Protected areas in Québec:

A Lifelong Heritage

Réserve de biodiversité Katnukamat

CONSERVATION PLAN

Québec

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Contents

Introduction

In 2002, the Gouvernement du Québec moved to protect the territory of the Lac aux Sauterelles mounds 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 under section 90 of the *Natural Heritage Conservation Act* (chapter C-61.01). The proposed biodiversity reserve was given the temporary name of Réserve de biodiversité projetée des buttes du lac aux Sauterelles.

By giving permanent protected status to Réserve de biodiversité Katnukamat, 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 preserve the ecosystems of a landscape shaped by glaciers and undisturbed by human activity. By excluding industrial activities from the reserve, its landscapes and ecosystems will be safeguarded for future generations.

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 August 10, 2006 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 four proposed biodiversity reserves: du massif des lacs Belmont et Magpie, des buttes du lac aux Sauterelles (Katnukamat), des basses collines du lac Guernesé, and des collines de Brador. This mandate was given to the BAPE pursuant to section 39 of the *Natural Heritage Conservation Act*, which provides for a public consultation process before a proposal is made to the Government on permanent protection status for land set aside as a proposed protected area. The BAPE's mandate began on September 14, 2006 and concluded on February 14, 2007. The first part of the consultation was held from October 16 to 19, 2006 in the municipalities of Rivière-Saint-Jean, Blanc-Sablon and Saint-Augustin, and in the Innu community of Pakua Shipu. The second part of the consultation was held from pNovember 21 to 23, 2006 in the municipalities of Havre-Saint-Pierre and Blanc-Sablon and in the Innu community of Pakua Shipu. The BAPE's inquiry and public hearing report (No. 236) was submitted to the Minister of the MDDEP on February 14, 2007 and made public on July 16, 2008 (BAPE, 2007). In its report, the commission recommended giving permanent protection status to Réserve de biodiversité projetée des buttes du lac aux Sauterelles, which is now Réserve de biodiversité Katnukamat.

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 Katnukamat. Incorporating a large part of the document prepared by the MDDEP in September 2006 for

the public consultation, it takes into account the conclusions of BAPE report #236 (BAPE, 2007). Thus, the conservation plan reflects the concerns of all governmental and non-governmental 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 Katnukamat. These objectives, discussed in sections 2.1 and 2.2, can be summarized as follows:

- Maintain the ecological integrity of the biodiversity reserve
- Encourage the acquisition of knowledge and carry out monitoring

1. Description of the biodiversity reserve

1.1 Official toponym

Réserve de biodiversité Katnukamat: the name refers to Lac aux Sauterelles, which is also called *Katnukamat* or *Katnukamaht* in the Innu language, meaning “long lake”.

1.2 Geographical location, boundaries and area

The location and regional context of Réserve de biodiversité Katnukamat are shown in Appendix 1. The boundaries, vegetation and occupation are illustrated in Appendix 2.

Location: Réserve de biodiversité Katnukamat is located in the backcountry of the administrative region of Côte-Nord, and is part of the unorganized territory of Lac-Jérôme in the regional county municipality (MRC) of Minganie. More precisely, the protected area lies between 51°41’ and 52°05’ north latitude and between 63°59’ and 64°22’ west longitude. It is about 165 km north-northwest of Havre-Saint-Pierre and about 155 km north of Mingan, home of an Innu community (Ekuanishit).

Area and boundaries: The initial area of the proposed reserve, when it was set aside as such in 2003, was 481 km^2. The final boundaries were defined on the basis of natural elements that are easily identified on the ground, to facilitate management. After these adjustments, Réserve de biodiversité Katnukamat now covers an area of 532.91 km^2. The northwest boundary of the reserve corresponds to the northwest boundary of the Romaine river watershed boundary as defined by the primitive land surveying.

The legal boundaries of Réserve de biodiversité Katnukamat are defined in the technical description and the survey map prepared by land surveyor Pierre Brodeur with the following minutes 16488 (October 10, 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 536737.

Accessibility: No roads provide access to the biodiversity reserve. There are however numerous lakes that are large enough for seaplanes to land, particularly Lac aux Sauterelles in the northern part of the reserve. It can also be accessed by snowmobile.

1.3 Ecological portrait

Réserve de biodiversité Katnukamat is in the central Labrador natural province, except a small portion in the south that is in the Basse-Côte-Nord plateau. The reserve protects a geomorphological complex and associated biodiversity representative of the Lacs Brûlé-Fournier plateau natural region, or more precisely the Lac-Brulé knolls physiographic complex.

1.3.1 Representative elements

Geology and geomorphology: The territory is entirely in Grenville geological province and is part of the Canadian Shield geological complex. In the west, the geological foundation consists of mafic rocks, more precisely anorthosite. In the east, it consists of felsic rocks, in this case undeformed granite, and on the southern edge, syenite and monzonite.

The landscape of the region was shaped by glaciers. The ice sheet advanced in a northwest/southeast direction, as shown by the spatial organization of landscape elements, which allow the reserve to be divided into four ecological units (see Appendix 3). The first, in the centre, is associated with the glacial advance. Drumlins dominate, composed of well drained till interspersed with poorly drained areas. The second ecological unit is to the west and displays a geomorphology characteristic of subglacial water flow. Three eskers were formed here, oriented in the same direction as the glacier. They are separated by large bogs and slightly higher areas composed of thick till eroded laterally by glacial meltwaters. The third ecological unit is in the southwest, a valley bottom downstream from the fluvioglacial flow zone, where Lac Thévet is located. Traversed by eskers, the fluvioglacial terraces of sand and gravel were created by proglacial outwash, though there are also fluviatile sediments from present-day watercourses. The fourth unit is in the eastern part of the reserve and displays a geomorphology characteristic of glacial melting, namely a jumble of terrestrial and aquatic elements with no spatial organization. The stagnation moraines that blanket the area are intermingled with deposits of fluvioglacial origin. At the southern extremity of the reserve, outcrops of bedrock surface from the till. The elevation of the reserve ranges from 526 m to 796 m, with an average elevation of 582 m.

Hydrography: The biodiversity reserve is in the Rivière Romaine watershed, protecting about 3.7% of it. There are just over fifteen lakes of glacial origin, covering nearly 15% of the territory. Most are elongated, entrenched in narrow valleys. The largest is Lac aux Sauterelles with an area of 17 km² and a length of about 20 km. It is in the north of the protected area, at an elevation of 542 m. Like lakes Brigeart and Thévet, it drains into Rivière aux Sauterelles, which has a Strahler number of 4[1]. Rivière aux Sauterelles in turn empties into Rivière Romaine, about 40 km to the east. Mostly composed of headwater elements, the hydrographic network has an overall northwest-southeast orientation.

[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 raises that of the water downstream. The longest rivers in Québec have a Strahler number of 8.

Climate: The territory of the reserve is subject to a cold continental subarctic climate, subhumid with a short growing season. For the most part it is in the bioclimatic domain of black spruce/lichen forests. A small part in the south is in the bioclimatic domain of black spruce/moss forests.

Flora: The territory is a mosaic of several types of vegetation. Conifer stands cover 42% of it, consisting primarily of black spruce (*Picea mariana*) commonly accompanied by balsam fir (*Abies balsamea*), particularly on higher places like eskers and drumlins. On the terraces, 11% of the territory is coniferous heath with a ground cover of lichens and cup lichens (e.g. *Cladonia stellaris, C. mitis* and *C. rangiferina*), while 2% is heath with an understory of shrubs, including Labrador tea (*Rhododendron groenlandicum*), lowbush blueberry *(Vaccinium angustifolium*), velvet-leaf huckleberry *(Vaccinium myrtilloides*) and lingonberry (*Vaccinium vitis-idaea*). Taking up 4% of the territory, bogs occupy the hollows. Around these wetlands and in poorly drained places there are tamarack (*Larix laricina*), bog-laurel (*Kalmia polifolia*), dwarf bilberry (*Vaccinium cespitosum*) and leatherleaf (*Cassandra calyculata*), together with speckled alder (*Alnus rugosa*).

Bryophytes (non-vascular plants) like red-stemmed feather moss (*Pleurozium schreberi*) and knight's plume moss (*Ptilium crista-castrensis*), and herbaceous plants like savin-leaved clubmoss (*Diphasiastrum x sabinifolium*) and creeping snowberry (*Gaultheria hispidula*) have been found in the biodiversity reserve. The most recent surveys for the general area date from 1998 and were conducted by the Ministère des Ressources naturelles (now the Ministère des Forêts, de la Faune et des Parcs). Some of the species found in the region could be present on the territory of the reserve, such as three-lobed whipwort (*Bazzania trilobata*, a species of liverwort), velvetleaf huckleberry *(Vaccinium myrtilloides*) and bunchberry *(Cornus canadensis).* Between 2005 and 2010 the area was ravaged by forest fires. A large burned area of about 118 km^2, more than a fifth of the biodiversity reserve, stretches from north to south and includes the area west of Lac aux Sauterelles.

Wildlife: Since no wildlife survey has been done, very little information is available. Most of what is known comes from traditional sources. For example, members of the Innu community say that a wolf pack (*Canis lupus*) has been observed in the biodiversity reserve.

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, woodland caribou (*Rangifer tarandus caribou*), designated vulnerable in Québec, do occupy the territory. More precisely, the reserve is in the range of the Lac Joseph herd, which uses it for calving, rearing and overwintering (Schmelzer *et al.,* 2004). The Ekuanitshit Innu say they have hunted woodland caribou in the area around Lac aux Sauterelles.

The territory is noteworthy from a geomorphological point of view, since four parts of the reserve exemplify different phases in the passage of the continental ice sheet. One zone is characteristic of glacial advance, a second of subglacial water flow, a third of fluvioglacial outwash, while the fourth is clearly indicative of

glacial melting. All these geomorphological signs follow a northwest/southeast axis, revealing the orientation of the glacier.

1.4 Land occupation and uses

The boundaries and vegetation of Réserve de biodiversité Katnukamat, and the occupations exercised on its territory, are illustrated in Appendix 2.

No land rights have been granted within the boundaries of the reserve, and no archeological sites have been identified, probably because no survey has been done.

Thanks to its location north of the boundary for commercial logging and in an area, the territory of the reserve is free of anthropic disturbances of an industrial nature. Since there is little access to it, there are no recreotourism activities in the protected area.

The entire territory is within the Saguenay beaver reserve and is part of fur-bearing animal management unit 62. The Innu community of Ekuanitshit, at the confluence of Rivière Mingan and the St. Lawrence 200 km east of Sept-Îles, has a population of about 600. It holds specific rights on the territory of the reserve in respect of hunting and the trapping of fur-bearing animals. The Innu of Ekuanitshit frequent the territory and have established camps in the areas around Lac aux Sauterelles and Lac Thévet, where they practise traditional activities including hunting, fishing, trapping and gathering for food, ritual and social purposes.

The biodiversity reserve is also located within the hunting zone 19 south. Sport hunting for caribou has been prohibited throughout the entire zone since 2001, but the Innu hunt for subsistence purposes. They also hunt moose (*Alces americanus*), ruffed grouse (*Bonasa umbellus*), spruce grouse (*Falcipennis canadensis*), snowshoe hare (*Lepus americanus*), porcupine (*Erethizon dorsatum*), beaver (*Castor canadensis*), Canadian lynx (*Lynx canadensis*) and American marten (*Martes americana*). The Canada goose (*Branta canadensis*) and black duck (*Anas rubripes*) are the most heavily hunted bird species. The most frequently caught fish species is the brook trout or speckled trout (*Salvelinus fontinalis*).

2. Conservation objectives

This section presents guidelines and conservation objectives specific to Réserve de biodiversité Katnukamat.

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 presents unique conservation challenges. In the case of Réserve de biodiversité Katnukamat, 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, which will also facilitate protection of the woodland caribou.

Specific objective:

Maintain the reserve's ecological integrity

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 ecosystems[2] 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 especially to protecting the species themselves, such as woodland caribou. Since part of the boundary of the reserve is close to Newfoundland and Labrador, it will be important to collaborate with officials of that province in monitoring biodiversity and the Lac Joseph caribou population who use this territory.

2.2 Knowledge acquisition and environmental monitoring

To provide the information and tools needed for good management, and to ensure the conservation of the area's specific biodiversity, ecological knowledge should be developed.

Specific objective:

Promote knowledge acquisition and conduct monitoring

Since Réserve de biodiversité Katnukamat is relatively inaccessible, knowledge about its plants and wildlife is incomplete. Besides contributing to specific objectives stemming from the principle of natural heritage protection, 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, covering human activities as well as biodiversity. Ecological, historical, human, social and traditional information should be compiled, and the impacts of permitted activities documented. Data on the status of the Lac Joseph caribou herd should also be updated. The knowledge so acquired will help to ensure that authorized activities do not compromise biodiversity maintenance. It could also serve in the development of discovery, education and awareness activities. Lastly, 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 Katnukamat, since ecological knowledge is still too fragmentary and the territory is little used.

[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.

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 the *Natural Heritage Conservation Act* (chapter C-61.01).

Under the Act, 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 reserve and the conservation of its natural environment. The *Natural Heritage Conservation Act* 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 Katnukamat

The provisions contained in Regulation respecting the Réserve de biodiversité Katnukamat 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-activite-reserve-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 Katnukamat, 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 Katnukamat. 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 Regulation respecting the Réserve de biodiversité Katnukamat. 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 Katnukamat.

The MELCC considers that the management needs of Réserve de biodiversité Katnukamat 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 Katnukamat has minimal management needs, the question of zoning could be reviewed with local stakeholders when preparing the action plan, 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, paying particular attention to the sensitivity of woodland caribou to all forms of disturbance;
- 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.

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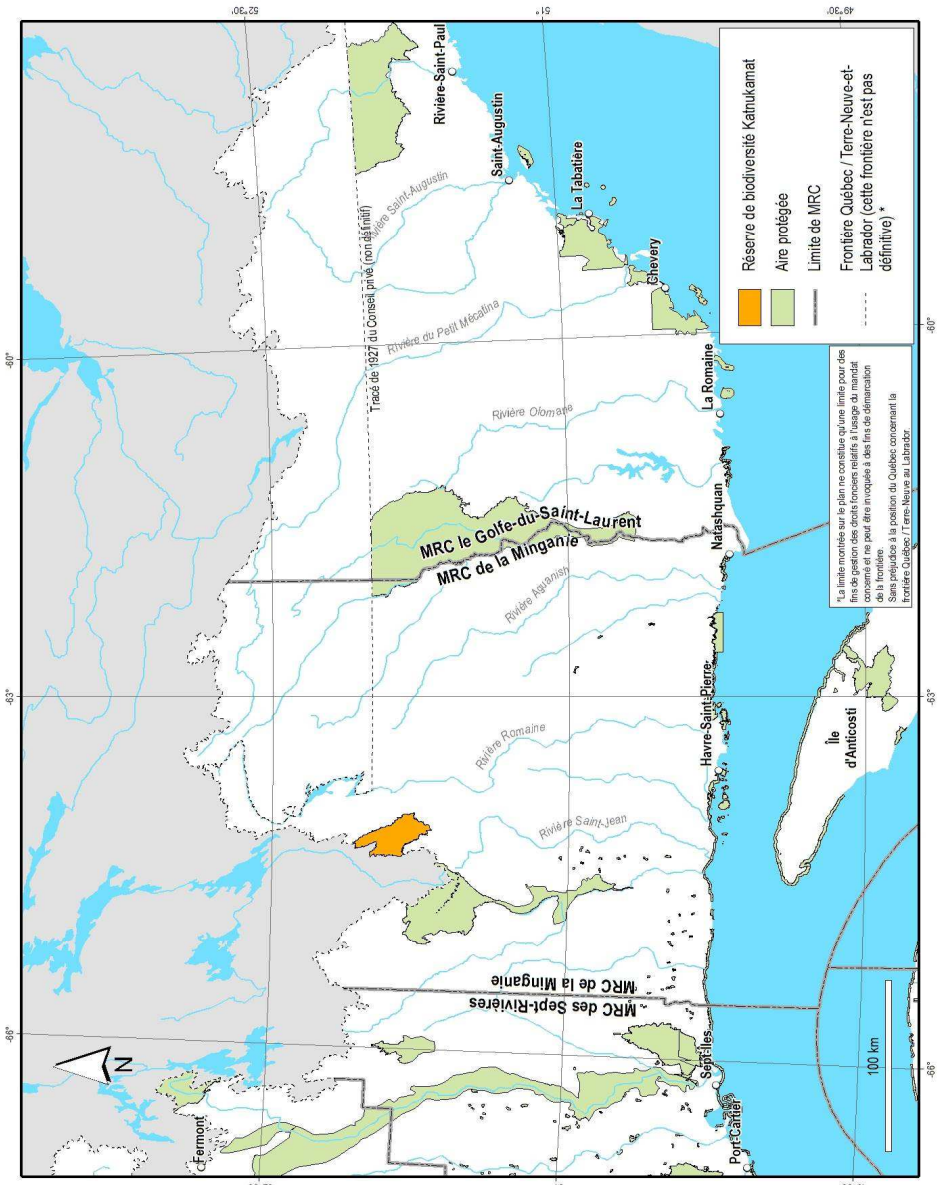
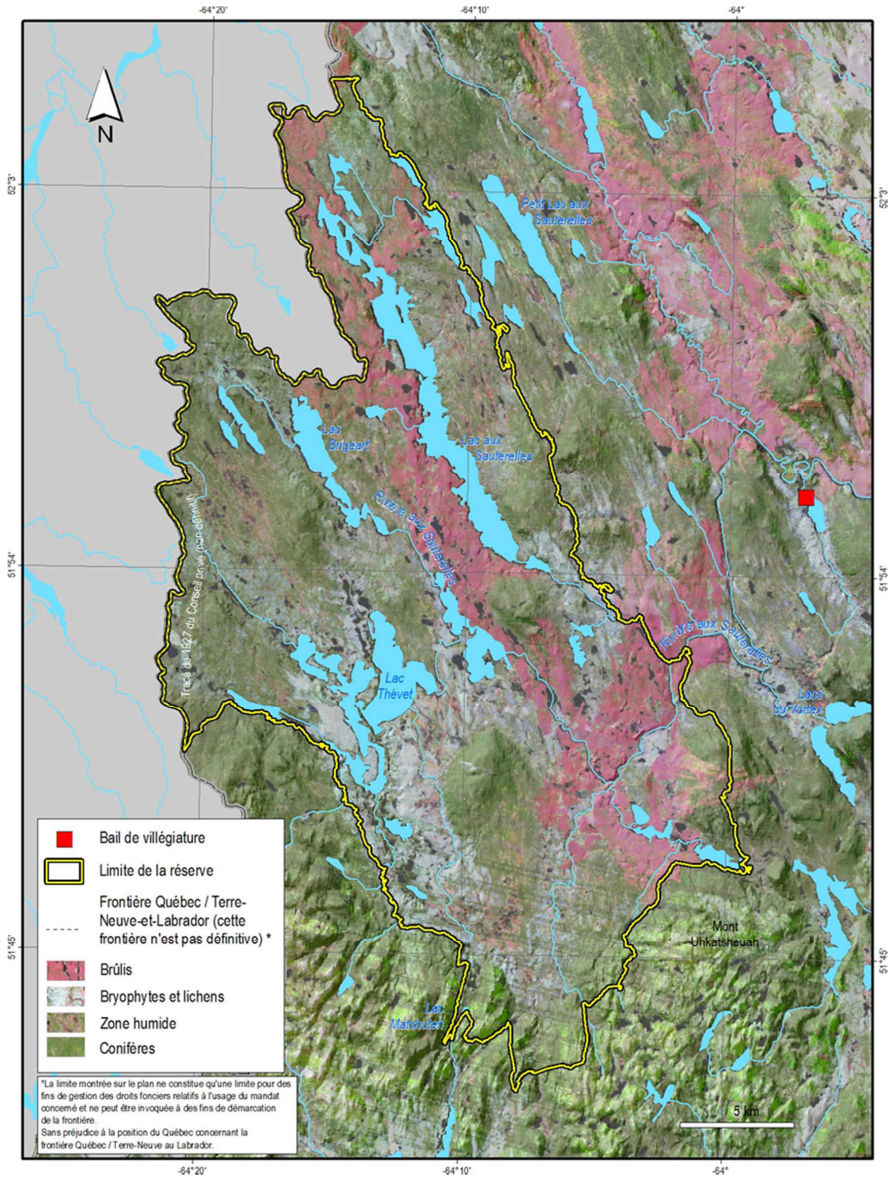
Appendix 1: Réserve de biodiversité Katnukamat: Location and regional context



Appendix 2: Réserve de biodiversité Katnukamat: Boundaries, vegetation and occupation



Appendix 3: Réserve de biodiversité Katnukamat: Ecological units