE LA FAUNE ET DES PARCS (2020). Insectes, maladies et feux dans les forêts du Québec en 2020. Direction de la protection des forêts. Québec. Québec. 84 p.

Bioclimatic subdomains	
MANAGEMENT UNIT: 071-51	**Sugar maple-bitternut hickory forest** The sugar maple-bitternut hickory bioclimatic domain, located in the southern part of Management Units 071-51 and 072-51, covers the southwest of the province, where the climate is most favorable. This is where the southernmost flora in Québec can be found, including many thermophile species. Forests are extremely diverse in this area. Some of the species here are at the southern boundary of their distribution area. This is the case for the bitternut hickory, after which the domain is named, shagbark hickory, hackberry, black maple, swamp white oak, rock elm, pitch pine, as well as many bushes and shrubs. Other species that also grow in the north can be found here as well, such as sugar maple, fir, and spruce. This domain is not split into subdomains.
MANAGEMENT UNITS: 071-51 072-51 073-51	**Sugar maple-basswood forest in the West** The sugar maple-basswood bioclimatic domain is located to the north and east of the sugar maple-bitternut hickory domain. There is also a wide variety of flora, but many species are at the southern boundary of their distribution area. In areas with the right growing conditions, American basswood, American beech, ironwood, and white walnut are mixed in with sugar maple, but are less common outside this domain. The distribution of red oak and rainfall patterns can be used to identify two subdomains, one in the west, which is drier, and the other in the east, which gets more rainfall.
MANAGEMENT UNITS: 071-51 071-52 072-51 073-51	**Sugar maple-yellow birch forest in the West** The sugar maple-yellow birch bioclimatic domain covers the slopes and hills that border the southern part of the Canadian Shield and the Appalachians. It is located in the northernmost part of the deciduous forest subzone. Flora here is less varied, except at the best sites, and includes many boreal species that are commonly found throughout Québec. At mesic sites, yellow birch is one of the main species found alongside the sugar maple. American beech, red oak, and Canadian hemlock also grow here, but they are very rarely found beyond their southernmost boundary. This domain also marks the end of the American basswood and ironwood distribution area. Here, as in the entire deciduous subzone, windfall is one of the main features of forest dynamics. Abundant rainfall as well as the distribution of white and red pine stands split the sugar maple-yellow birch domain into two subdomains, one in the east and one in the west.
MANAGEMENT UNITS: 071-52 073-51 073-52 074-51	**Balsam-yellow birch forest in the West** The balsam-yellow birch bioclimatic domain is an ecotone, i.e., it marks the transition between the temperate northern zone, where it is located, and the boreal zone. It runs from western to central Québec, between 47° and 48° latitude. It also outlines the Gaspé Peninsula and includes the Appalachians in eastern Québec, the Laurentian foothills, north of the St. Lawrence River, and the Lac Saint-Jean lowlands. Mesic sites here are populated with mixed stands of yellow birch and softwoods, such as balsam fir, white spruce, and cedar. Sugar maples grow here at the southern boundary of their distribution area. Spruce budworm epidemics and fires are the two main factors in forest dynamics. The abundance of yellow birch and pine stands drops off from west to east, helping identify two subdomains. The West subdomain is characterized by the overall presence of yellow birch-fir stands on mesic sites and the East subdomain by fir-yellow birch stands.
MANAGEMENT UNIT: 074-51	**Fir-white birch forest in the West** The balsam-white birch domain covers the southern part of the boreal zone. Here the forest is dominated by stands of balsam trees and white spruce combined with white birch at the mesic sites. At less favorable sites, black spruce, jack pine, and larch are often mixed in with white birch or trembling aspen. Yellow birch and red maple only grow in the southern part of the domain. The spruce budworm is the main forest dynamics factor in this domain, because balsam firs are plentiful. However, fire also plays an important role. The fir-white birch domain can be split into two subdomains. In the West subdomain, the landscape is not very rugged. There is little in the way of steep terrain. The fire cycle is also shorter here, which explains the abundance of hardwood stands or mixed stands with shade-intolerant species (trembling aspen, white birch, and jack pine). Due to the influence of the ocean, rainfall is generally more abundant in the East subdomain. As a result, the fire cycle is longer here.

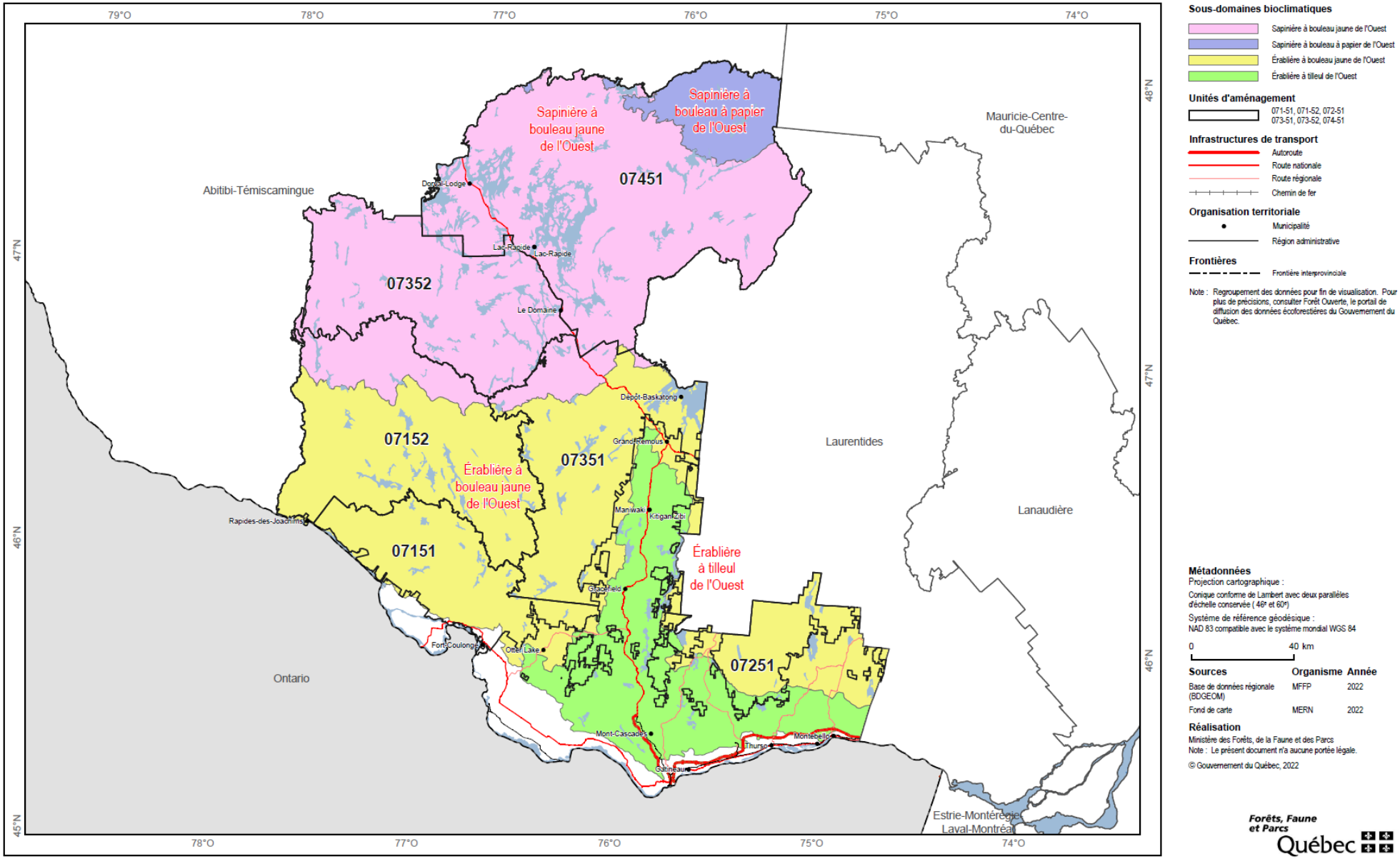
The table below presents the percentage of each bioclimatic subdomain in the region's Management Units

Please see the Québec Government's ecoforest data porta, Forêt Ouverte
Forêt Ouverte: Bioclimatic domain and subdomain

Table 6 Area of Bioclimatic Domains and Subdomains and Ecological Regions of the Management Units

Bioclimatic domain and subdomain		071-51		071-52		072-51		073-51		073-52		074-51		Total UA	
	Ecological region	(ha)	(%)	(ha)	(%)	(ha)	(%)	(ha)	(%)	(ha)	(%)	(ha)	(%)	(ha)	(%)
1 - Sugar maple-bitternut hickory forest															
Aucun	1a - Plaine du bas Outaouais et de l'archipel de Montréal	30	0%	0	0%	0	0%	0	0%	0	0%	0	0%	30	0%
		30	**0%**	**0**	**0%**	**0**	**0%**	**0**	**0%**	**0**	**0%**	**0**	**0%**	**30**	**0%**
2 - Sugar maple-basswood forest															
Ouest	2a - Basse Gatineau	9,134	4%	0	0%	29,293	21%	10,088	3%	0	0%	0	0%	48,515	2%
		9,134	**4%**	**0**	**0%**	**29,293**	**21%**	**10,088**	**3%**	**0**	**0%**	**0**	**0%**	**48,515**	**2%**
3 - Sugar maple-yellow birch forest															
Ouest	3a - Outaouais et Témiscamingue	240,546	96%	414,670	76%	0	0%	192,867	47%	0	0%	0	0%	848,083	32%
	3b - Lac Nominingue	0	0%	0	0%	110 154	79%	134,035	33%	0	0%	983	0%	245,172	9%
		240,546	**96%**	**414,670**	**76%**	**110 154**	**79%**	**326,902**	**80%**	**0**	**0%**	**983**	**0%**	**1,093,255**	**41%**
4 - Balsam-yellow birch forest															
Ouest	4b - Réservoir Cabonga	0	0%	127,957	24%	0	0%	71,543	18%	373,008	100%	655,529	70%	1,228,037	46%
	4c - Moyen Saint-Maurice	0	0%	0	0%	0	0%	0	0%	0	0%	135,492	14%	135,492	5%
		0	**0%**	**127,957**	**24%**	**0**	**0%**	**71,543**	**18%**	**373,008**	**100%**	**791,021**	**84%**	**1,363,529**	**51%**
5 - Fir-white birch forest															
Ouest	5b - Réservoir Gouin	0	0%	0	0%	0	0%	0	0%	0	0%	147,202	16%	147,202	6%
		0	**0%**	**0**	**0%**	**0**	**0%**	**0**	**0%**	**0**	**0%**	**147,202**	**16%**	**147,202**	**6%**

Figure 13 Bioclimatic Subdomain of the Outaouais Region (French only)



Ecological type is a portion of land, at local scale, exhibiting a permanent combination of the environment's potential vegetation and physical characteristics. As a classification unit, it expresses both the characteristics of the vegetation that grows or may grow in the area (potential vegetation) and the physical characteristics of the environment.[12] Ecological type provides information on forest ecosystem dynamics at local level and offers a detailed view of the forest. It is useful among other things for planning forest management, preparing silvicultural scenarios, making allowable cut calculations, establishing the locations of exceptional or rare forest ecosystems, developing nature interpretation trails, establishing the locations of hunting areas and studying wildlife habitats. The table below presents the percentage of the main ecological types in the region's Management Units.

[12] Jocelyn GOSSELIN (2002), Guide de reconnaissance des types écologiques des régions écologiques 3a – Collines de l'Outaouais et du Témiscamingue et 3b – Collines du lac Nominingue, ministère des Ressources naturelles du Québec, Forêt Québec, Direction des inventaires forestiers, Division de la classification écologique et de la productivité des stations, 188 p.

Table 7 Distribution of Main Ecological Types of Productive Forest Lands by Management Unit

Ecological type		All Management Units	071-51	071-52	072-51	073-51	073-52	074-51
Code	Description	(%)	(%)	(%)	(%)	(%)	(%)	(%)
MJ12	Yellow- Birch- Balsam Fir and Sugar Maple stand on thin to thick deposit, medium texture and mesic drainage	20.1%	19.0%	32.4%	10.1%	21.5%	17.8%	14.8%
MJ22	Yellow Birch-Balsam Fir stand on thin to thick deposit, medium texture and mesic drainage	15.6%	< 2%	10.9%	< 2%	2.8%	29.6%	24.8%
FE32	Maple-Yellow Birch stand on thin to thick mineral deposit, medium texture, mesic drainage	9.3%	7.7%	15.3%	13.2%	16.5%	7.0%	3.2%
FE22	Maple-Basswood stand on thin to thick mineral deposit, medium texture, mesic drainage	4.8%	12.9%	< 2%	27.7%	13.3%	< 2%	< 2%
MJ25	Yellow Birch-Balsam Fir stand on thin to thick deposit, medium texture, subhydric drainage	4.1%	< 2%	3.9%	< 2%	2.2%	7.3%	5.4%
FE62	Maple-Northern Red Oak stand on thin to thick mineral deposit, medium texture, mesic drainage	4.0%	17.5%	4.2%	4.4%	8.0%	< 2%	< 2%
RS25	Balsam Fir-Black Spruce stand on thin to thick mineral deposit, medium texture, subhydric drainage	3.8%	< 2%	2.8%	< 2%	< 2%	7.2%	5.7%
RS21	Balsam Fir-Black Spruce stand on thin to thick mineral deposit, coarse texture, xeric to mesic drainage	3.0%	< 2%	< 2%	< 2%	< 2%	4.2%	5.2%
MJ15	Yellow- Birch- Balsam Fir and Sugar Maple stand on thin to thick deposit, medium texture and subhydric drainage	2.9%	4.7%	3.7%	2.9%	7.8%	< 2%	< 2%
MS22	Balsam Fir-White Birch stand on thin to thick deposit, medium texture and mesic drainage	2.8%	< 2%	< 2%	< 2%	< 2%	< 2%	7.5%
RS22	Balsam Fir-Black Spruce stand on thin to thick mineral deposit, medium texture, mesic drainage	2.7%	< 2%	< 2%	< 2%	< 2%	3.1%	5.2%
MJ21	Yellow Birch-Balsam Fir stand on thin to thick deposit, coarse texture and xeric or mesic drainage	2.0%	< 2%	2.8%	< 2%	3.0%	2.6%	< 2%
RE21	Black Spruce-Moss or Ericaceous stand on thin to thick mineral deposit, coarse texture, xeric or mesic drainage	< 2%	< 2%	< 2%	< 2%	< 2%	< 2%	4.1%
RE39	Black Spruce-Spaghnum stand on thin to thick organic deposit, hydric drainage, ombrotrophic	< 2%	< 2%	< 2%	< 2%	< 2%	2.1%	2.8%
RP12	White or Red Pine stand on thin to thick mineral deposit, medium texture, mesic drainage	< 2%	4.9%	2.6%	< 2%	< 2%	< 2%	< 2%
MJ10	Yellow Birch-Balsam Fir and Sugar Maple stand on very thin deposit, varied texture and xeric to hydric drainage	< 2%	< 2%	< 2%	2.4%	< 2%	< 2%	< 2%
MS21	Balsam Fir-White Birch stand on thin to thick deposit, coarse texture and xeric or mesic drainage	< 2%	< 2%	< 2%	< 2%	< 2%	< 2%	2.2%
MJ11	Yellow- Birch-Balsam Fir and Sugar Maple stand on thin to thick deposit, coarse texture and xeric or mesic drainage	< 2%	3.4%	< 2%	4.4%	< 2%	< 2%	< 2%
FE60	Maple-Northern Red Oak stand on very thin deposit, varied texture, xeric to hydric drainage	< 2%	2.5%	< 2%	7.0%	< 2%	< 2%	< 2%

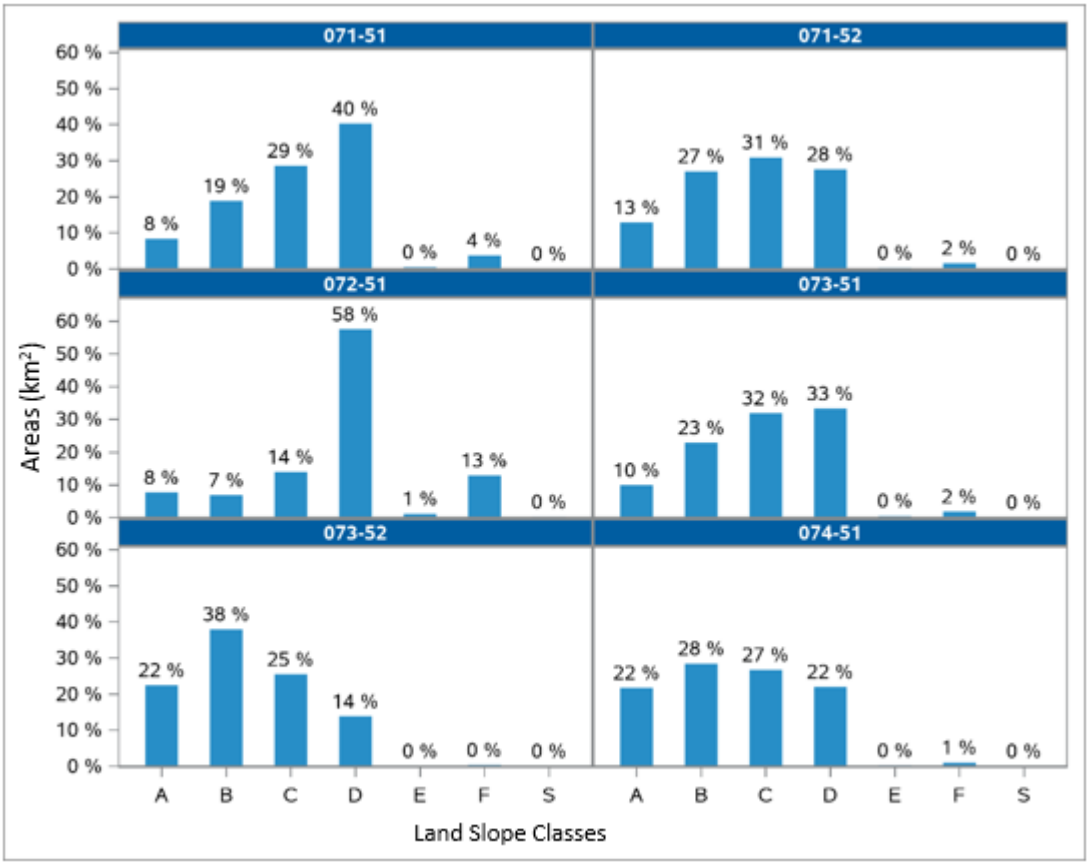
Ecological type		All Management Units	071-51	071-52	072-51	073-51	073-52	074-51
Code	Description	(%)	(%)	(%)	(%)	(%)	(%)	(%)
RS12	Balsam Fir-Eastern White Cedar stand on thin to thick mineral deposit, medium texture, mesic drainage	< 2%	< 2%	< 2%	< 2%	< 2%	2.8%	< 2%
RE24	Black Spruce-Moss or Ericaceous stand on thin to thick mineral deposit, coarse texture, subhydric drainage	< 2%	< 2%	< 2%	< 2%	< 2%	< 2%	2.1%
RP10	White or Red Pine stand on very thin deposit, varied texture, xeric to hydric drainage	< 2%	3.2%	< 2%	< 2%	< 2%	< 2%	< 2%
FC10	Northern Red Oak stand on very thin deposit, varied texture, xeric to hydric drainage	< 2%	4.1%	< 2%	2.3%	< 2%	< 2%	< 2%
FC12	Northern Red Oak stand on thin to thick mineral deposit, medium texture, mesic drainage	< 2%	2.6%	< 2%	< 2%	< 2%	< 2%	< 2%
RT10	Eastern Hemlock stand on very thin deposit, varied texture, xeric to hydric drainage	< 2%	< 2%	< 2%	5.8%	< 2%	< 2%	< 2%
FE52	Maple-Eastern Hop-hornbeam stand on thin to thick mineral deposit, medium texture, mesic drainage	< 2%	2.4%	< 2%	< 2%	< 2%	< 2%	< 2%
RT12	Eastern Hemlock stand on thin to thick mineral deposit, medium texture, mesic drainage	< 2%	< 2%	< 2%	3.5%	< 2%	< 2%	< 2%
FE20	Maple-Basswood stand on very thin deposit, varied texture, xeric to hydric drainage	< 2%	< 2%	< 2%	4.4%	< 2%	< 2%	< 2%
Rare	All ecological types that cover less than 2% of the area of the Management Unit	24.9%	15.4%	21.3%	12.1%	24.9%	16.3%	17.1%

Please see:
Ecological Classification

Relief and surface deposits

At stand level, the incline of the land on which the majority of the stand is located is classified into different slope categories. There are seven slope categories in Québec, and forestry operations are permitted on five of those categories: A (Zero slope: incline below 4 %), B (Low slope: incline of 4 % to 8 %), C (Soft slope: incline of 9 % to 15 %), D (Moderate slope: incline of 16 % to 30 %) and E (Strong slope: incline of 31 % to 40 %). Harvesting is not permitted on slopes falling into the other two categories: F (Excessive slope: Incline of more than 40 %) and S (Area surrounded by slopes with inclines of more than 40 %).

Figure 14 Distribution of Land Slope Classes of Productive Forest Lands by Management Unit



The surface deposit is the layer of loose material covering the rock. It may have been put in place as the glaciers receded at the end of the last glacial stage, or as a result of other processes associated with erosion and sedimentation. Its nature is evaluated from the landform, its position on the slope, soil texture and other elements. Surface deposit maps show the main surface deposit categories and their nature, thickness and distribution.

Table 8 Distribution of the Main Surface Deposits of Productive Forest Lands by Management Unit

Surface deposits		All Management Units	071-51	071-52	072-51	073-51	073-52	074-51
Code	Description	(%)	(%)	(%)	(%)	(%)	(%)	(%)
1A	Glacial deposit, without special morphology, undifferentiated till	35.4%	19.3%	37.1%	15.8%	30.9%	48.8%	38.4%
1AY	Glacial deposit, without special morphology, undifferentiated till, average thickness 50 cm to 1 m with rare to very rare rock outcrops	33.0%	35.3%	37.0%	34.6%	37.5%	26.2%	30.4%
1AM	Glacial deposit, without special morphology, undifferentiated till, average thickness 25 to 50 cm with rare to infrequent rock outcrops	11.6%	25.0%	11.3%	23.0%	14.7%	5.6%	7.4%
2BE	Fluvioglacial, preglacial deposit, spreading	10.4%	6.6%	7.3%	7.1%	9.4%	10.3%	14.4%
R1A	Glacial deposit, without special morphology, undifferentiated till, average thickness 0 to 50 cm with frequent rock outcrops	3.6%	9.9%	3.2%	15.5%	3.9%	< 2%	< 2%
7T	Organic, thin organic deposit	2.5%	< 2%	< 2%	< 2%	< 2%	4.2%	3.6%
2A	Fluvioglacial, juxtaglacial deposit	< 2%	< 2%	< 2%	< 2%	< 2%	< 2%	2.9%
Rare	All surficial deposits that cover less than 2% of the area of the Management Unit	3.5%	3.9%	4.0%	4.0%	3.6%	4.9%	3.0%

Please see:
Données Québec — Surface Deposits

Resource Profile

The many resources available in the forest are conducive to multiple uses and contribute to the diversification of economic activity. The forests change continually as a result of natural disturbances and human interventions that shape the forest ecosystems.

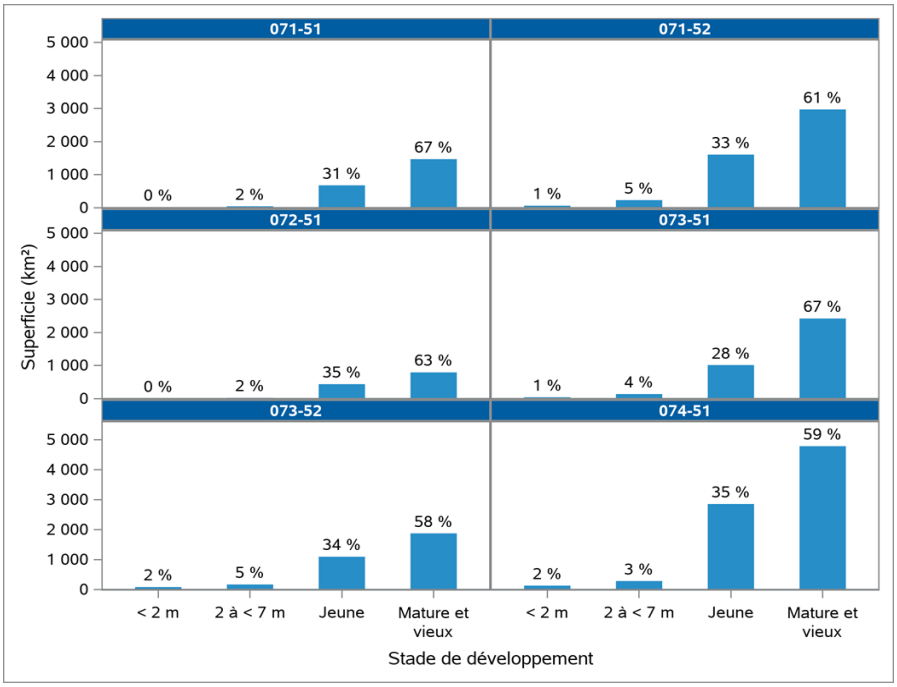
Timber resources

Forest composition is a key element in the choice of forest management strategies. The distribution of different types of canopies, combined with different development stages, present challenges for integrated, synergic management.

Development stages

The percentage of the area occupied by each development stage indicates the forest's maturity and evolution. Depending on its origins, height and growth, a forest stand can be classified as regenerating (< 2 m), regenerated (from 2 to 7 m), young (> 7 m and not yet at maturity), mature and old-growth.

Figure 15 Distribution of the Development Stages of Productive Forest Lands by Management Unit



The distribution of the development stages of the forest stands shows that the proportion of area covered by mature and old-growth forests varies from 58% to 67%, depending on the Management Unit. Young forests represent between 28% and 35%, depending on the Management Unit. However, this distribution makes no distinction concerning the types of cover.

Age class

Stand age class denotes two characteristics, namely the stand's structure and the age of the trees that make up the stand. Stand structure may be regular (single storey), irregular (several tree heights) or two-storied (two separate storeys). In a regular structure, stands composed of trees with an age difference of no more than 20 years are described as "even-aged", and age classes (10 years, 30 years, 50 years, etc.) are used. Stands composed of trees from several age classes are described as "uneven-aged". Irregular and uneven-aged stands are divided into young stands (≤ 80 years) and old-growth stands (> 80 years).

The table on the next page presents the distribution of the forest area of each Management Unit by age class.

Even-aged Stands

Overall, the Management Units of the region are composed of about 40% even-aged stands, varying from 12% to 54%, depending on the Management Unit.

Management Unit 071-51 has the highest representation of forests over 100 years old, representing 30% of the even-aged stands. The distribution of productive areas in the other age classes is constant.

The distribution of the productive areas by age class in Management Unit 071-52 is relatively constant, varying from 10% to 20% each, except for the 50-year age class, which is 30% of the even-aged stands.

Although the even-aged stand areas represent only 12% of Management Unit 072-51, they stand out by the overrepresentation of the 30-year age class and the underrepresentation of the older classes (3% to 9% depending on the age class).

The stands cover 100 years old are overrepresented in Management Unit 073-51, 073-52 and 074-51 with proportions of less than 10% of their even-aged areas.

Uneven-aged Stands

Uneven-aged stands represent nearly 60% (from 46% to 88% depending on the Management Unit) of the region's productive forest area. According to the Management Unit, 65% to 73% of these stands are classified as old-growth stands.

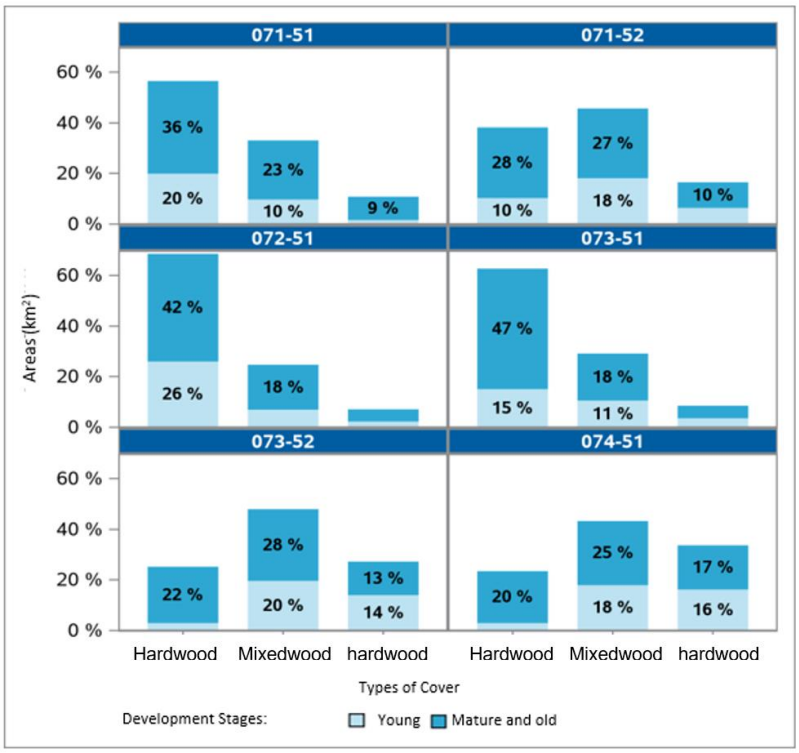
Table 9 Area of Age Classes by Management Unit

Age class		071-51		071-52		072-51		073-51		073-52		074-51		Total Management Units	
Code	Name	(km^2)	(%)	(km^2)	(%)	(km^2)	(%)	(km^2)	(%)	(km^2)	(%)	(km^2)	(%)	(km^2)	(%)
Nil	Regenerating	6	0.3%	47	1.0%	3	0.3%	34	0.9%	64	2.0%	117	1.5%	271	1.2%
10	Less than 21 years	72	3.3%	296	6.1%	27	2.1%	196	5.4%	190	5.9%	316	3.9%	1,097	4.7%
30	21 to 40 years	99	4.5%	196	4.0%	77	6.2%	178	5.0%	352	11.0%	946	11.8%	1,849	8.0%
50	41 to 60 years	116	5.3%	587	12.1%	15	1.2%	167	4.6%	316	9.9%	1,126	14.0%	2,326	10.1%
70	61 to 80 years	116	5.3%	362	7.5%	8	0.6%	196	5.4%	51	1.6%	630	7.8%	1,364	5.9%
90	81 to 100 years	102	4.7%	246	5.1%	13	1.1%	184	5.1%	271	8.5%	1,019	12.7%	1,835	7.9%
120	Over 100 years	219	10.0%	267	5.5%	4	0.3%	86	2.4%	86	2.7%	175	2.2%	837	3.6%
JIN	Uneven-aged young	439	20.1%	977	20.1%	335	26.9%	685	19.0%	616	19.2%	1,304	16.2%	4,357	18.8%
VIN	Uneven-aged old - growth	1,017	46.5%	1,878	38.7%	764	61.3%	1,877	52.1%	1,257	39.3%	2,399	29.9%	9,192	39.7%

Forest canopy

The distribution and mix of different types of forest canopies reveal trends in the composition of the region's forest. The percentage of a stand's land area occupied by softwood species determines the type of canopy (softwood, mixedwood or hardwood). The canopy is softwood when more than 75% of the land area is occupied by softwood species, and hardwood when the figure is less than 25%. Between 25% and 75%, the canopy is considered to be mixedwood. The basal area of a stand is the total of the areas occupied by merchantable trees measuring 1.3 m or more. It is expressed in square metres.

Figure 16 Distribution of Types of Cover and Forest Development Stages 7 m and Taller by Management Unit

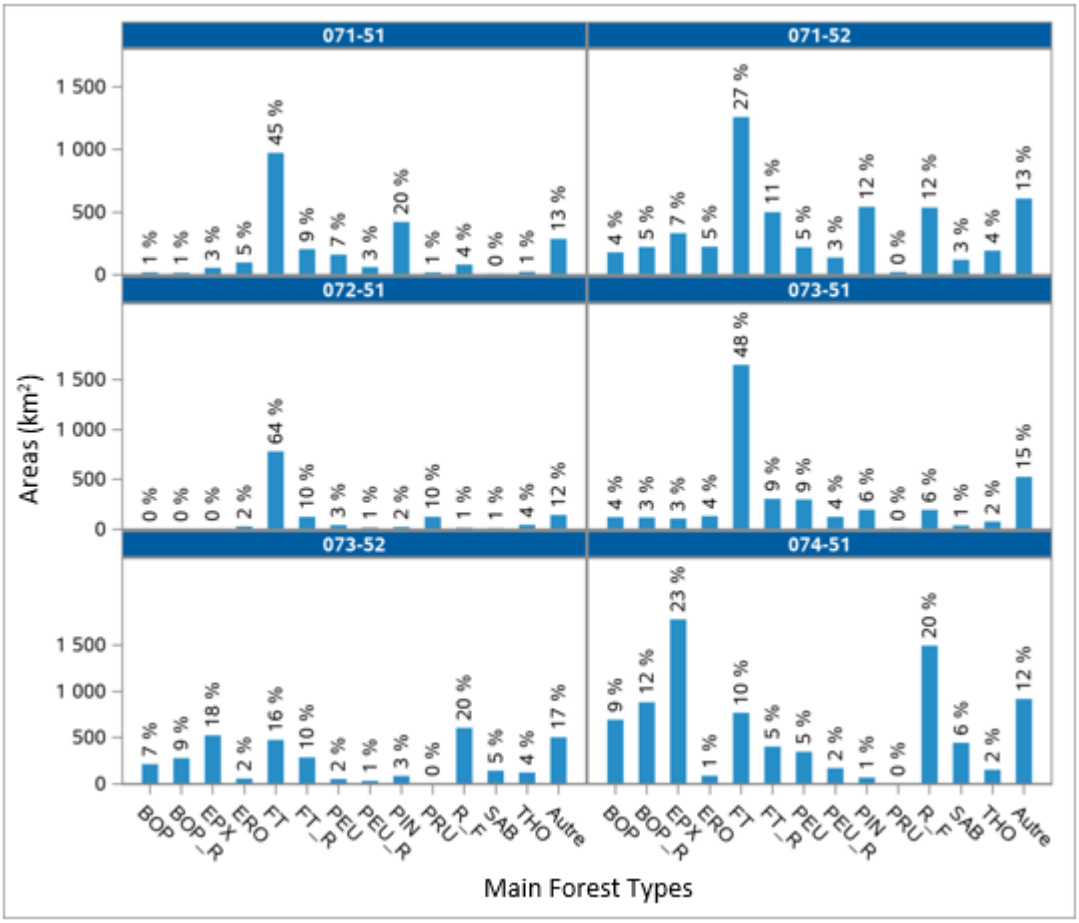


Management Units 071-51, 071-52, 072-51 and 073-51 are dominated by hardwood stands classified as mature and old at 36%, 28%, 37% and 42% respectively. Their area in softwood stands accounts for less than 10% except for 071-52 (16%). All of the Management Units combined account for a large share of mixed old-growth stands varying from 18% to 28% depending on the Management Unit. The hardwood cover of Management Units 073-52 and 074-51 represents less than one quarter of their area. Thus, the majority is at the mature and old-growth stage. Softwood and mixed stands dominate these Management Units with a similar distribution between young stands and mature and old-growth stands.

Forest type

The diagram below presents the distribution of the main forest types used for forest development. The table provides additional information on the types of forests that grow in proximity to one another. Each main type[13] is distinguished by its dominant species. These species may be used for different purposes and some may be difficult to market, depending on the industrial structure.

Figure 17 Distribution of the Main Forest Types[14] by Management Unit (Forest Development Stages 7 m and Taller)



[13] The main forest types are a summary level of forest types, corresponding to groups of different species compositions based on detailed species information from the ecoforest map. These groups are established by the Office of the Chief Forester. The BFEC may change the information presented here fore certain Management Units. The official information is that used to calculate the allowable cuts.

[14] BOP : White Birch-hardwood stands, BOP_R : White Birch-softwood stands, EPX : Spruce stands, ERO : Red Maple stands, FT : Tolerant hardwood stands, FT_R : Tolerant hardwood-softwood stands, PEU : Poplar stands, PEU_R : Poplar-softwood stands, PIN : Eastern White Pine stands, PRU : Eastern Hemlock stands, R_F : Softwood-hardwood stands, SAB : Balsam Fir stands, THO : Cedar stands and "Other" (« Autre » in french) the set of the main forest types that cover less than 2% of the total area of the MU.

The main forest types are a summary level of forest types, corresponding to groups of different species compositions based on detailed species information from the ecoforest map. These groups are established by the Office of the Chief Forester (BFEC in French). The BFEC may change the information presented here fore certain Management Units. The official information is that used to calculate the allowable cuts

Table 10 Distribution of Forest Types in Forest 7 m and Taller by Management Unit

Forest type[15]		All Management Units	071-51	071-52	072-51	073-51	073-52	074-51
Code	Description	(%)	(%)	(%)	(%)	(%)	(%)	(%)
EsFx	Sugar Maple-hardwood stands	9.2%	18.4%	8.5%	29.3%	20.3%	2.6%	< 2%
BjFx	Yellow Birch-hardwood stands	9.0%	9.6%	10.1%	5.2%	13.1%	9.0%	7.0%
SbFx	Balsam Fir-hardwood stands	8.5%	< 2%	6.5%	< 2%	2.9%	14.1%	13.1%
Ep	Spruce stands	7.6%	< 2%	3.4%	< 2%	< 2%	9.4%	15.4%
BpRx	White Birch softwood stands	6.9%	< 2%	4.8%	< 2%	3.4%	9.3%	11.5%
BjRx	Yellow Birch-softwood stands	6.5%	4.6%	8.6%	4.7%	6.7%	9.1%	5.1%
BpFx	White Birch-hardwood stands	5.6%	< 2%	3.9%	< 2%	3.5%	7.1%	9.1%
EpRx	Spruce-softwood stands	5.1%	< 2%	3.8%	< 2%	< 2%	8.2%	7.9%
PeFx	Poplar-hardwood stands	5.1%	7.4%	4.8%	3.3%	8.6%	< 2%	4.5%
EpFx	Spruce-hardwood stands	4.8%	2.4%	5.2%	< 2%	2.7%	6.3%	6.4%
PbRx	Eastern White Pine-softwood stands	3.5%	12.6%	7.0%	< 2%	2.8%	< 2%	< 2%
PbFx	Eastern White Pine-hardwood stands	2.5%	7.0%	4.8%	< 2%	2.9%	< 2%	< 2%
Ch	Oak stands	2.5%	10.5%	2.0%	4.2%	5.1%	< 2%	< 2%
PeRx	Poplar-softwood stands	2.4%	2.8%	3.0%	< 2%	3.6%	< 2%	2.2%
Es	Sugar Maple stands	2.1%	< 2%	2.1%	14.3%	2.1%	< 2%	< 2%
ToFx	Cedar-hardwood stands	2.0%	< 2%	3.4%	< 2%	< 2%	3.0%	< 2%
EsHg	Sugar Maple-Beech stands	< 2%	5.8%	< 2%	5.5%	4.4%	< 2%	< 2%
Sb	Balsam Fir stands	< 2%	< 2%	< 2%	< 2%	< 2%	< 2%	3.5%
SbRx	Balsam Fir-softwood stands	< 2%	< 2%	< 2%	< 2%	< 2%	2.9%	2.3%
EsBj	Sugar Maple-Yellow Birch stands	< 2%	< 2%	< 2%	3.1%	< 2%	2.0%	< 2%
EoFx	Red Maple-hardwood stands	< 2%	2.7%	2.2%	< 2%	2.5%	< 2%	< 2%
EoRx	Red maple-softwood stands	< 2%	< 2%	2.7%	< 2%	< 2%	< 2%	< 2%
EsRx	Sugar Maple-softwood stands	< 2%	< 2%	< 2%	4.6%	< 2%	< 2%	< 2%
ChRx	Oak-softwood stands	< 2%	2.9%	< 2%	< 2%	< 2%	< 2%	< 2%
ToRx	Cedar-softwood stands	< 2%	< 2%	< 2%	2.2%	< 2%	< 2%	< 2%
EsFi	Sugar Maple-intolerant hardwood stands	< 2%	< 2%	< 2%	2.0%	< 2%	< 2%	< 2%
PuFx	Eastern Hemlock-hardwood stands	< 2%	< 2%	< 2%	7.3%	< 2%	< 2%	< 2%
Pu	Eastern Hemlock stands	< 2%	< 2%	< 2%	2.7%	< 2%	< 2%	< 2%
Rare	All forest types that cover less than 2% of the area of the Management Unit.	16.7%	13.3%	13.3%	11.6%	15.3%	16.9%	12.0%

[15] Groups of different species compositions based on detailed species information from the ecoforest map. These groups are established by the BFEC. The BFEC may change the information presented here fore certain Management Units. The official information is that used to calculate the allowable cuts.

Management Unit 071-51 is dominated by the “Tolerant hardwood” main forest type. The “Eastern White Pine stand” main forest type is second with 20% representation. In lower proportions are the following main forest types; “Tolerant hardwood-softwood stand” (9%), “Poplar stand” (10%) and Red Maple stand (5%). The other main forest types of this Management Unit represent less than 5% each.

Management Unit 071-52 is also dominated by the “Tolerant hardwood” main forest type. The following main forest types are second with a representation of about 10% each: “Eastern White Pine stand”, “Softwood-hardwood stand, “Tolerant hardwood-softwood stand” (mainly Yellow Birch-softwood stand”) and “White Birch stands. The majority of the other main forest types of this Management Unit vary around 5% each.

Management Unit 072-51 is greatly dominated by the “Tolerant hardwood” main forest type. The following main forest types: “Tolerant hardwood-softwood stand” and “Eastern Hemlock stand” are second with a representation of about 10% each. The majority of the other main forest types of this Management Unit vary around 5% each.

Management Unit 073-51 is also dominated by the “Tolerant hardwood” main forest type. The following main forest types have a representation of 9% each; “Tolerant hardwood-softwood” and “Poplar stands”. The majority of the other major forest types of this Management Unit represent about 5% each.

Management Unit 073-52 is dominated by the “Softwood-hardwood stand”, “Tolerant hardwood”, “Spruce stand” and “White Birch stand” main forest types. They representation ranges from 16% to 20%. The majority of the other main forest types of this Management Unit vary around 5% each.

Management Unit 074-51 is dominated by the “Spruce stand”, the 2 “White Birch stand” main forest types, and “Hardwood-software stand”. They representation ranges from 20% to 23%. The “Tolerant hardwood stand” and “Tolerant hardwood-softwood” stand main forest types and the “Balsam Fir stand” and “Poplar stand” main forest types represent 5% to 7%.

Gross merchantable standing volume by species and by canopy type

A tree is considered merchantable when it achieves a diameter over-bark of 9.1 cm at breast height, i.e. roughly 1.3 metres from the highest root. The gross merchantable volume of a forest stand can be calculated using the height and diameter variables of the species of which it is composed. Gross merchantable volume is the volume between stump diameter (i.e. 15 cm above the highest ground level) and the minimum use diameter of 9.1 cm. The gross merchantable volume is not the same as the net merchantable volume, which includes reductions for defective and decayed wood or unusable elements.

A table of production potential in areas intended for forest development is produced by estimating standing volumes using forest inventory data. These volumes do not reflect provincial, regional and local sustainable forest management objectives, and therefore do not represent the actual volume available for harvesting, which is determined by the allowable cut.

Table 11 Market Volume by Cover Type by Management Unit

Territory		Species	Gross market volume		
Management Unit	Area[16] (ha)	Type	Average (m^3/ha)	Total (m^3)	% in the Management Unit
071-51	213,900	Hardwood	121.3	25, 935,570	63.7%
		Softwood	69.0	14,757,645	36.3%
			190.2	**40,693,215**	**100.0%**
071-52	456,970	Hardwood	97.9	44,741,061	55.4%
		Softwood	78.7	35,974,189	44.6%
			176.6	**80,715,250**	**100.0%**
072-51	122,380	Hardwood	136.9	16,750,174	75.5%
		Softwood	44.3	5,425,177	24.5%
			181.2	**22,175,351**	**100.0%**
073-51	342,870	Hardwood	124.4	42,662,631	69.7%
		Softwood	54.0	18,529,419	30.3%
			178.5	**61,192,050**	**100.0%**
073-52	295,950	Hardwood	71.8	21,241,738	49.1%
		Softwood	74.3	22,001,174	50.9%
			146.1	**43,242,911**	**100.0%**
074-51	762,600	Hardwood	62.1	47,371,523	44.3%
		Softwood	78.0	59,499,998	55.7%
			140.1	**106,871,521**	**100.0%**
Total : 354 890 298 m^3					

[16] Only Forest Development Stages 7 m and Taller

Table 12 Gross Market Volume of Main Species by Management Unit

	All Management Units		071-51		071-52		072-51		073-51		073-52		074-51	
Species[17]	(m^3)	(%)	(m^3)	(%)	(m^3)	(%)	(m^3)	(%)	(m^3)	(%)	(m^3)	(%)	(m^3)	(%)
Balsam Fir	49,908,598	13.4%	2,560,819	6.1%	10,118,178	12.1%	920,567	4.1%	5,644,804	8.9%	8,370,432	19.0%	22,293,798	20.8%
Paper Birch	44,721,254	12.0%	1,776,616	4.2%	7,550,615	9.0%	554,016	2.5%	4,650,932	7.4%	7,950,304	18.1%	22,238,771	20.7%
Sugar Maple	39,419,714	10.6%	6,081,689	14.4%	8,428,379	10.1%	7,752,461	34.6%	11,144,740	17.6%	2,821,639	6.4%	3,190,806	3.0%
Yellow Birch	37,083,963	10.0%	2,733,611	6.5%	9,279,336	11.1%	2,131,966	9.5%	7,183,411	11.4%	5,886,921	13.4%	9,868,717	9.2%
Black Spruce	29,041,914	7.8%	676,486	< 2%	3,404,919	4.1%	222,365	< 2%	1,229,663	< 2%	5,000,475	11.4%	18,508,006	17.3%
Eastern White Pine	25,204,951	6.8%	7,061,807	16.8%	9,316,080	11.1%	820,040	3.7%	4,239,946	6.7%	1,562,811	3.6%	2,204,267	2.1%
Red Maple	25,077,130	6.7%	3,622,228	8.6%	7,524,437	9.0%	1,292,576	5.8%	5,596,149	8.9%	2,745,851	6.2%	4,295,890	4.0%
White Spruce	19,803,587	5.3%	1,538,301	3.7%	4,880,089	5.8%	509,720	2.3%	3,087,269	4.9%	2,586,989	5.9%	7,201,220	6.7%
Trembling Aspen	17,764,874	4.8%	1,814,646	4.3%	3,511,545	4.2%	571,592	2.5%	3,313,628	5.2%	1,507,803	3.4%	7,045,659	6.6%
Eastern White Cedar	17,159,506	4.6%	1,074,336	2.6%	5,065,961	6.0%	868,864	3.9%	2,403,726	3.8%	3,334,809	7.6%	4,411,811	4.1%
American Beech	11,864,522	3.2%	3,296,822	7.8%	2,769,745	3.3%	1,757,786	7.8%	4,030,109	6.4%	989	< 2%	9,072	< 2%
Northern Red Oak	9,808,274	2.6%	3,447,052	8.2%	2,477,866	3.0%	953,826	4.3%	2,835,176	4.5%	35,060	< 2%	59,294	< 2%
Large-toothed Aspen	5,459,233	< 2%	1,492,589	3.5%	1,462,279	< 2%	487,459	2.2%	1,687,379	2.7%	77,783	< 2%	251,745	< 2%
Jack Pine	5,058,847	< 2%	85,069	< 2%	356,492	< 2%	37,223	< 2%	354,573	< 2%	619,654	< 2%	3,605,836	3.4%
Eastern Hemlock	3,735,819	< 2%	670,588	< 2%	723,268	< 2%	1,704,661	7.6%	634,443	< 2%	673	< 2%	2,186	< 2%
Basswood	3,073,637	< 2%	885,049	2.1%	525,088	< 2%	671,526	3.0%	989,534	< 2%	0	< 2%	2,440	< 2%
Total hardwood < 2%	12,962,965	3.5%	785,268	< 2%	3,199,138	3.8%	576,966	2.6%	2,221,107	3.5%	329,220	< 2%	731,679	< 2%
Total softwood < 2%	15,069,045	4.0%	2,522,382	6.0%	3,188,962	3.8%	601,325	2.7%	1,924,011	3.0%	1,145,659	2.6%	1,275,060	< 2%

[17] Only species whose volume represents at least 2% of the volume all species in at least one MU in the region are presented. The “Total <2%” values for softwood and hardwood include all other species, but also those presented when they represent less than 2% of the total volume of the MU.

Information on source data

The tables and figures in the “Description of Public Land” and “Resource Profile” sections were produced from a set of ecoforest, ecological and territorial data amalgamated for the province as a whole so that they could be compiled into area reviews and other regional results. This work was done during the fall of 2021. The most recent versions of the data available at that time were used. It is important to note that the observations presented here apply only to forests in which forest management activities may be carried out – in other words, manageable forest.

Non-timber forest products

The United Nations Food and Agriculture Organization (FAO) defines non-timber forest products as “goods of biological origin other than wood, derived from forests, other wooded land and trees outside forests” (FAO, 2013). There are many different non-timber forest products, and they can be grouped into three main categories:

- Food products
  - Maple products
  - Wild fruits
  - Wild mushrooms
- Indigenous plants including Labrador tea.
- Decorative products
  - Various horticultural species derived from wild species (e.g. cedar and maple)
  - Products used for decorative or artistic purposes including Christmas trees and wreaths, flowers and foliage used by florists (e.g. lemonleaf, ferns)
  - Specialist wood products and wood sculptures (e.g. the use of bark and wood to make bark canoes, baskets and snowshoes)
- Substances extracted from forest plants
  - Pharmaceutical and personal hygiene products (e.g. paclitaxel, Canada yew extracts [ground hemlock])
  - Fir resin
  - Essential oils
  - etc.

To date, three activities related to non-timber forest products have been subject to regulatory oversight by the Department. They are maple syrup, Canada yew, and Labrador tea. So far, two non-timber forest products have been regulated by the MRNF, namely maple production and harvesting of Canada yew. Under the *Sustainable Forest Development Act*, a forestry permit must be obtained to cultivate and operate a sugar bush for acericultural purposes and to harvest bushes or shrubs to supply a wood processing plant. A forestry permit to harvest Labrador tea for commercial purposes is also required where the company concerned markets products derived from the resource.

A number of non-timber forest product initiatives have been developed in the region’s public and private forests. In recent years, the non-timber forest products industry has proliferated and the demand for these types of products appears to be following this trend.

Maple Syrup Production

Maple syrup production is a leading economic activity. Québec is the world's leading maple syrup producer and, although the majority of this production is done in the private forest, maple syrup production in the public forest contributes to this success. To maintain this role as a world leader, the MRNF:

- Supports existing businesses and favours the development of new maple syrup harvesting projects on adapted sites, so as to ensure increased productivity and resilience over time.
- Participates in the development of maple forest knowledge regarding the development of maple stands with a maple syrup production vocation in public and private forests.

Maple syrup harvesting in the public forest must be harmonized with the multiple forest activities, including timber harvesting, and be performed according to proven practices and based on cutting-edge scientific knowledge, in order to ensure its long-term maintenance. It is important to remember that the MRNF only intervenes in maple stands located in the forests in the domain of the State, by issuing forestry permits and by managing forest development activities related to cultivation and harvesting of maple stands for maple syrup production purposes.

Maple Syrup Production

Maple syrup production can be broken down into two types of production:

- Production by holders of a production quota granted by the Federation of Quebec Maple Syrup Producers (QMSP). The quotas are managed by the QMSP, both in the public forest and the private forest.
- Production by non-quota-holding maple syrup producers.

In-quota maple syrup production constitutes the vast majority of syrup produced in Québec. Moreover, to obtain a forestry permit for cultivation and harvesting of a maple stand for maple syrup production purposes in the public forest, the applicant must hold or be in the process of obtaining a maple syrup production quota from the QMSP.

According to the data from the Québec farm enterprise registration record, 8,073 enterprises reported maple syrup production areas in 2020. In Canada, from 2016 to 2020, average annual production amounted to 164.3 million pounds. Québec represented an average share of 92% of Canadian production volume and 71.4% of world production[18].

In 2021, there were 1,164 maple stands in the public forest, representing 39,476 hectares and 9,073,726 taps under active permits (see the following table for the Outaouais region). The number of active permits sometimes differ from the number of maple stands, because a permit holder may hold more than one active permit.

[18] MINISTÈRE DE L'AGRICULTURE, DES PÊCHERIES ET DE L'ALIMENTATION DU QUÉBEC (MAPAQ). Portrait diagnostic sectoriel de l'industrie acéricole du Québec, available online at the following address:

Table 13 – Maple Stands Under Forestry Permits in the Public Forest in 2021 for the Outaouais Region

Administrative region	Number of maple stands	Number of active permits	Areas under active permits (ha)	Number of taps without active permits
Outaouais (07)	18	21	760	147,719

Provincial Maple Syrup Production Potential

Considering the economic importance of the maple syrup production sector, the MRNF wishes to preserve the maple syrup production potential over a short, medium and long-term horizon, in order to be able to grant forestry permits for cultivation and harvesting of a maple stand for maple syrup production purposes.

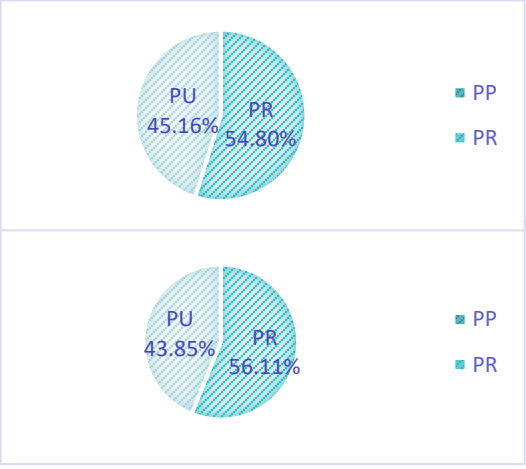
This is why the provincial maple syrup production potential was analyzed in 2018. It was calculated according to the definition in the Regulation respecting the sustainable development of forests in the domain of the State (A-18.1, r. 0.01) for a maple stand with maple syrup production potential. According to this regulation, a maple stand with maple syrup production potential is defined as a hardwood stand composed of Sugar Maples or Red Maples or mix of these two species in a proportion of more than 60% and allowing more than 100 taps per hectare.

Depending on the availability of data from the Southern Québec Ecoforest Inventory (IEQM) programs, the MRNF's work[19] shows that the current maple syrup production potential in Québec, both in the private and public forest, would be equivalent to a total area of about 1,258,500 hectares and about 252,962,000 taps (see the next figure). However, the results do not account for the new tapping standards, which are scheduled to come into effect on January 1, 2023.

Figure 18 – Area (ha) and Number of Taps Per Tenure Type in Maple Stands with Maple Syrup Production Potential

Tenure type	Area (ha)
Private and public[20]	498
Private	689,651
Public	568,331
Grand total	**1,258,480**

Tenure type	Taps
Private and public	98,933
Private	141,937,620
Public	110,925,936
Grand total	**252,962,489**



[19] The work of the Direction des inventaires forestiers (DIF) was conducted in 2018 using the most up-to-date southern Quebec ecoforestry survey data available at the time of the exercise and using the maple syrup potential assessment methodology produced by the Direction de la coordination opérationnelle, in collaboration with the regional forest management offices. As a result, the DIF was able to extract and provide the data needed to assess the theoretical maple syrup potential for the province.

[20] Tenure type for which it is not possible to isolate the public portion from the private portion.

Net Theoretical Maple Syrup Production Potential in the Public Forest

The net maple syrup production potential in the public forest corresponds to the gross maple syrup production potential after removing the areas incompatible with maple syrup production (national parks, ecological reserves, biodiversity reserve, etc.) and the areas already under forestry permits for cultivation and harvesting of a maple stand with maple syrup production potential. It is assessed at about 437,000 ha and about 84,276,000 taps. The following table presents the net theoretical potential in the public forest for the region.

Table 14 Net Theoretical Maple Syrup Production Potential for the Region in the Public Forest[21]

Administrative region	Area (ha)		Number of taps	
	Number	Proportion (%)	Number	Proportion (%)
Outaouais (07)	125,977	29	24,264,735	29

The following table presents the proportion of areas of the region under active permit compared to the total areas that can support maple syrup harvesting.[22] They correspond to the areas with net maple syrup production potential added to the areas under active permits.

Table 15 Proportion of Areas Under Active Permit Compared to Total Areas That Can Support Maple Syrup Harvesting[23]

Administrative region	Areas with net maple syrup production potential (ha)	Areas under active permits (ha)	Total areas that can support maple syrup harvesting (ha)	Proportion of areas under active permit compared to total areas that can support maple syrup harvesting (%)
Outaouais (07)	125,977	760	126,737	0.6

Harvesting of Canada yew

The Canada yew, also known as “ground hemlock” or “boxwood”, is a slow-growing bush that varies in height from 30 cm to 90 cm. Its attraction lies in the harvesting potential of its branches, which contain numerous diterpenic components (taxanes), the main one being paclitaxel, used in chemotherapy. Applicants for permits to harvest this resource must also hold a permit to operate a wood processing plant indicating the quantity of branches that can be harvested, in green metric tons.

[21] Since 2018, some regional branches may have conducted more refined analyses of the net maple syrup potential. As a result, data as of 2022 may differ from those shown in Table 14.

[22] For more information on public forest statistics:

MINISTÈRE DES FORÊTS DE LA FAUNE ET DES PARCS (2021). Ressources et industries forestières du Québec - Portrait statistique 2020. Direction du développement et de l’innovation de l’industrie. Québec. Québec. 160 p.

[23] Since 2018, some regional branches may have conducted more refined analyses of the net maple syrup potential. As a result, data as of 2022 may differ from those shown in Table 14. The gap between the theoretical potential and the operational realities in the field could therefore influence an increase or a decrease in the proportion of the area likely to support maple syrup development in certain regions.

Blueberry fields

The MRNF is responsible for leasing lands in the domain of the State for industrial or commercial purposes, including the operation of wild blueberry fields. However, a forestry permit is needed to carry out agricultural development work, such as deforestation with a view to creating a blueberry field on public land.

Edible fruits and plants

Raspberries, blueberries, redcurrants, wintergreen, Labrador tea, fireweed flowers, sweet gale seeds (bog myrtle), dune pepper (green alder), bake-apple and spruce tips are just some of the forest plants and fruits that can be harvested for sale. The Association pour la commercialisation des produits forestiers non ligneux (ACPFNL) is a grouping of companies, organizations and individuals with an interest in harvesting, processing and selling non-timber forest products. The cooperative Cultur'Innov keeps an updated directory of companies selling non-timber forest products, small emergent fruits and nuts in Québec.

Other resources

Hydrological resources

Québec has 13 hydrographic regions, each containing several watersheds. These divisions account for the hydrological and ecological realities of the territory instead of the administrative limits.

The region is located mainly in the Outaouais and Montréal hydrographic region (04). The region is found in the Ottawa watershed. The main subwatersheds that overlap the region's Management Units are Dumoine, Noire, Shyan, Coulonge, Gatineau, Du Lièvre and Petite Nation.

The hydrographic surface covers nearly 10% of the territory and is distributed among over 15,000 lakes and reservoirs including the Baskatong and Cabonga Reservoirs, among others. Also, six major rivers (De la Petite Nation, Du Lièvre, Gatineau, Coulonge, Noire and Dumoine) crisscross the territory and empty into a seventh, the Ottawa River. The main vocations or use of the main bodies of water and watercourses are vacationing, fishing and recreational tourism, and electricity production.

Geological resources

Historically, the Outaouais region stands out for the diversity of its mineral deposits. From the 19th century to the early 20th century, it was possible to find about twenty mineral products mined in the region, particularly including iron, zinc, copper and nickel. International competition began in the early 20th century and started to affect regional production. Mines in foreign countries and mines in other Canadian regions were more profitable than the Outaouais mines. This situation led to the abandonment of most of the mines in Outaouais[24].

The region is included in the Grenville Geological Province. The rock formations are composed of metamorphosed intrusive rocks, particularly gneiss. The usual metals and the most commonly known industrial minerals present in these formations are iron, zinc, copper, uranium, silica, thorium and nickel,

[24] MINISTERE DES RESSOURCES NATURELLES ET DE LA FAUNE (2006). Portrait territorial de l'Outaouais. Gatineau. Québec. Direction générale de l'Outaouais. Direction des affaires régionales de l'Outaouais. 80 p.

in particular. Public land is little used for mining, except for a few gravel pits, sand pits or borrow pits for construction of forest roads. This industry's impacts on management of public land are therefore minor in Outaouais, whether in coexistence of uses or in applications for use of the land[25]. In 2018, the Outaouais administrative region included 2,984 exploration claims and 279 exploration titles granted[26].

Wind resources

At the request of the Ministère de l'Énergie et des Ressources naturelles, two studies were conducted to learn more about wind power potential in Québec[27] including the inventory of Québec operable wind power potential[28], produced in 2005 and covering all of Québec's territory. According to this study, the Outaouais region (93 megawatts (MW)) has a medium or marginal technical potential for wind power (less than 1,000 MW).

[25] MINISTERE DES RESSOURCES NATURELLES ET DE LA FAUNE (2006). Portrait territorial de l'Outaouais. Gatineau. Québec. Direction générale de l'Outaouais. Direction des affaires régionales de l'Outaouais. 80 p.

[26] MINISTERE DE L'ÉNERGIE ET DES RESSOURCES NATURELLES (2018). Rapport sur les activités minières au Québec. https://gq.mines.gouv.qc.ca/rapport-sur-les-activites-minieres-au-quebec/ram-2018/

[27] MINISTÈRE DE L'ÉNERGIE ET DES RESSOURCES NATURELLES,

[28] HÉLIMAX ÉNERGIE INC, AWS, LLC (2005). Inventaire du potentiel éolien exploitable du Québec. Préparé pour le ministère des Ressources naturelles et de la Faune. p. 35.

Ressources naturelles et Forêts
Québec