

A Lifelong Heritage

Réserve de biodiversité des Méandres-de-la-Taitaipenistouc



CONSERVATION PLAN

Québec 🖁 🚼

Notice

This conservation plan was updated in March 2022 solely for the purpose of adjusting the references to certain legislative provisions following the coming into force of the Act to amend the Natural Heritage Conservation Act and other provisions (2021, c. 1) and the Regulation respecting certain transitional measures necessary for the application of the Act to amend the Natural Heritage Conservation Act and other provisions (2022, c. 1) and the Natural Heritage Conservation Act and other provisions of the Act to amend the Natural Heritage Conservation Act and other provisions (2022, c. 2).

Cover photos: Dominic Boisjoly

Reference to cite:

Gouvernement du Québec. 2022. Conservation Plan, Réserve de biodiversité des Méandres-de-la-Taitaipenistouc. Québec, Ministère de l'Environnement et de la Lutte contre les changements climatiques, Direction des aires protégées. 16 pages.

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Introduction

In 2002, the Gouvernement du Québec moved to protect a portion of the Rivière Taitaipenistouc watershed by prohibiting the principal industrial activities that could threaten conservation of the area (forest, hydroelectric and mining development).

The territory was officially accorded the legal provisional status of proposed biodiversity reserve on June 19, 2003 in accordance with the *Natural Heritage Conservation Act* (chapter C-61.01). The proposed biodiversity reserve was given the temporary name of Réserve de biodiversité projetée du lac Bright Sand.

By giving permanent protected status to Réserve de biodiversité des Méandres-de-la-Taitaipenistouc, the Gouvernement du Québec ensures the definitive protection of representative samples of the biological diversity of the central Labrador natural province, and more specifically of the Lacs Brûlé-Fournier plateau natural region.

The purpose of the reserve is to protect ecosystems that are representative of the natural region and undisturbed by human activity. By excluding industrial activities from the reserve, its landscapes and ecosystems will be safeguarded for future generations. It must be noted that in 2013 a major forest fire raged through the territory. Since the essential plant surveys date from before the fire, this conservation plan presents what was known by the Ministère de l'Environnement et de la Lutte contre les changements climatiques about the state of things prior to the forest fire. The new biodiversity reserve joins a vast network of protected areas aimed at protecting the various types of representative and exceptional ecosystems across Québec.

On March 17, 2005 the Minister of Sustainable Development, Environment and Parks (MDDEP) mandated the Bureau d'audiences publiques sur l'environnement (BAPE) to hold a public consultation on Réserve aquatique projetée de la rivière Moisie and three proposed biodiversity reserves: du lac Pasteur, du lac Gensart and du lac Bright Sand (des Méandres-de-la-Taitaipenistouc). This mandate was given to the BAPE in accordance with the Natural Heritage Conservation Act. The BAPE's mandate began on March 30, 2005 and concluded on September 30 of the same year. The consultation was held in May and June 2005 in Port-Cartier, Sept-Îles and Fermont. The BAPE's inquiry and public hearing report (No. 213) was submitted to the Minister of the MDDEP on September 30, 2005 and made public on November 10, 2006 (BAPE, 2005). In its report, the commission recommended giving permanent protection status to Réserve de biodiversité projetée du lac Bright Sand, which is now Réserve de biodiversité des Méandres-de-la-Taitaipenistouc.

The present conservation plan was drawn up by the Ministère de l'Environnement et de la Lutte contre les changements climatiques (MELCC) after the BAPE's consultation. It sets out the ministerial vision for the conservation of the territory of Réserve de biodiversité des Méandres-de-la-Taitaipenistouc. Incorporating a large part of the document prepared by the MDDEP in March 2005 for the public consultation, it takes into account the conclusions of BAPE report #213 (BAPE, 2005). Thus, the conservation plan reflects the concerns of all government and non-government partners involved in implementing the strategic action plan on protected areas.

The purpose of this conservation plan is to inform the public as to the legislative framework applying within the biodiversity reserve (see sections 4 and 5). The plan is also intended to guide management by detailing conservation objectives specific to Réserve de biodiversité des Méandres-de-la-Taitaipenistouc. These objectives, discussed in sections 2.1 and 2.2, may be summarized as follows:

- Maintain the ecological integrity of the biodiversity reserve.
- Promote knowledge acquisition and conduct monitoring.

1. Description of the biodiversity reserve

1.1 Official toponym

Réserve de biodiversité des Méandres-de-la-Taitaipenistouc: the name reflects the Innu name for the meandering river that drains a large part of the reserve.

1.2 Geographical location, boundaries and area

The location and regional context of Réserve de biodiversité des Méandres-de-la-Taitaipenistouc are shown in Appendix 1. The boundaries, vegetation and occupation are illustrated in Appendix 2. Location: Réserve de biodiversité des Méandres-de-la-Taitaipenistouc is located in the backcountry of the administrative region of Côte-Nord, and is part of the unorganized territory of **Rivière-Nipissis** in the regional county municipality (MRC) of Sept-Rivières. More precisely, the protected area lies between 51°38' and 51°58' north latitude and between 65°52' and 66°7' west longitude. It is 117 km southeast of Fermont and 161 km northeast of Sept-Îles. The reserve is also 15 km east of Réserve aquatique projetée de la rivière Moisie.

Area and boundaries: The initial area of the proposed reserve, when it was set aside in 2003, was 278 km². The final boundaries were defined partly to optimize protection of the Rivière Taitaipenistouc watershed, and partly on the basis of natural elements that are easily identified on the ground, to facilitate management. In some places the boundaries follow a river or lakeshore. After these adjustments, Réserve de biodiversité des Méandres-de-la-Taitaipenistouc now covers an area of 326.53 km². The right of way of the 315 kV Montagnais-Normand electrical transmission line was excluded from the boundaries of the reserve.

The legal boundaries of Réserve de biodiversité des Méandres-de-la-Taitaipenistouc are defined in the technical description and the survey map prepared by land surveyor Pierre Brodeur with the following minutes 16591 (November 14, 2017) and filed in the surveying archives of the Surveyor General of Québec (Greffe de l'arpenteur général du Québec), Ministère de l'Énergie et des Ressources naturelles, under document number 536738. Accessibility: No roads provide access to the biodiversity reserve. The railroad belonging to Quebec North Shore and Labrador Railway Company Inc., which connects Sept-Îles and Labrador City, passes about 13 kilometres to the east of the reserve. However, several of the reserve's lakes are long enough for seaplanes to land, and the area can be accessed by snowmobile.

1.3 Ecological portrait

Réserve de biodiversité des Méandres-de-la-Taitaipenistouc is in the central Labrador natural province. It protects natural environments that are representative of the Lacs Brûlé–Fournier plateau natural region, a vast plateau whose undulating plains are covered with drumlins, stagnation moraines, till and bogs, and are scattered with mounds and lakes (Li, 2013).

1.3.1 Representative elements

Half of the territory of the reserve was ravaged by a major forest fire in 2013. As mentioned earlier, the information presented here about vegetation and wildlife reflects what was known before the forest fire.

Geology and geomorphology: The territory lies entirely within Grenville geological province. The geological foundation is primarily composed of metamorphic rocks, specifically gneiss with tonalite commonly present. In the northern part the bedrock also includes paragneiss, marble and quartzite.

From a geomorphological point of view, the reserve is chiefly notable for its relief of glacial origin, in the form of hills parallel to the flow of the glacier: undulating terrain with drumlins. A few areas in the west and centre have rough or hilly terrain topped with a thin or thick deposit of till. The central part of the territory has hummocky terrain, partly due to the stagnation moraine. The bottom of the Rivière Taitaipenistouc valley is partially covered with well-drained sand/gravel deposits of fluvioglacial origin. The minimum, maximum and average elevation are respectively 584 m, 766 m and 636 m.

Hydrography: Most of the territory of the reserve is in the Rivière Taitaipenistouc watershed, which in turn is in the Rivière Caopacho watershed. The eastern and southern extremities of the reserve are in the Rivière Nipissis watershed. All drain into the Rivière Moisie watershed.

The hydrographic network of Réserve de biodiversité des Méandres-de-la-Taitaipenistouc consists essentially of headwater rivers. Rivière Taitaipenistouc, the main watercourse, is an exception, and has a Strahler number of 4¹. Rivière Taitaipenistouc arises from a small lake north of the reserve, emptying into Rivière Caopacho after winding through the protected area from north to south. The reserve also has around twenty unnamed lakes. They cover less

¹ The Strahler number is a way of ranking a watercourse by its position in the watershed. Streams with no tributaries have a Strahler number of 1. The confluence of two streams of the same rank increases that of the water downstream. The longest rivers in Québec have a Strahler number of 8.

than 11% of the territory and stand at an elevation of around 600 m. The largest lakes are in the south of the protected area and have an average area of 3.6 km². The general orientation of the lakes and watercourses is north-northeast/ south-southwest.

Climate: The territory of the reserve is subject to a cold continental subarctic climate, subhumid with a short growing season, and is typical of the bioclimatic domain of black spruce/moss forests. The climate of the Lacs Brûlé-Fournier plateau natural region is favourable to the development of open stands of black spruce, frequently disturbed by forest fires, on fluvioglacial deposits and ablation moraines.

Flora: The plant cover subsequent to the forest fire of 2013 is illustrated in Appendix 2. As mentioned earlier, the description below reflects what was known by the MELCC about the state of things before the fire. Nearly half the territory is occupied by open conifer stands, with a ground cover of lichen (18% of the territory) or moss (3%), and by medium conifer stands with a ground cover of moss (17% of the territory) or lichen (10%). Coniferous heaths with a ground cover of lichen cover 12% of the territory, while those with moss take up 4%. Heaths occupy a sixth of the territory of the biodiversity reserve. Almost devoid of trees, these plant communities are composed of shrubby species, flowering plants, grasses and lichens. In the biodiversity reserve, heaths cover the steepest slopes and upland areas where the bedrock surfaces. Scattered here and there, especially on relief elements, dense stands of old conifers cover 6% of the protected area. In the Rivière

Taitaipenistouc valley and some of the hollows, there are bogs, accounting for 3% of the territory.

The dominant species is black spruce (Picea mariana). Beyond that, the information presented here is far from complete. Many species could be present on the territory of the reserve. In 1998 the Ministère des Ressources naturelles performed surveys at observation points in the ecoforestry information system, not within what is now the reserve, but in the ecological district in which it is located. It could well be that the species inventoried are also present in the protected area. The main species of lichen found were reindeer lichen (Cladonia mitis and Cladonia rangiferina) and star-tipped reindeer lichen (Cladonia stellaris). Also observed were a few species of bryophyte, including Schreber's big red stem moss (Pleurozium schreberi), knight's plume moss (Ptilium crista-castrensis) and rusty peat moss (Sphagnum fuscum). The surveys showed that black spruce (Picea mariana), Labrador tea (Rhododendron groenlandicum) and lowbush blueberry (Vaccinium angustifolium) were the dominant species. The principal natural disturbance in this region is fire. The oldest burned areas (2% of the territory) are dominated by jack pine (Pinus banksiana).

Wildlife: Very little information is available since no wildlife survey has been done.

Lake trout (*Salvelinus namaycush*), brook trout (*Salvelinus fontinalis*), northern pike (*Esox lucius*), landlocked Atlantic salmon (*Salmo salar ouananiche*), whitefish (*Coregonus albula*) and landlocked Arctic char (*Salvelinus alpinus oquassa*), a species likely to be designated

threatened, are present in the natural region. Moose (*Alces alces*), black bear (*Ursus americanus*), snowshoe hare (*Lepus americanus*), partridge and Canada goose (*Branta canadensis*) also frequent the natural region. Since the reserve is in the range of the woodland caribou (*Rangifer tarandus caribou*), it could well frequent the area, but this has not been confirmed by any survey.

1.3.2 Outstanding elements

According to the Centre de données sur le patrimoine naturel du Québec, no plant species that is threatened or vulnerable or likely to be so designated has been observed in the reserve (CDPNQ, 2014). However, golden eagle (Aquila chrysaetos), a vulnerable species, and woodland caribou (Rangifer tarandus caribou), designated vulnerable in Québec, could use the territory of the reserve. Arctic char oquassa (Salvenilus alpinus oquassa), a species likely to be designated threatened or vulnerable, has been caught some fifteen kilometres northeast of the reserve, so it could also be present within the reserve. Since there have been no industrial activities in the area, its natural environments are totally intact.

1.4 Land occupation and uses

The boundaries of Réserve de biodiversité des Méandres-de-la-Taitaipenistouc, along with the occupations exercised on its territory, are illustrated in Appendix 2.

A single land right covering an area of 4000 m² has been granted on the shores of the headwater

lake in the northern part of the reserve. It is a lease for personal resort purposes.

A canoe-kayak course through Lac Matinipi and across part of Lac du Brochet skirts the southern boundary of the reserve, following a string of small lakes interconnected by watercourses. Though no archeological sites have been identified in the reserve, Lac Matinipi (directly to the south) is considered sacred by the Innu. Thousands of poles that had served for poling upstream by canoe-kayak are stuck into the lakebed, being no longer needed further up.

A 315 kV electrical transmission line crosses the northern section of the reserve over a distance of 4.5 km. Its right of way, excluded from the boundaries of the reserve, is 66.71 metres in width.

The protected area is in the Saguenay beaver reserve and is part of fur-bearing animal management unit 60. The Innu of Uashat mak Mani-Utenam hold specific rights in respect of hunting and the trapping of fur-bearing animals. The reserve's protected status will not affect their rights or traditional practices. The reserve is also located within the hunting zone 19 south, where sport hunting for caribou has been prohibited east of the railway connecting Sept-Îles to Fermont since 1979 and throughout the entire zone since 2001.

Thanks to its location north of the boundary for commercial logging, and in an area where no mining claims have been granted, the territory of Réserve de biodiversité des Méandres-de-la-Taitaipenistouc is free of human disturbances of an industrial nature.

2. Conservation objectives

This section presents guidelines and conservation objectives specific to Réserve de biodiversité des Méandres-de-la-Taitaipenistouc.

2.1 Protection of biodiversity

To maintain the viability of ecological processes, management of the reserve should give priority to protecting the ecosystems present and the species that depend on them.

The biodiversity reserve is also intended to protect landscapes and modes of occupation and use that are compatible with biodiversity protection objectives. Existing occupations and uses should be managed to ensure that they have as little impact as possible on biodiversity.

Each biodiversity reserve in the Québec network has unique conservation challenges. In the case of Réserve de biodiversité des Méandres-de-la-Taitaipenistouc, the ecosystems and their associated biodiversity are ecologically intact, thanks to the lack of human disturbance. Management of the reserve should therefore be focused on maintaining this ecological integrity.

Specific objective:

Maintain the ecological integrity of the biodiversity reserve

Industrial activities are prohibited in the reserve. This status does however allow the development and pursuit of non-industrial activities of a recreational, traditional or cultural nature. At present the reserve is relatively unfrequented. Nonetheless, should existing activities increase in intensity or new activities be authorized, it will be important to ensure the continued integrity of protected ecosystems. Projects should be evaluated with a view toward biodiversity, the support capacity of ecosystems² and the harmonization of uses. Projects must also be compatible with the reserve's conservation objectives.

Attention must also be paid to conserving the habitats of sensitive species, and should the need arise, to protecting the species themselves.

2.2 Knowledge acquisition and environmental monitoring

Ecological knowledge needs be developed, and in particular brought up to date since the forest fire of 2013, particularly with regard to vegetation. This information will be used in developing management tools for conservation purposes.

Specific objective:

Promote knowledge acquisition and conduct monitoring

Since Réserve de biodiversité des Méandres-dela-Taitaipenistouc is relatively inaccessible, knowledge about its plants and wildlife is incomplete, particularly with regard to developments since the forest fire. Besides contributing to specific objectives stemming from the principle of natural heritage protection,

² Support capacity is defined as follows: in a sustainable development perspective, the support capacity of an ecosystem is the maximum pressure that can be exerted on it by human activities without jeopardizing its integrity, to ensure its continued viability.

knowledge acquisition will lead to a more detailed portrait of the area's biodiversity. Within available budgets, surveys should be carried out under a knowledge acquisition and monitoring program. Ecological, historical, social and traditional information should be compiled, and if new activities are permitted in future, their impacts should be documented.

The knowledge acquired will help to ensure that authorized activities do not compromise biodiversity maintenance. It will give managers a better understanding of how the ecosystems present function and evolve, and will facilitate a common understanding of the issues.

3. Zoning

The MELCC does not propose any zoning to guide the management of Réserve de biodiversité des Méandres-de-la-Taitaipenistouc, since ecological knowledge is still too fragmentary and the territory is little used.

4. Activity framework applicable to the biodiversity reserve

The purpose of the reserve is to protect natural environments and their components. For this reason, activities that could have a significant impact on ecosystems and biodiversity, especially of an industrial nature, are prohibited. Less harmful activities and occupations, such as those involving recreation, wildlife, ecotourism or education, are however permitted in this type of protected area.

In sum, the biodiversity reserve should be considered as a territory dedicated to protecting

the natural environment, to nature discovery and to recreation.

4.1 Activity framework established by the Natural Heritage Conservation Act

Activities carried out within the biodiversity reserve are primarily governed by the provisions of sections 46 and 49 of the *Natural Heritage Conservation Act* (chapter C-61.01), as they read on 18 March 2021.

Under section 46, the activities prohibited in an area with the status of biodiversity reserve are primarily the following:

- mining and gas or oil extraction;
- forest management within the meaning of section 4 of the Sustainable Forest Development Act (chapter A-18.1);
- the exploitation of hydraulic resources and any production of energy on a commercial or industrial basis.

Though fundamental to protecting the territory and its ecosystems, the above prohibitions do not cover all of the standards considered desirable to ensure the proper management of the reserve and the conservation of its natural environment. Section 46 of the *Natural Heritage Conservation Act, as it reads on 18 March 2021,* allows the Regulation to detail the legal framework applicable on the territory of a biodiversity reserve.

4.2 Activity framework established by the Regulation respecting the Réserve de biodiversité des Méandres-de-la-Taitaipenistouc

The provisions contained in Regulation respecting the Réserve de biodiversité

des Méandres-de-la-Taitaipenistouc (chapter C-61.01, r. 74) set out additional prohibitions beyond those already stipulated in the *Natural Heritage Conservation Act* (chapter C-61.01). They also provide a framework for certain permitted activities, to ensure the protection of the natural environment in accordance with the principles of conservation and other management objectives of the reserve. Certain activities are therefore subject to prior authorization by the Minister.

The measures presented in Regulation concern new interventions in particular, and generally do not affect activities that are already being practised or facilities that are already present. Many existing uses are thus preserved.

In listing the activities requiring authorization Regulation does not identify which ones would be considered incompatible with the vocation of the reserve and could therefore be refused authorization. Basic information about the compatibility or incompatibility of each type of activity is provided in the document *Activity Framework for Biodiversity Reserves and Aquatic Reserves*, which is available on the website of the MELCC, at:

http://www.mddelcc.gouv.qc.ca/biodiversite/aires _protegees/regime-activites/regime-activitereserve-bio-aqua-en.pdf.

Note that certain activities are exempted from the requirement to obtain authorization. These exemptions are also presented in Regulation.

5. Activities governed by other laws

Certain activities that could potentially be practised in the biodiversity reserve are also governed by other applicable legislative and regulatory provisions, and some require a permit or authorization or the payment of certain fees. Certain activities could be prohibited or limited under other laws or regulations applicable on the territory of the reserve.

In the territory of Réserve de biodiversité des Méandres-de-la-Taitaipenistouc, a particular legal framework may govern permitted activities under the following categories:

- Protection of the environment: measures stipulated by the Environment Quality Act (chapter Q-2) and its regulations;
- Archeological research and discoveries: measures stipulated by the *Cultural Heritage Act* (chapter P-9.002);
- Exploitation and conservation of wildlife resources: measures stipulated by the Act respecting the conservation and development of wildlife (chapter C-61.1) and its regulations, including provisions related to threatened or vulnerable wildlife species, outfitters and beaver reserves, and measures in the applicable federal laws and regulations, including the legislation and regulations on fisheries;
- Plant species designated as threatened or vulnerable: measures prohibiting the harvesting of such species under the Act

respecting threatened or vulnerable species (chapter E-12.01);

- Access and property rights related to the domain of the State: measures stipulated by the Act respecting the lands in the domain of the State (chapter T-8.1) and by the Watercourses Act (chapter R-13);
- Issuance and oversight of forest development permits (harvesting of firewood for domestic purposes, wildlife development, recreational development); and delivery of authorizations (forest roads): measures stipulated by the Sustainable Forest Development Act (chapter A-18.1);
- **Travel:** measures stipulated by the Act respecting the lands in the domain of the State and by the regulations on motor vehicle travel in fragile environments, under the Environment Quality Act,
- Construction and development standards: regulatory measures adopted by local and regional municipal authorities in accordance with the applicable laws.

6. Management

6.1 Responsibilities of the Minister of Environment and the Fight against Climate Change

The Minister of Environment and the Fight against Climate Change is responsible for the management of Réserve de biodiversité des Méandres-de-la-Taitaipenistouc. Among other things, the Minister sees to the control and supervision of activities that take place there, and to the application of the Natural Heritage Conservation Act (chapter C-61.01) and Réserve Regulation respecting the de biodiversité des Méandres-de-la-Taitaipenistouc. Operational management of the reserve is assigned to the Direction régionale of the MELCC. In his management, the Minister enjoys the collaboration and participation of other government representatives that have specific responsibilities in or adjacent to the territory.

The MELCC will establish a mechanism for the participation of local stakeholders interested in the future of Réserve de biodiversité des Méandres-de-la-Taitaipenistouc.

The MELCC considers that the management needs of Réserve de biodiversité des Méandresde-la-Taitaipenistouc come down to overseeing the territory, knowledge acquisition, and monitoring biodiversity and land use.

6.2 Adaptive management

As mentioned in section 2, "Conservation objectives", knowledge acquisition and environmental monitoring will be undertaken in collaboration with the local and regional partners concerned. The knowledge acquired will serve to guide management activities.

A mechanism should be put in place to monitor the conservation objectives, and if necessary, to rectify the minimal management planned for this territory.

6.3 Stakeholder participation and integrated management

While the MELCC considers that Réserve de biodiversité des Méandres-de-la-Taitaipenistouc has minimal management needs, it could work with local stakeholders to draw up an action plan if management needs become greater. It could also review whether zoning is needed to provide a framework for the possible development and practice of activities in the protected area.

Management of the biodiversity reserve should respect the following conservation principles:

- maintain natural ecosystem dynamics;
- allow activities to be practised, and the territory to be developed, within the limits of the support capacity of ecosystems;
- authorize non-industrial harvesting activities, but without supporting them;
- promote the acquisition and dissemination of knowledge about the natural and cultural heritage.

In addition, to ensure responsible management of the reserve, the precautionary principle must be applied.

Bibliographical references

Bureau d'audiences publiques sur l'environnement, 2005. Rapport d'enquête et d'audience publique 213 – Projets de réserve aquatique de la rivière Moisie et de réserves de biodiversité des lacs Pasteur, Gensart et Bright Sand, 90 p.

Centre de données sur le patrimoine naturel du Québec, juillet, 2014. Extractions du système de données pour le territoire de la réserve de biodiversité des Méandres-de-la-Taitaipenistouc. Ministère du Développement durable, de l'Environnement et de la Lutte contre les changements climatiques, Québec, 8 pages.

Direction du patrimoine écologique et du développement durable, 2003. La réserve de biodiversité projetée du lac Bright Sand. Plan de conservation sommaire préparé pour la consultation du public. Gouvernement du Québec, ministère de l'Environnement, Direction du patrimoine écologique et du développement durable, 15 p.

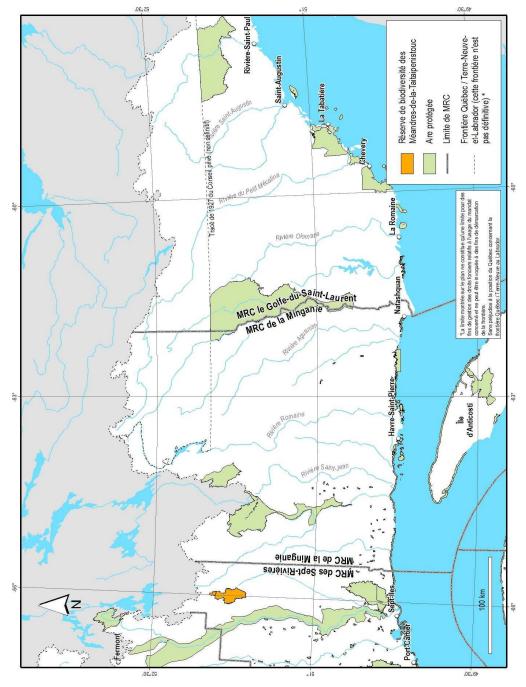
Direction du patrimoine écologique et des parcs, 2005 et 2008. La réserve de biodiversité projetée du lac Bright Sand. Plans de conservation sommaires corrigés. Gouvernement du Québec, ministère du Développement durable, de l'Environnement et des Parcs, Direction du patrimoine écologique et des parcs, 15 p.

Drapeau, L. 1994. Dictionnaire montagnais – français. Presses de l'Université Laval, 762 p.

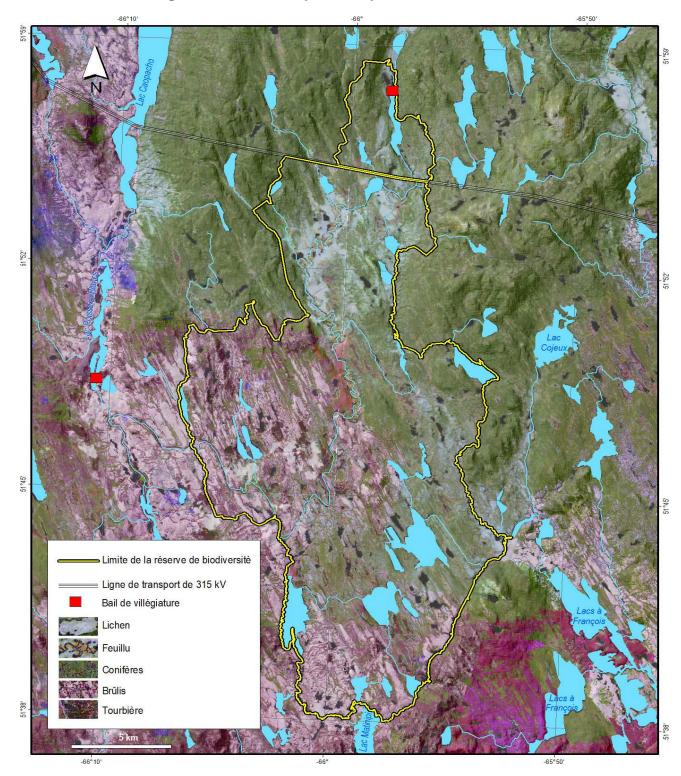
Lavoie, G. 1984. Flore Moyenne-et-Basse-Côte-Nord, Québec/Labrador. *Provancheria*, vol 17, 149.

Lepage, M. 2001. La faune vertébrée menacée ou vulnérable en forêt boréale. *Le Naturaliste Canadien,* vol 125(3) : p. 131-137.

Li, T., 2013. Cadre écologique de référence du Québec (CERQ) - Les régions naturelles : niveau Il du cadre écologique de référence du Québec. Extrait de 6 pages du document de travail. Direction de l'écologie et de la conservation, ministère du Développement durable, de l'Environnement de la faune et des Parcs.



Appendix 1: Réserve de biodiversité des Méandres-de-la-Taitaipenistouc: Location and regional context



Appendix 2: Réserve de biodiversité des Méandres-de-la-Taitaipenistouc: Boundaries, vegetation and occupation – portrait after the 2013 forest fire