



Photo 37. Rivière Maganasipi (M.-A. Bouchard, MDDEP)

4.7 Réserve de biodiversité projetée de la Vallée-de-la-Rivière-Maganasipi

4.7.1 Location, boundaries and dimensions of the proposed reserve

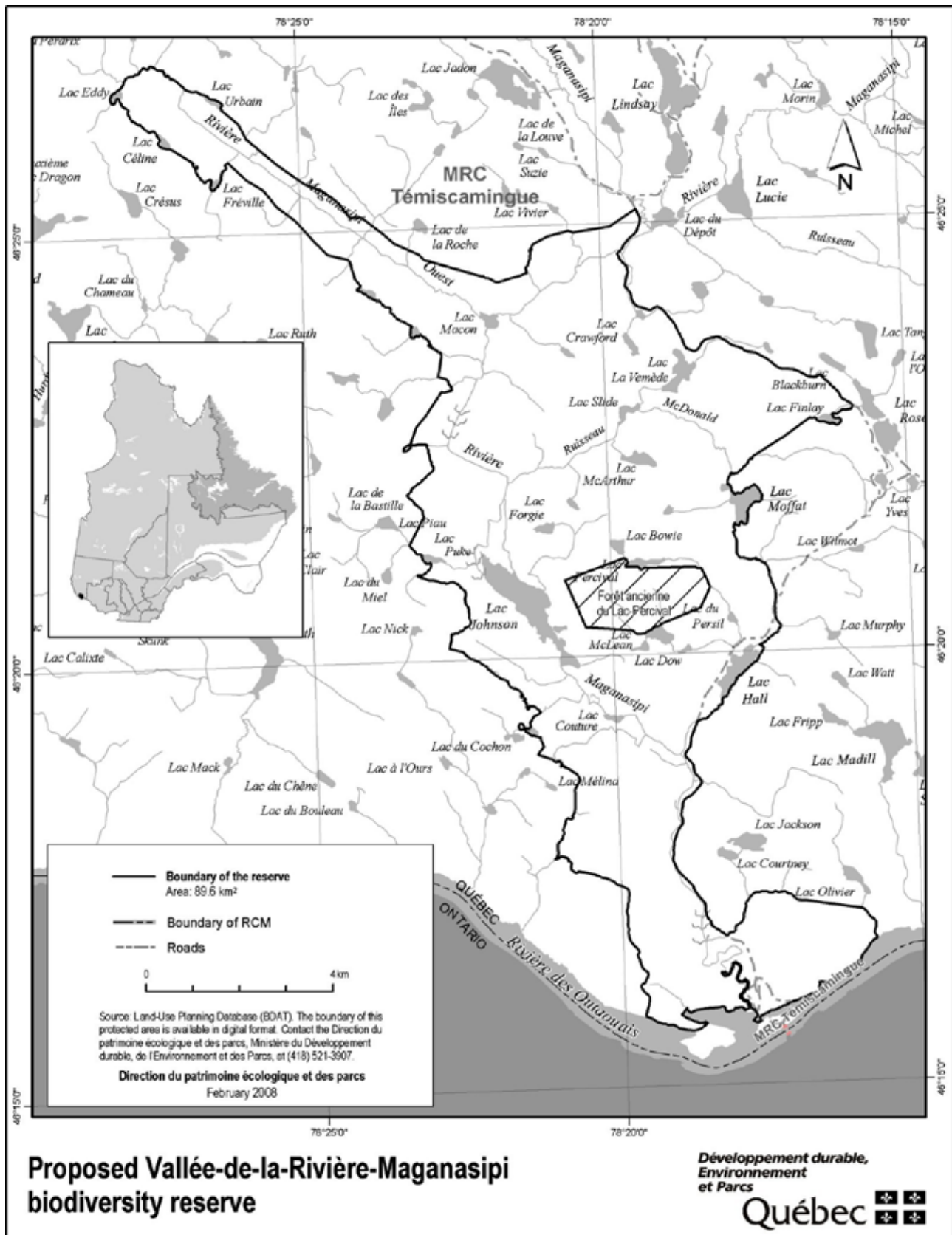
The Réserve de biodiversité projetée de la Vallée-de-la-Rivière-Maganasipi is located between 46° 15' and 46° 27' north latitude and 78° 15' and 78° 28' west longitude. It is roughly 45 km west of the municipality of Rapides-des-Joachims and approximately 55 km southeast of the Ville de Témiscaming. It covers an area of 89.6 km². The reserve is located in the Lacs-du-Témiscamingue unorganized

territory, which is part of the MRC de Témiscamingue. The southern boundary of the reserve has been set to take into account the critical maximum elevation of hydropower generating structures on the Ottawa River, set at 179.22 m, immediately upstream of Otto Holden electrical power-station and set at 153.92 m, immediately downstream of des Joachims electrical power-station.

4.7.2 Legal framework

The territory described below has the status of a proposed biodiversity reserve, pursuant to the *Natural Heritage Conservation Act*. The same Act governs its regime of activities and its conservation plan.

Figure 128: Geographical location and boundaries of the Réserve de biodiversité projetée de la Vallée-de-la-Rivière-Maganasipi, as presented in the summary conservation plan



4.7.3 Place name

The provisional place name is the Réserve de biodiversité projetée de la Vallée-de-la-Rivière-Maganasipi. The proposed place name for the granting of permanent protection status is the Réserve de biodiversité de la Rivière-Maganasipi. Maganasipi is a place name of Amerindian origin from the Algonquin Nation, which means “narrow river” or “wolf river.” The river is listed in the *Dictionnaire des rivières et des lacs de la province de Québec* published in 1925.¹⁹ According to Father Lemoine, the place name is derived from Maingan Sipi, which means “wolf river” in Algonquin. The name has appeared on maps since 1906, sometimes in the form *Maganasibi* or *Maganasippi*. The name *Rivière Maganasipi* was officially adopted in 1916.

¹⁹ Commission de toponymie du Québec: http://www.toponymie.gouv.qc.ca/ct/ToposWeb/fiche.aspx?no_seq=37944

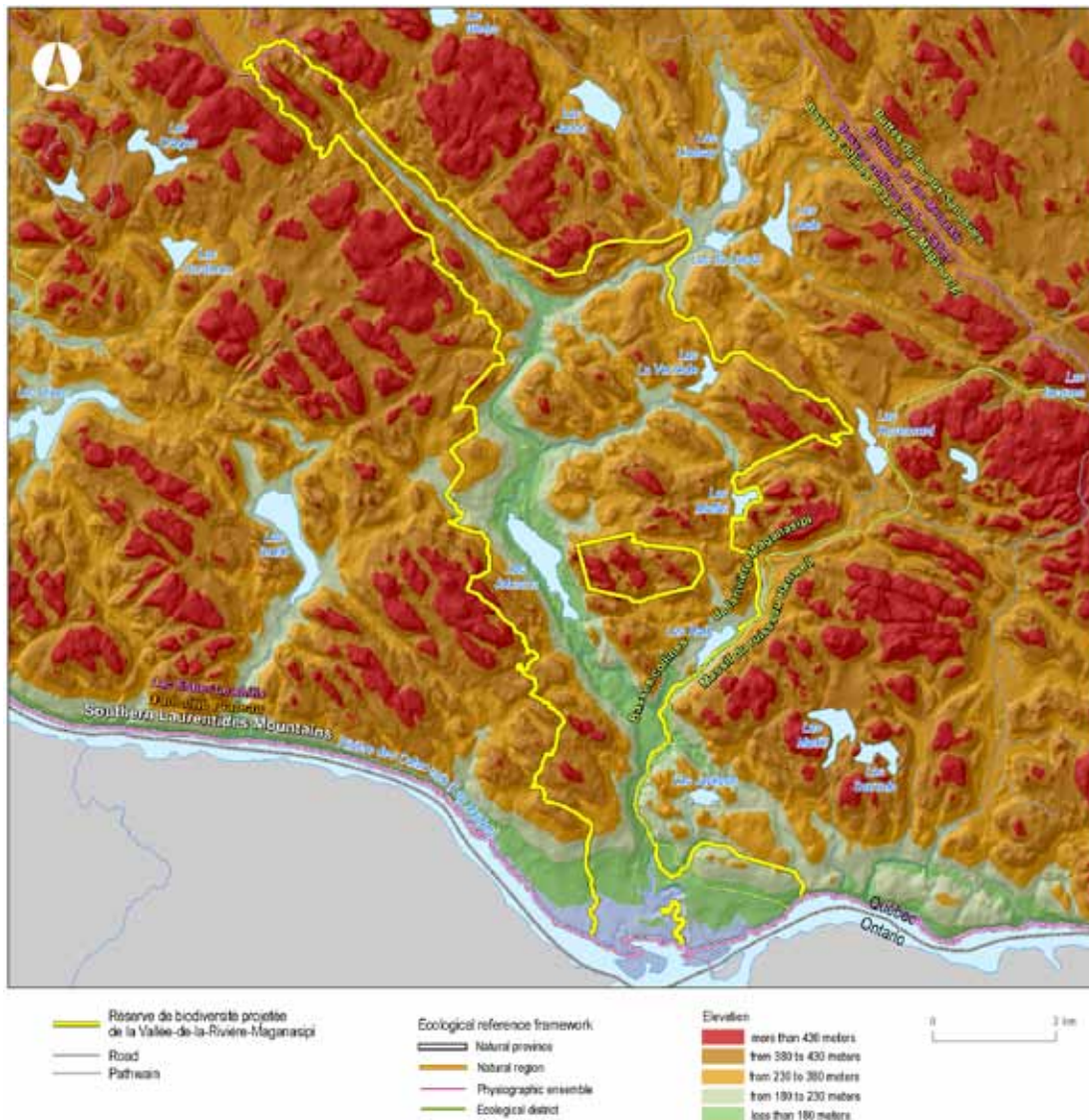
4.7.4 Ecology

Physical environment

As noted in the “Climate” section, the region of the proposed biodiversity reserve has a subpolar, subhumid climate with a medium growing season. A moderate, subhumid climate with a long growing season prevails in the southeastern portion of the reserve. The territory is located in the Grenville Geologic Province and has a migmatite, gneiss and paragneiss basement.

The Réserve de biodiversité projetée de la Vallée-de-la-Rivière-Maganasipi is located in the Southern Laurentians natural province, more precisely in the Dumoine Plateau natural region and in the Lac Esber low hills physiographic unit (Figure 129). The physiographic

Figure 129. Topography of the Réserve de biodiversité projetée de la Vallée-de-la-Rivière-Maganasipi



unit is a broad strip of lands north of the Ottawa River extending roughly from Fort-Coulonge to the Ville de Témiscaming.

The territory comprises a group of steeply-sloped low hills and hummocks made up of thin till with infrequent rock outcrops (Figure 130). The bottom of the Rivière Maganasipi valley is filled with glaciofluvial sand and alluvial deposits, accompanied by glaciolacustrine sand (Photo 38) in the delta formed where the Rivière Maganasipi flows into the Ottawa River. The low hills and hummocks create a very rugged landform, whose altitude varies from 160 m to 430 m, with an average altitude of approximately 315 m.

The Rivière Maganasipi physiographic sere illustrates the characteristics of different ecosystems in the reserve (Figure 131).

Photo 38. A sandy plain near the mouth of the Rivière Maganasipi



Figure 130. Geomorphology of the Réserve de biodiversité projetée de la Vallée-de-la-Rivière-Maganasipi

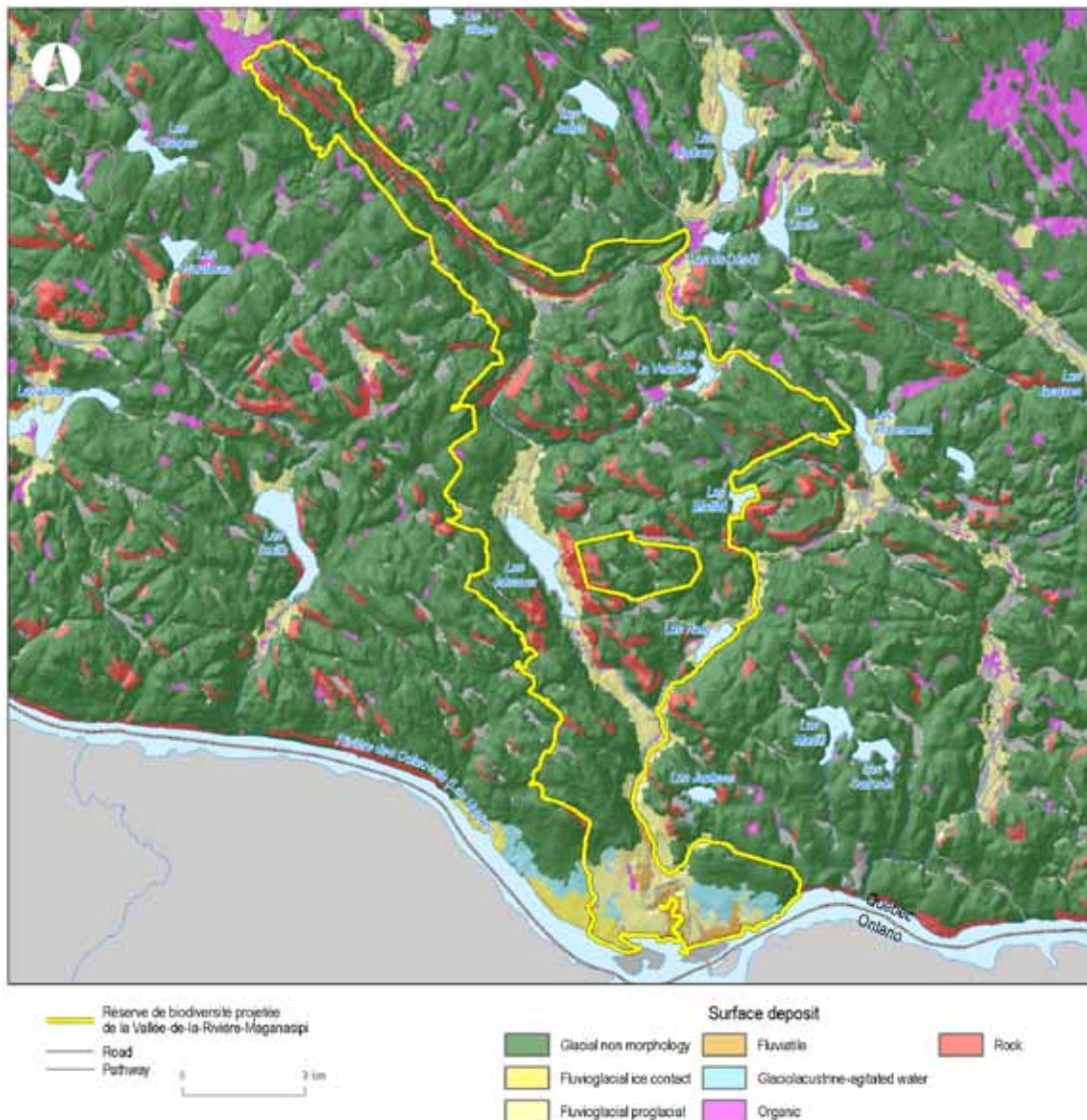
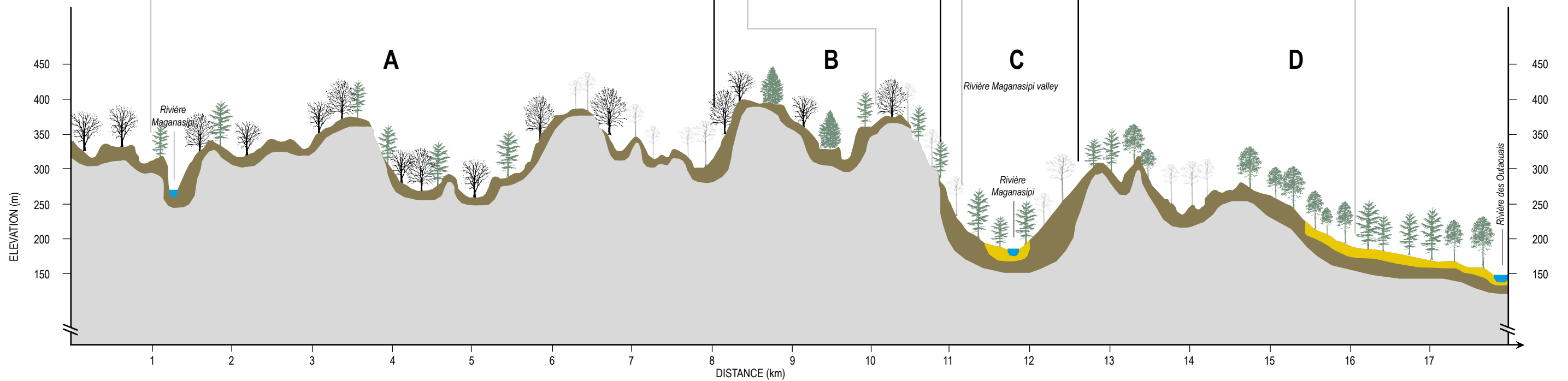
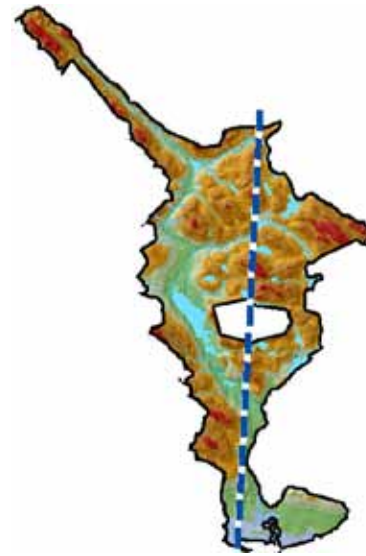


Figure 131.
Rivière Maganasipi physiographic sere

Réserve de biodiversité projetée de la Vallée-de-la-Rivière-Maganasipi

- Southern Laurentides Mountains natural province
- Dumoine Plateau natural region
- Lac Esber Lowhills physiographic ensemble

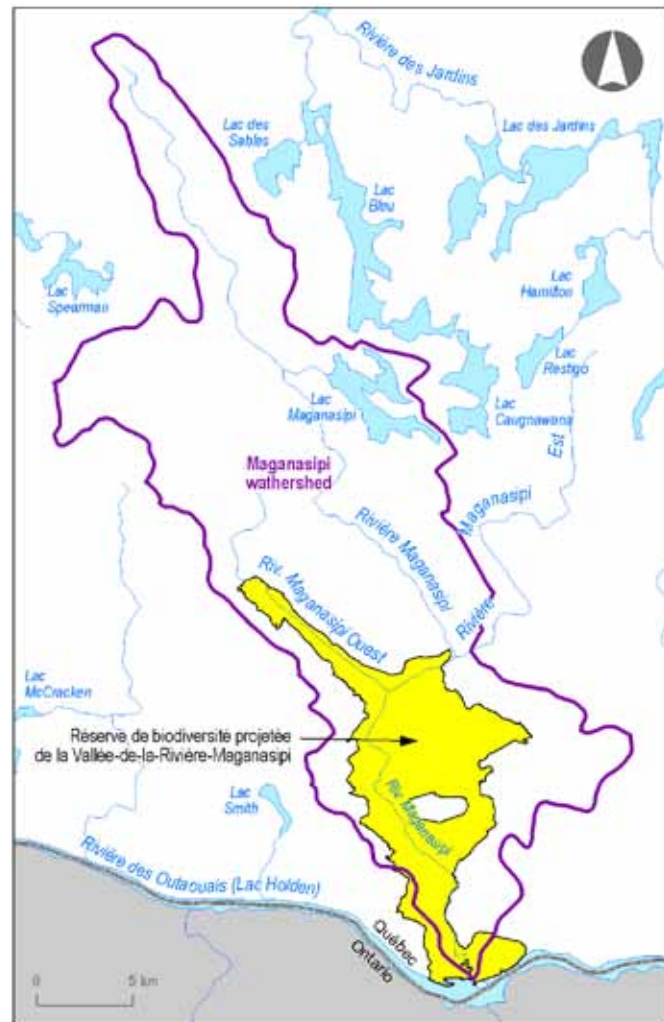


- Rock
- Till
- Fluvioglacial sand and gravel
- Sugar maple
- Yellow birch
- Eastern white pine
- Aspen
- Hemlock
- Red pine

- A.** Black spruce and yellow birch on thin till hillocks
- B.** Sugar maple-yellow birch and hemlocks (exceptional forest ecosystem)
- C.** Eastern white pine and aspen on sands and gravels
- D.** Red and white pine on sandy plain

Located near the Ottawa River, the proposed biodiversity reserve is part of the Rivière Maganasipi drainage basin (Figure 132), which is a sub-basin of the Ottawa River. In the protected area, of the 82 lakes in the reserve, only 25 are named, the biggest of which is Lac Johnson, the only lake more than 1 km² in area. The aquatic environments overall have an area of less than 6 km², equivalent to nearly 7% of the proposed biodiversity reserve. The reserve has few wetlands, all of them small, totalling 3.6 km².

Figure 132. Drainage basin of the Rivière Maganasipi



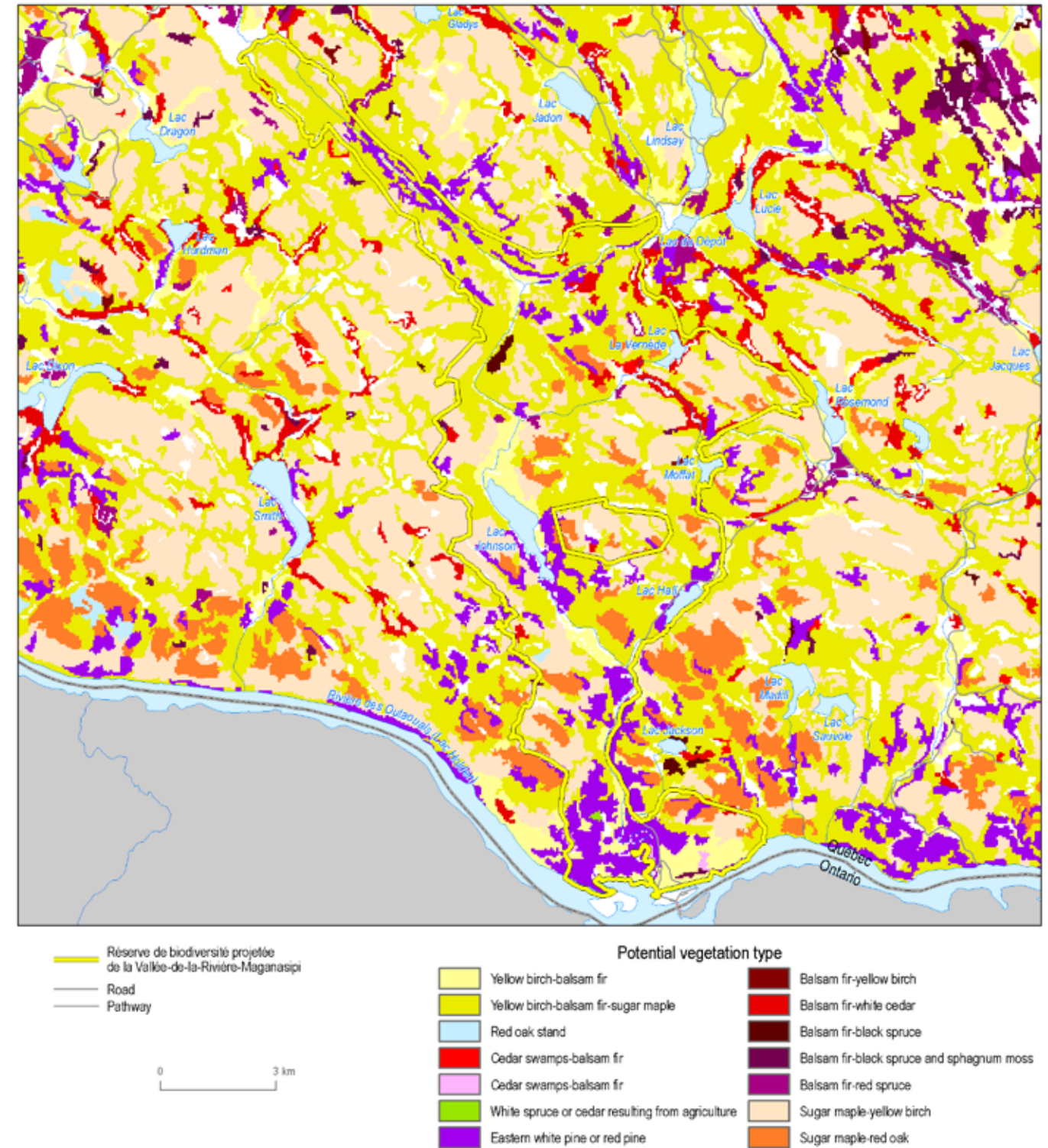
Biological environment

Vegetation

The reserve is located in the sugar maple-yellow birch climatic domain. It protects territories in which the main potential vegetation comprises yellow birch-fir stands and yellow birch-sugar maple-fir stands (Figure 133). The forest ecosystems normally occupy all of the low hills and hummocks in the reserve. The sandy valley and certain slopes with very thin till or rock outcrops are suited to white pine or red pine stands. Sugar maple-yellow birch stands are found on certain rather flat peaks. Among the rarer types of potential vegetation, the reserve hosts sugar maple-northern red oak stands, balsam fir-cedar stands and balsam fir-red spruce stands.

Given that the territory has sustained various disturbances, the actual vegetation differs from the potential vegetation (Figure 134). Disturbances over the past 40 year have been mainly natural in origin (forest fires and, above all, windthrow), but certain sectors have been subject to logging, especially the southern portion near the mouth of the river. It should be noted that white pine stands and red pine stands usually occupy environments favourable to these tree species groups (Photo 39). Yellow birch occupies few environments devoted to yellow birch stands. Maple forests are virtually absent from the territory, except in the exceptional forest ecosystem. The natural and anthropogenic disturbance regime explains the marked presence of trembling aspen and black spruce.

Figure 133. Potential vegetation – Réserve de biodiversité projetée de la Vallée-de-la-Rivière-Maganasipi



Forest cover occupies nearly 92% of the territory of the reserve, in which 24% of forest stands are young (under 40 years old) and less than 10% are middle-aged forest stands (between 40 and 80 years old). Forest stands between 80 and 110 years old are also rare (13%), while mature and overmature stands (over 110 years old) account for nearly 53% of the forest cover in the reserve (Figure 135). Based on the criteria in the "Portrait du réseau d'aires protégées au Québec – Période 2002-2009," old-growth forests appear to account for 66% of the forest cover in the reserve (see

Figure 12). Only the areas occupied by trembling aspen stands and pine forests near the mouth are not old-growth forests.

It is possible to find in the proposed biodiversity reserve forest stands with outstanding characteristics similar to those in the Lac Percival²⁰ old-growth forest, which is enclosed in the proposed biodiversity reserve, along with forest stands comprising Eastern hemlock, white ash and American beech.

²⁰ See: <http://www.mrnf.gouv.qc.ca/publications/forets/connaissances/LacPercival.pdf>

Figure 134. Vegetation – Réserve de biodiversité projetée de la Vallée-de-la-Rivière-Maganasipi

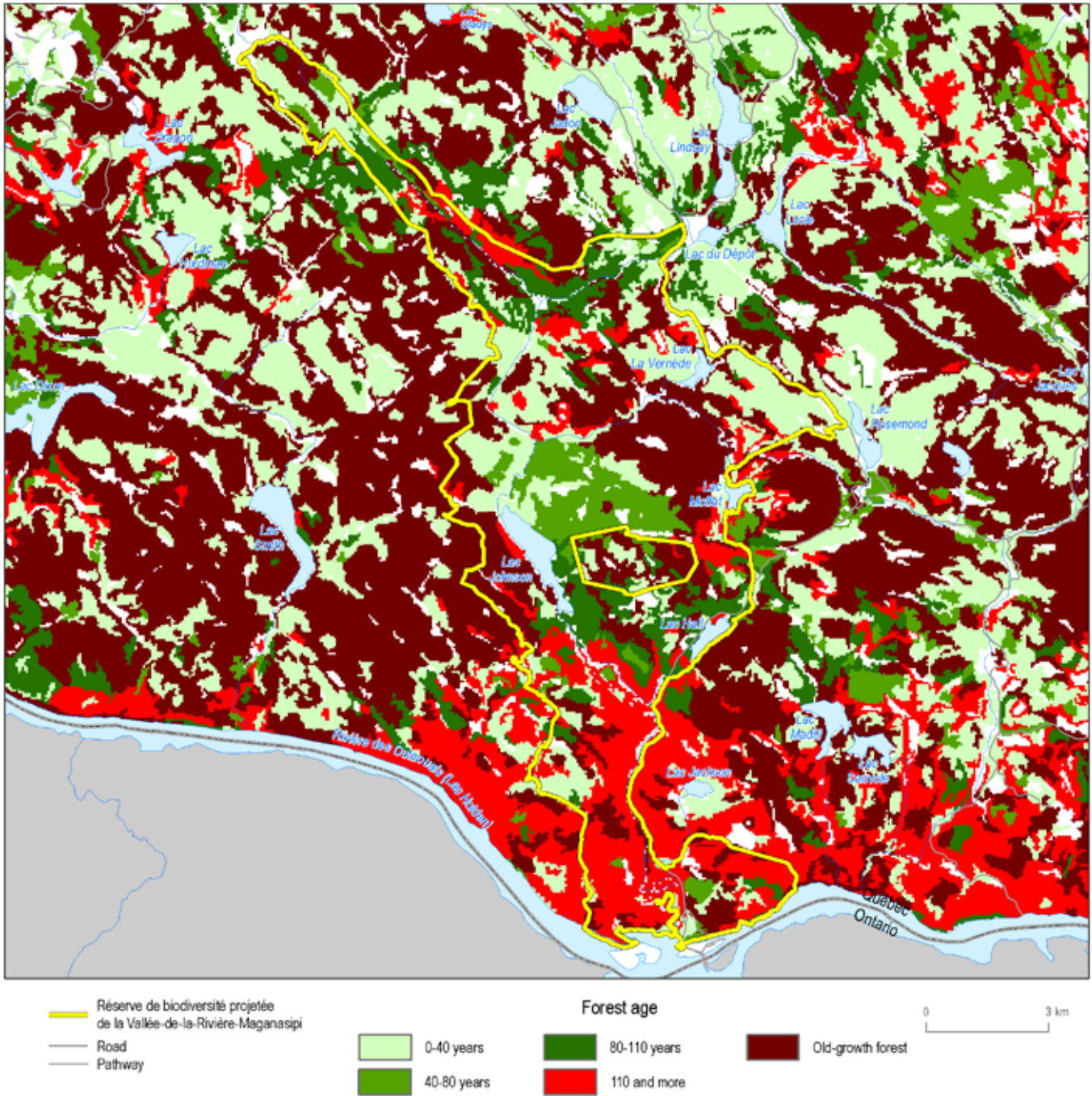


Photo 39. Red pine and white pine stands in the valley and on sandy plain



Vegetation					
White birch	Black spruce	Deciduous-other	Trembling aspen	Red pine	Sapin baumier
Yellow birch	Red maple	Leafy intolerant	Eastern white pine	Hemlock	
Eastern white cedar	Sugar maple	Leafy tolerant	Grey pine	Softwoods-other	

Figure 135. Age of forest stands – Réserve de biodiversité projetée de la Vallée-de-la-Rivière-Maganasipi



The proposed biodiversity reserve is located in an ecological subregion where the most frequent forest fires cover an area of between 0.03 km² (3 hectares) and 1 km² (see Figure 44). Accordingly, the 89.6-km² proposed biodiversity reserve may be deemed to be of sufficient geographic size to encompass all of the successional stages of forest ecosystems.

Wildlife

From the standpoint of rare, vulnerable or threatened species, the reserve includes a habitat of a vertebrate species designated as

vulnerable, *Haliaeetus leucocephalus* (the bald eagle). No specific inventories have been conducted in the territory as regards aquatic and terrestrial species, but the ecosystems, depending on the human footprint and age of existing forests, are likely to host several species that are typical of the Abitibi-Témiscamingue region, as indicated in the section devoted to regional fauna.

The reserve lies partly in the ZEC Maganasipi and the ZEC Dumoine and the known species that frequent the controlled harvesting zones (ZECs) are also likely to frequent the proposed biodiversity

reserve. The main fish species found in the lakes and watercourses in the reserve are small-mouthed bass, Northern pike, white sucker, red sucker, lake chub, yellow perch, yellow walleye, brook trout, fallfish, rock bass, pearl dace, lake trout, lake whitefish, and splake. Five brook trout spawning grounds are found there.

As for terrestrial fauna, the species likely to inhabit or frequent the reserve are those identified by the ZEC Maganasipi and the ZEC Dumoine. Moose, white-tailed deer, black bear, wolf, beaver, red fox, river otter, American marten, muskrat, racoon and Canada lynx are the mammals found in the reserve. Reptiles include the painted turtle, the common snapping turtle and the garter snake. The known amphibians are the American bullfrog, the green frog and the wood frog. The bird species inventoried are the ruffed grouse (partridge), the great blue heron, the black duck, the red-breasted grosbeak, the sharp-shinned hawk, the osprey, the bald eagle, the killedeer, the downy woodpecker, the indigo bunting, the purple finch, the evening grosbeak, and the scarlet tanager.

Social environment

The Aboriginal presence in the Témiscamingue region goes back over 5 000 years. They fished, hunted and gathered wild blueberries and raspberries to provide for their needs.

Prior to the colonization of the Témiscamingue region, the territory, which is linked to the Ottawa River, a major travel route for the Aboriginal peoples, may have been extensively occupied as a seasonal camp and frequented by numerous Aboriginals. The mouth of the Rivière Maganasipi in the Ottawa River offered an ideal site for temporary or semi-permanent campsites. What is more, while the Ottawa River was used for travel, the Aboriginal peoples were frequently able to travel upstream on its tributaries in search of food. The Rivière Maganasipi thus afforded a route to the lands north of the Ottawa River to access new territories. Accordingly, while no archaeological site has been officially inventoried, the territory does offer archaeological research potential.

Saint-Arnaud describes the period of forest development thus: "In 1850, two logging companies (the precursors of Consolidated Bathurst and E.B. Eddy) discovered the vast eastern white pine forests in the southeastern portion of the Témiscamingue region. At the time, pines of that size and beauty were unheard of. Once the eastern white pine was transformed into square lumber, alligator steamboats towed the timber to the outlet. At the time, logging companies established several camps in the territory. There were logging camps (Photo 40) where the workers lived in very basic

conditions, a logging depot in which food, equipment and wood were stored, then the forest farms that produced year after year several cereal grains, meat and other land-based products. To supply what were veritable small forest cities, trails were cleared from the camps to the nearest navigable waterway. Horses pulling metal-wheeled wagons used the trails. Because the repeated passage of the metal wheels compacted the soil, vegetation scarcely recolonized the wagon trails."

Photo 40. Vestiges of forestry infrastructure



There are four vacation lot leases in the perimeter of the proposed biodiversity reserve (Figure 136) clustered at Lac Hall (Photo 41). A proposed network of lengthy hiking trails is also found there. The proposed biodiversity reserve adjoins five systems of traplines and a trapping camp has apparently been built there. It is part of FAMU 01 and hunting area 13. As noted earlier, the reserve is almost entirely located in the territory of the ZEC Maganasipi although part of it overlaps the territory of the ZEC Dumoine.

A barely developed network of unpaved trails crisscrosses the proposed biodiversity reserve. The forestry road running along the eastern boundary of the reserve is the main land access. The road runs both to Rapides-des-Joachims and the Ville de Témiscaming. All told, there are 89 linear km of roads in the territory. Another means of access on which users rely is the Deux-Rivières ferry that crosses the Ottawa River and affords access to the territory from the south in Ontario. However, the ferry is not running at present.

No hiking or off-road vehicle (quad bike or snowmobile) trail is officially recognized in the territory. A right-of-way to develop a network of hiking trails exists there, although the network does not appear to have been built. It could total over 60 km of trails.

4.7.5 Contributions of the protected area

Representativeness

From the standpoint of the representativeness of the physical elements, the reserve is contributing to the protection of physiographic types in the Lac Esber low hills physiographic unit (C0103), but given its small geographic area, while it is protecting the low hills of till, this physiographic type is underrepresented in this physiographic unit. The reserve is contributing particularly

Figure 136. Occupancy and use of the Réserve de biodiversité projetée de la Vallée-de-la-Rivière-Maganasipi

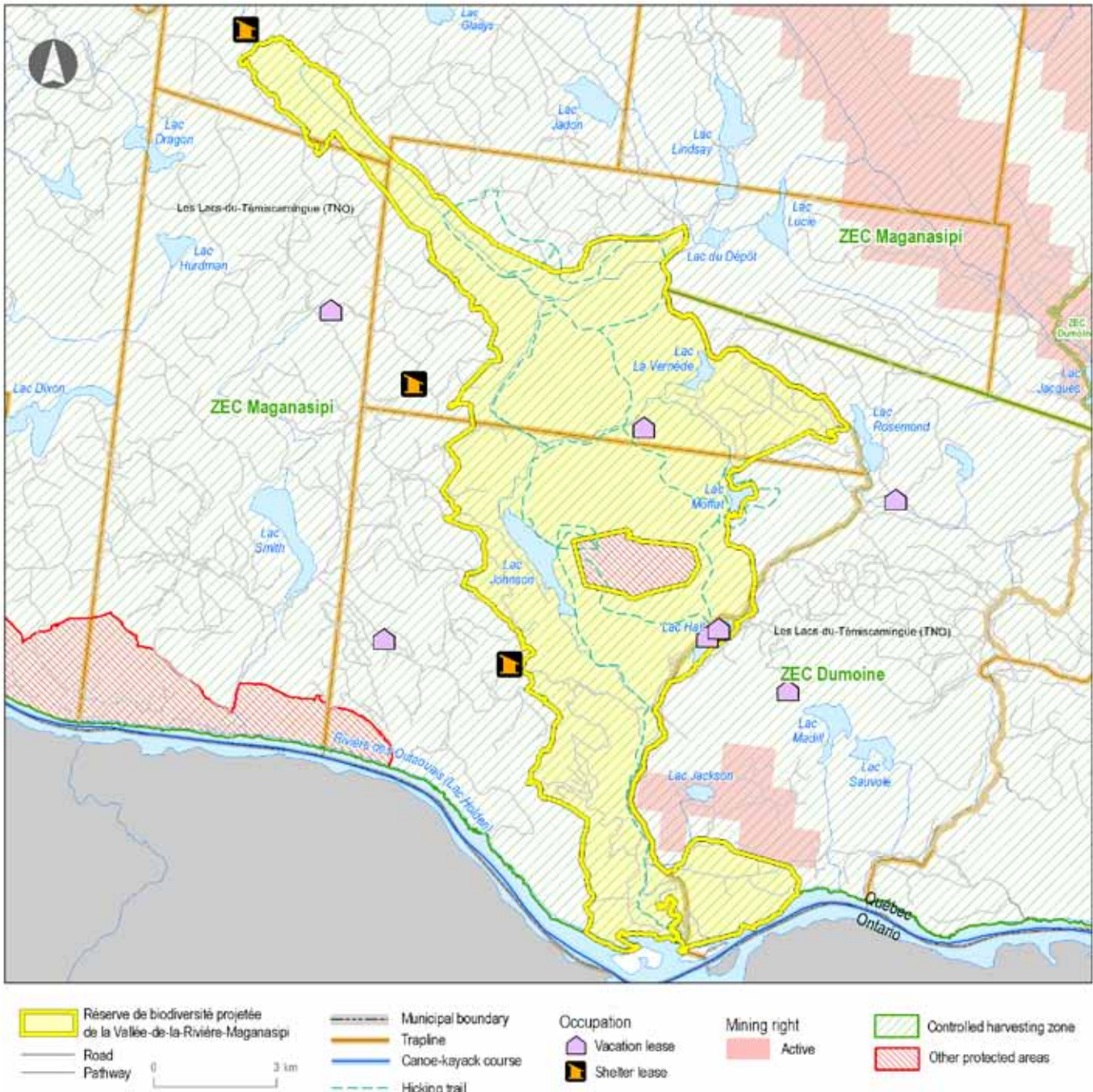


Photo 41. Holiday resort at Lac Hall



to the protection of silt hummocks and valleys. As for the most common types of surface deposits in the Dumoine Plateau natural region, the proposed biodiversity reserve is contributing mainly to the protection of glacial deposits, rock outcrops and glaciofluvial deposits.

From a biological perspective, and more specifically with respect to forest vegetation, the reserve is contributing to the protection of the most widespread types of potential vegetation in the natural region, i.e. yellow birch-fir-sugar maple stands, yellow birch-fir stands, sugar maple-yellow birch stands, and white pine stands. It is also protecting sugar maple-northern red oak stands, balsam fir-cedar stands, and balsam fir-red spruce stands, a rarer type of potential vegetation that is underrepresented in the network.

The proportion of old-growth forests is higher in the network of protected areas in this natural region than in the natural region overall. The Réserve de biodiversité projetée de la Vallée-de-la-Rivière-Maganasipi is contributing greatly to such protection since two-thirds of its forest cover apparently comprises forest stands classified as old-growth forests.

The territory is contributing little to the protection of wetlands.

Efficacy

Human beings have left evidence of their passage through and presence in the territory, mainly stemming from forest harvests and logging roads. The ZECs continue to occupy and use the territory, but less intensively and less densely. The general level of naturality of the protected area is relatively high since the traces of anthropogenic activities are generally inconspicuous. The following satellite image illustrates the state of the forest environment.

During the 1980s, 1990s and 2000s, forestry operations affected roughly 20 km² of the territory that now constitutes the proposed biodiversity reserve, chiefly selection cutting, partial cutting and commercial thinning. Natural disturbances (epidemics and windthrow) have been rare or virtually absent from the territory over the past 40 years. The protected area has 89 linear km of roads, equivalent to a ratio of 1 km of road per km², a moderate density (0.43 to 1.06 km/km²) according to Quigley *et al.* (2001).

From the standpoint of configuration, as noted earlier, the proposed protected appears to be sufficiently large (89.6 km²) to encompass all of the successional stages of forest ecosystems. However, when a 3-km strip is subtracted (adjoining portions subject to edge effects),

Figure 137. Satellite image of the Réserve de biodiversité projetée de la Vallée-de-la-Rivière-Maganasipi



a conservation core of only 0.5 km² remains. The reserve now has a fairly high perimeter-area ratio (1.1), while a perfect circle for such an area has a ratio of 0.4.

The configuration of the protected area could be improved. Indeed, this small protected area could be expanded to include biodiversity elements of interest by enhancing its connectivity with the white-tailed deer yard, to the southwest, and by better protecting the shores of the most immediate portion of the Rivière Maganasipi drainage unit (see the section entitled “Potential expansions”).

4.7.6 Conservation issues

The territory has wildlife and tourist development potential because the reserve is entirely located in the territory of a controlled harvesting zone (ZEC). Its remoteness and limited accessibility mean that there is no assurance that the territory will actually be developed in the short and medium term.

The Wolf Lake and Eagle Village Algonquin First Nations are concerned by the territory. Account must be taken of their concerns, orientations and development projects in respect of the protected area. In this regard, the Wolf Lake First Nation supported the protection of the Rivière Maganasipi when the establishment of the proposed biodiversity reserve was planned. While the MDDEP does not have information in this respect, the Wolf Lake First Nation expressed its interest in the protected area, notably as regards possible development projects.

Conservation issues primarily concern proper management of the drainage units directly linked to the Rivière Maganasipi, in particular in a context where the drainage basin is not entirely included in the protected area.

Since the territory is representative, the application of a fairly standard regime of activities should allow for the attainment of long-term protection objectives. However, special conditions might apply.

From the standpoint of the boundaries, a challenge arises concerning the enhancement of the protected area (see the following section).

4.7.7 Potential expansions

Potential expansions were examined to enhance the efficacy of the protected area (Figure 138) and took into account existing usages and rights in the territory that can represent constraints to protection.

The MDDEP presented only one expansion (polygon No. 1) to the members of the Table GIRT de la MRC de Témiscamingue during the workshops that preceded the public consultations. In response

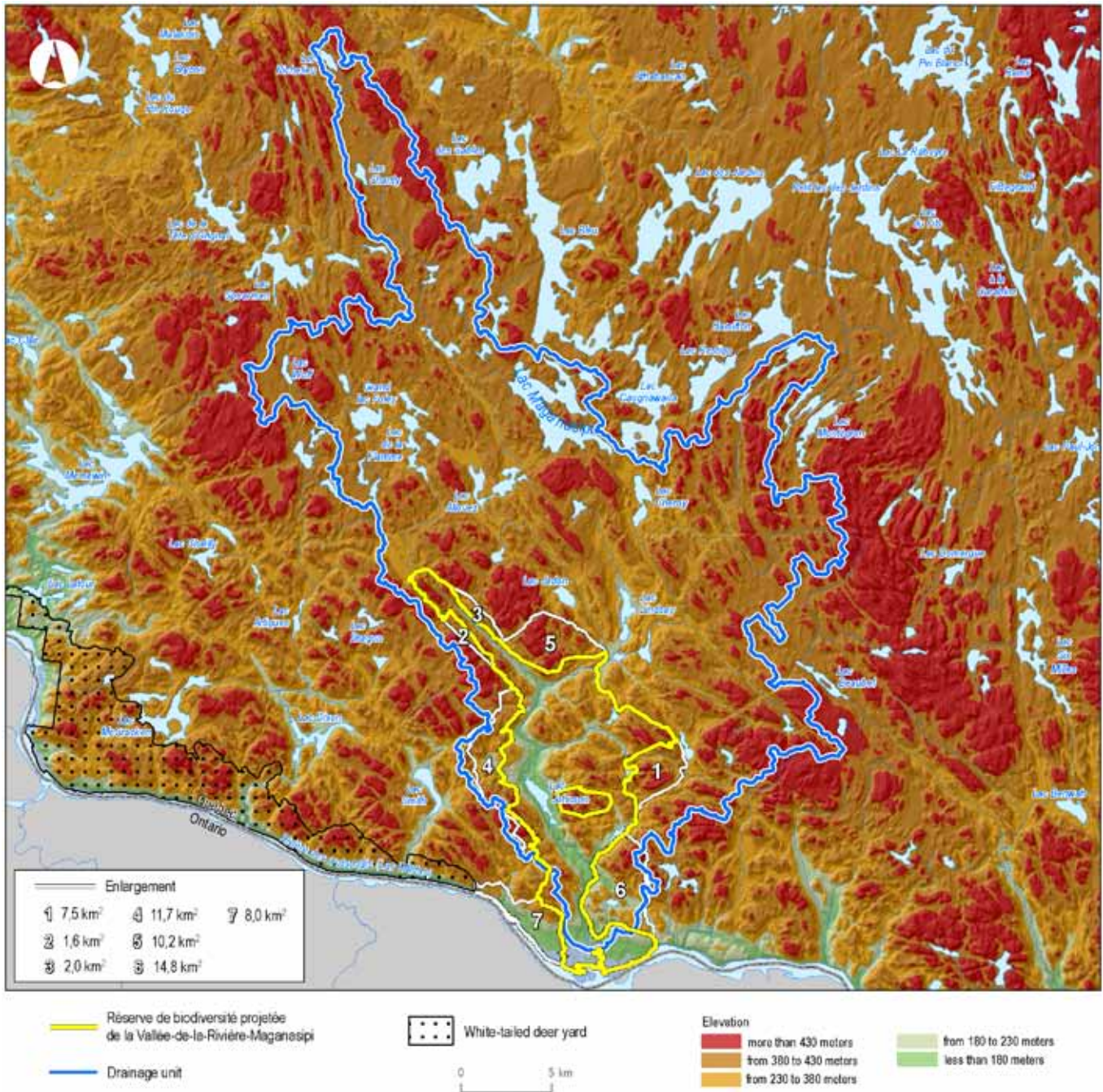
to certain reactions during the workshops, the MDDEP revised the potential expansion scenario to be studied. The reactions to the potential expansions are presented in detail in the companion document entitled “Summary of the preparatory workshops for the public consultation and meetings: Granting of permanent biodiversity reserve or aquatic reserve status to eight territories in the Abitibi-Témiscamingue region” submitted to the BAPE Commission within the framework of this consultation. The ZEC Maganasipi is concerned by the expansions and expressed the same reservations concerning the expansions to the Réserve de biodiversité projetée de la Vallée-de-la-Rivière-Maganasipi as for the Réserve de biodiversité projetée des Basses-Collines-du-Ruisseau-Serpent.

An analysis was conducted of the minimum drainage basins for the territory to determine the best modifications to make to the boundaries of the protected area in order to maximize the protection of the Rivière Maganasipi. Figure 138 illustrates the boundaries of the drainage basin of the Rivière Maganasipi. The entire drainage basin of the Rivière Maganasipi covers 480 km² and thus cannot be fully protected. However, the lower drainage basin (downstream half) can be targeted as a protection objective. All of the expansions presented below, except one (polygon No. 7), satisfy the objective of maximizing the protection of the Rivière Maganasipi by more broadly protecting its immediate drainage basin.

The determination of the landscape visible from the protected section of the Rivière Maganasipi shows that almost the entire territory visible from the river is already located inside the protected area (Figure 139). The most significant visible portion located outside the protected area lies in polygon No. 6 (Figure 138), which is proposed as an expansion. However, the polygon corresponds to a territory in which constraints to protection appear to be greater although the nature of the constraints has yet to be specified.

The MDDEP is targeting two objectives with this potential expansion scenario, particularly in the context where the protected area is small. It is seeking first to enhance the connectivity westward with the white-tailed deer yard and, ipso facto, with the Réserve de biodiversité projetée des Basses-Collines-du-Ruisseau-Serpent by means of polygon No. 7 in Figure 138, located southwest of the protected area along the Ottawa River. The polygon encompasses, in particular, underrepresented types of potential vegetation, including sugar maple-northern red oak stands and black ash-fir stands (see Figure 133). However, the area is mainly occupied by trembling aspens but also by white pine and red pine stands and several maple forests and black spruce stands (see Figure 134). Most of the forest stands were subject to partial cutting or commercial thinning in the 1980s.

Figure 138. Potential expansions of the Réserve de biodiversité projetée de la Vallée-de-la-Rivière-Maganasipi

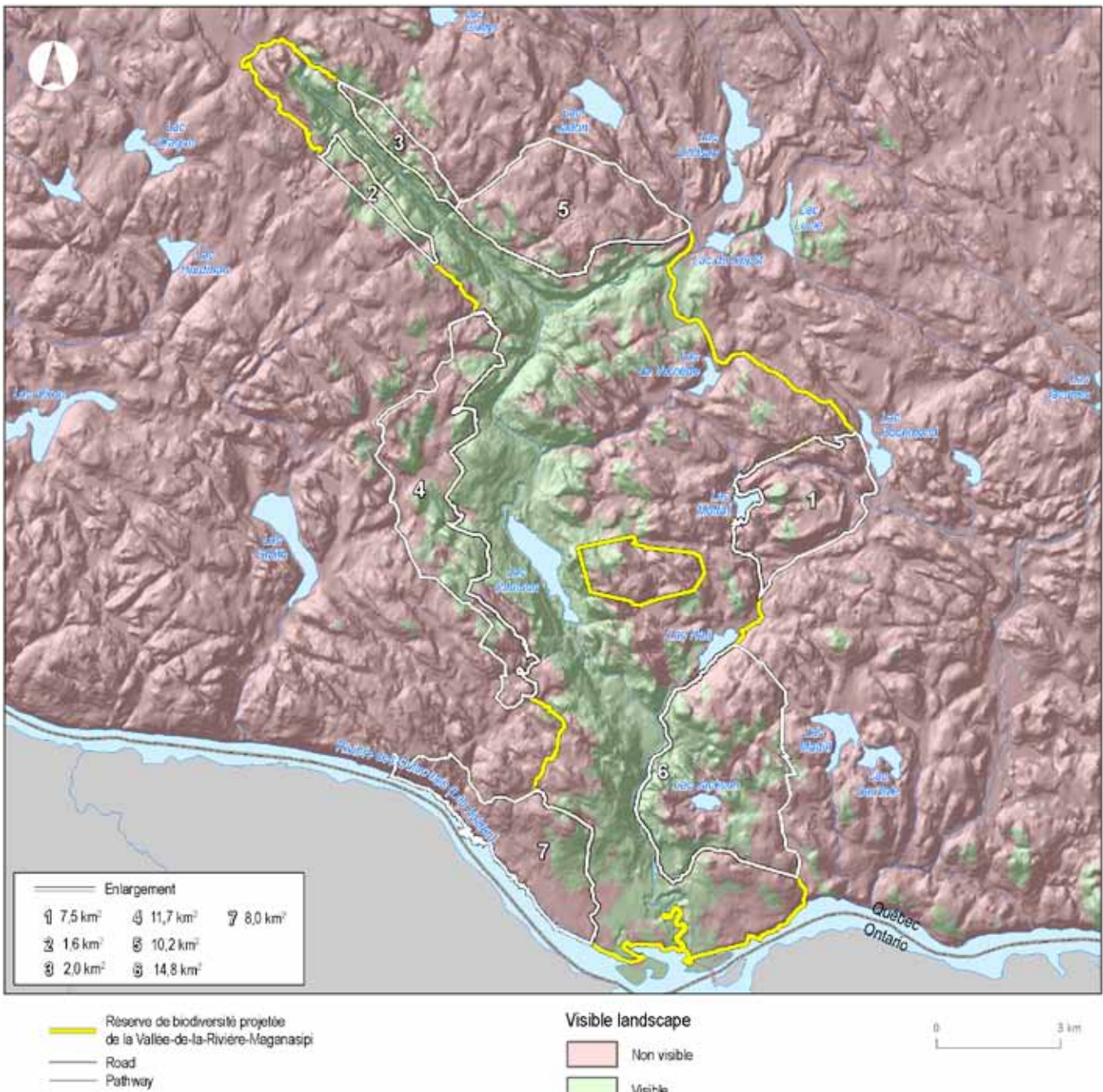


The other objective is to broaden the protection of the immediate lands drained by the Rivière Maganasipi. The protected area does not offer boundaries that allow for the adequate protection of the Rivière Maganasipi, even minimally, which the participants in the workshop at the Table GIRT de la MRC de Témiscamingue pointed out to the MDDEP. Accordingly, the boundary enhancement scenario makes provision for expansions on both sides of the protected arm of the Rivière Maganasipi Ouest (polygons Nos. 2, 3 and 5), an expansion westward (polygon No. 4) and an expansion eastward

(polygon No. 6). The latter two expansions are located at a point where the Rivière Maganasipi flows near the boundaries of the reserve. The territories corresponding to the expansions encompass potential vegetation comprising yellow birch-fir or yellow birch-fir-sugar maple stands, sugar maple-yellow birch stands and several white pine or red pine stands, but also rarer underrepresented types such as balsam fir-red spruce stands, balsam fir-cedar stands and, farther south, sugar maple-northern red oak stands (see Figure 133). However, the territories are often occupied by poplar



Figure 139. Landscapes visible from the Rivière Maganasipi



stands and black spruce stands but also by yellow birch stands and white pine and red pine stands (see Figure 134). All of the areas were subject to logging in the 1990s and 2000s.

Lastly, polygon No. 1, i.e. the expansion presented at a workshop that extends to the ZEC road, is located east of Lac Moffat. The expansion is, in a manner of speaking, a remedial measure to the boundaries of the proposed biodiversity reserve. The types of

potential vegetation in the area are yellow birch stands, maple forests and pine forests (see Figure 133). While the area has been mainly colonized by black spruce, theoretical species revealed by mapping of the potential vegetation are found there. The area is undisturbed aside from several small sectors at the foot of slopes that were subject to partial cutting, shelterwood cutting or selection cutting in 2004. This potential addition comprises a majority of uneven-aged old-growth forests (see Figure 135). The other

expansions had not been analysed and the constraint level, forestry in particular, is actually not known. The real potential of expanding the protected area is still to evaluate.

The expansions that the MDDEP studied, including the geographic area corresponding to the exceptional forest ecosystem enclosed in the reserve represents a total area of nearly 60 km². The total area of the biodiversity reserve would be 148 km² and the perimeter-area ratio would improve greatly, from 1.10 to 0.62.

Moreover, the Wolf Lake First Nation recently submitted to the MDDEP a proposal concerning the expansion of the proposed biodiversity reserve. The First Nation is proposing that the reserve be expanded to protect almost all of the drainage basin of the Rivière Maganasipi, i.e. roughly the drainage basin illustrated in Figure 138, excluding the upper branch the farthest upstream near Lac Charity. The MDDEP has not analyzed the ecological interest, the representativeness and the shortcomings that such an expansion might satisfy, whether from the standpoint of the objectives specific to the reserve or those pertaining to the development of the network of protected areas (12% for 2015).

4.7.8 Management of the permanent reserve

Once the biodiversity reserve obtains permanent status, it will be managed in such a way as to ensure the attainment of conservation objectives. Accordingly, the MDDEP's decisions pertaining to management will prioritize conservation. As for regulations, when the biodiversity reserve obtains permanent status, it will have a conservation plan in which a regime of activities will regulate all activities or initiatives in the protected area. The regime of activities will draw inspiration, by and large, from the regime of activities in the conservation plan of the proposed reserve. However, in the case of permanent status, the new conservation plan could make provision, as the case may be, for specific features to better structure activities and initiatives in order to ensure better protection of the territory, ecosystems and biodiversity. Because the territory lies entirely in a controlled harvesting zone, the management approach could be adapted.

The conservation plan will stipulate that certain activities are allowed in the protected area, that others are strictly prohibited, and that a number of activities or initiatives whose compatibility with the protected area and its conservation objectives varies will be subject to authorization by the MDDEP. For more information, see section 5.13, "The regime of activities explained" or the document entitled "Régime d'activités dans les réserves de biodiversité et les réserves aquatiques." When the MDDEP or any manager of the territory evaluates requests for authorization, it will take into consideration the objectives concerning the preservation of the Rivière Maganasipi and the lands associated with it. Special attention must be paid to the ecosystem assessment of any development to ensure that impact is maintained at an acceptable level.

As for the operational management that the MDDEP or any other partner carries out in the territory of the permanent reserve, it will lead to the installation of appropriate signage and surveillance of the protected area. A management committee comprising the key stakeholders concerned could be established to participate in the drafting of an action plan that defines the management priorities pertaining to the protected area, then collaborate on the action plan's implementation.

