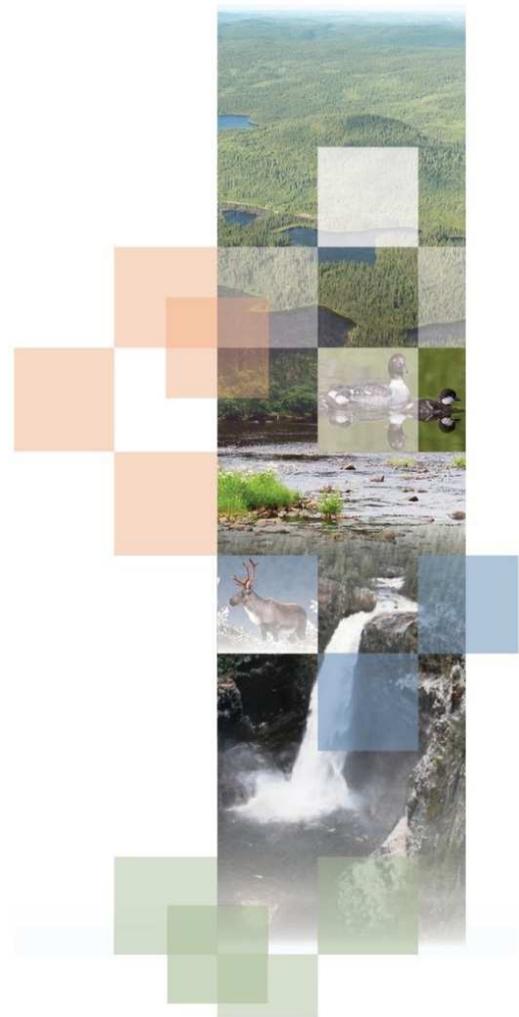


Protected areas in Québec:

A Lifelong Heritage

Réserve de biodiversité Akumunan



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 (Order in Council 198-2022 of February 23, 2022).

Cover page photos: Barrow's goldeneye: L. Master; woodland caribou: Société des établissements de Plein air du Québec; waterfall on Rivière Pilote: Première Nation des Innus d'Essipit; other: M.-A. Bouchard, Ministère de l'Environnement et de la Lutte contre les changements climatiques.

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Introduction

By Order in Council No. 636-2005 of June 23, 2005, in accordance with the *Natural Heritage Conservation Act* (chapter C-61.01), the government authorized the Minister of Sustainable Development, Environment and Parks to create Réserve de biodiversité projetée Akumunan, and approved the boundaries and the conservation plan proposed for it. The creation of this provisional protected area by the ministerial order of July 27, 2005 (2005, G.O. 2, 4072) came into force on September 7, 2005 for a duration of four years. This provisional protection status was extended twice, first until September 7, 2013 by order of the Minister of Sustainable Development, Environment and Parks on July 17, 2009 (2009, G.O. 2, 2233), and then until September 7, 2021 by order of the Minister of Sustainable Development, Environment, Wildlife and Parks on March 13, 2013 (2013, G.O. 2, 769).

On January 26, 2012 the Minister of Sustainable Development, Environment and Parks (MDDEP) mandated the Bureau d'audiences publiques sur l'environnement (BAPE) to hold public consultations on ten proposed protected areas in the Saguenay–Lac-Saint-Jean region, one of them being Réserve de biodiversité projetée Akumunan. This mandate was given to the BAPE in accordance with the *Natural Heritage Conservation Act*. The BAPE's mandate began on February 13, 2012 and concluded on July 20 of the same year. The consultation was held in March and April 2012 in Saguenay and Saint-Félicien. The BAPE's inquiry and public hearing report (No. 287) was submitted to the Minister on July 20, 2012 (BAPE, 2012). In its report, the commission recommended giving permanent protection status to Réserve de

biodiversité projetée Akumunan, with the proposed enlargements.

During the public hearings, enlargements were proposed to the northwestern part of the proposed reserve. The BAPE concluded that they should be considered in the light of efforts by the government to increase the total protected area of Québec to 12% by 2015 in the developed forest. Accordingly, the enlargement proposal was studied by the Table régionale de l'analyse de carence en aires protégées (TRACA – regional table on gaps in protected areas), set up by the Conférence régionale des élus du Saguenay–Lac-Saint-Jean (CRÉ02), which worked from June 2011 to February 2014. Composed of multiple stakeholders, including forestry companies, the TRACA unanimously approved the enlargement proposal (about 40 km²), and the CRÉ02 held a public consultation to obtain comments on the matter. All comments received were favourable to the addition of this sector. At the same time, a few small areas were withdrawn from the project, notably sections overlying the outfitter Domaine du lac des Cœurs Inc.

The present conservation plan is a short version of the detailed conservation and development plan, entitled *Plan détaillé de conservation et de mise en valeur de la Réserve de biodiversité Akumunan* (Conseil de la Première Nation des Innus Essipit and Gouvernement du Québec, 2015). Both documents will help to guide the management of Réserve de biodiversité Akumunan. The detailed plan is available (in French only) on the website of the MELCC.

1 The territory of Réserve de biodiversité Akumunan

1.1 Official toponym

Akumunan means “haven” in Innu-aimun, the language of the Innu. This choice of toponym choice expresses the wish that Akumunan participate in protecting the woodland caribou (Atik, in Innu-aimun) by offering it the best habitat conditions. At one time, Innu society was based on the caribou, which offered everything the Innu needed to live, from food to clothing, from materials to hunting tools. It is the archetypal element of subsistence, providing nomads with essential supplies for life in the bush. The territory covered by the biodiversity reserve is also a haven, relatively intact or at least less disturbed than surrounding areas that are heavily marked by human activities.

1.2 Boundaries and location

The boundaries and location of the reserve are shown on the map comprising Appendix 1. Covering an area of 284.7 km², the reserve lies between 48°34' and 48°46' north latitude and between 70°00' and 70°15' west longitude. It is located about 53 km north/northwest of Tadoussac and 70 km northeast of Saguenay. The reserve is part of the unorganized territory of Mont-Valin, in the Fjord-du-Saguenay MRC (Saguenay–Lac-Saint-Jean), with a tiny portion to the east that is in the unorganized territory of Lac-au-Brochet, in Haute-Côte-Nord MRC (Côte-Nord).

Wherever possible, the boundaries of the reserve were defined on the basis of natural or anthropic elements that are easily identified on the ground, such as watercourses, lakes, forest roads and the

edges of bogs. For sections along the banks of a water body (e.g. Rivière Sainte-Marguerite Nord-Est), the real boundary is the natural high-water mark. Where the boundary corresponds to a forest road or a hydroelectric line, the right of way of the road or line is excluded from the protected area (e.g. line 7004 in the east). The legal boundaries of the reserve are defined in the technical description and the survey map prepared by land surveyor Guillaume Bernard with the following minutes 1 (January 29, 2019) and filed in the surveying archives of the Surveyor General of Québec (Greffes de l'arpenteur général du Québec), Ministère de l'Énergie et des Ressources naturelles under document number 538321.

1.3 Ecological portrait

1.3.1 Physical environment

The biodiversity reserve is in the southern portion of Central Laurentian natural province (Li *et al.*, 2019), in Grenville geological province. The latter corresponds to the roots of a chain of mountains formed nearly a billion years ago, during the Grenville orogeny.

Réserve de biodiversité Akumunan is in the heart of the Monts-Valin natural region, at the eastern edge of the mountain massif from it takes its name. The Monts-Valin massif, with summits of nearly 1000 metres, constitutes the southwestern portion of this natural region.

Elevations in Akumunan range from 380 m, in the lower parts of the Sainte-Marguerite Nord-Est valley, to 850 m on a few summits to the north. The dominant relief is a plateau, the top of which is a bit hummocky, while the sides are steep in places. The plateau is generally covered with a

thin layer of till¹ (25 to 100 cm), with bare rock in places, especially on steep slopes. The largest depressions run along fault lines (e.g. the Rivière Pilote valley), and contain sand and gravel deposits of fluvio-glacial or even proglacial origin. Here and there a few scattered organic formations (bogs) occupy hollows (less than 1% of the territory).

The western part of the reserve rests on a foundation of orthopyroxene granitoids, while the eastern part is underlain by charnockitic gneisses (Avramtchev, 1985). However, this difference should not be reflected in the soils to any meaningful degree, since their source rock was mixed together before being deposited by the glaciers, and all the rocks are acidic.

The reserve protects parts of three watersheds: in the west, that of Rivière Sainte-Marguerite (8.7%); in the east, that of Rivière des Escoumins (10.4%); and in the north, a small slice of the watershed of Rivière Portneuf (0.6%). Note alihowever that the reserve protects 87.3% of the Pilote sub-watershed (Rivière Bras-Pilote), which covers 124.7 km².

Modest bodies of water occupy nearly 7% of the territory. Many of them are headwater lakes. The principal lakes are Lac Brûlé (16129 ha), Lac des Sapins (12 075 ha), Lac La Loutre (8386 ha), Lac de l'Avion (6356 ha), Lac Pilote (6190 ha), and Lac à Lessard (3703 ha). Many are elongated and lie in a northwest/southeast direction, following the orientation of faults (e.g. lakes Pilote, de l'Avion, Brûlé).

¹ Moraine material left by glaciers.

According to Gerardin and McKenney (2001), the territory of the reserve is subject to a cold subarctic continental climate, subhumid with a medium growing season in the northern part, while the south is characterized by a humid subarctic climate with a medium growing season.

Though the differences are slight between the south and north of Akumunan, it is interesting to note that the north receives more precipitation (both snow and rain), but the growing season in the south is two weeks longer. These differences are not due to latitude, but to elevation. The elevation at the southeast sampling point is about 600 m, compared to 750 m at the northern sampling point. However, the maximum elevation range is 470 m (380 m at the lowest point, 850 m at the highest).

1.3.2 Biological environment

Productive forest environments dominate the landscape, with forests covering 92.2% of the area of the reserve (Table 1).

The forest cover is dominated by closed forests of balsam fir accompanied by black spruce, with a significant proportion (nearly 33% of the reserve) consisting of old-growth forest (> 90 years). More open coniferous forests² cover nearly 11% of Akumunan. Mixed forests of shade-intolerant hardwoods (such as paper birch and aspen) accompanied by conifers, or the opposite, coniferous forests with shade-intolerant hardwoods, together cover 37% of Akumunan. An area burned in 1995, covering 4% of the reserve, is slowly regenerating, while sections that were recently logged (from the early 2000s

² Forests of density class D (25 to 40% coverage at ground level).

to 2013), covering nearly 5% of the reserve, are also regenerating. Spruce budworm outbreaks are the most serious disturbance that Akumunan has undergone, particularly the great outbreak of the early 1980s. Nearly 12 000 hectares were affected by this insect. Severely affected stands are mostly in the south and in the Rivière du Bras-Pilote valley.

Table 1: Forest summary of the territory of Réserve de biodiversité Akumunan (MFFP, SIEF, 4th 10-year survey)

Type of cover		Area (ha)	Proportion (%)
Forest	Deciduous	911.8	3.2
	Mixed	9840.1	34.6
	Coniferous	12 327.9	43.3
	Regeneration	3180.3	11.1
Other	Alder stands	116.6	0.4
	Wet barrens	174.2	0.6
	Dry barrens	51.9	0.2
	Water	1857.7	6.5
	Island	5.4	0.0
	Flooded	7.0	0.0
	Other	3.0	0.0
Total		28 477.6	100.0%

Forestry operations represent the second most serious disturbance undergone by the territory over the last 50 years. Since 1968, 25% of the total area of the reserve has been transformed by logging or silvicultural work (stand regeneration and improvement).

Reflecting the region's cold, humid climatic conditions, the poor soils and the history of natural disturbances (fires, spruce budworm outbreaks, windthrows), along with human disturbances (logging), the present-day forests of

the reserve are a mosaic of the evolutionary stages of balsam fir/white birch forest, with elements of black spruce.

Since logging has only affected a quarter of the territory, large areas are intact and there are numerous old coniferous stands of which three *biological refuges* (09751R141, 09751R137 et 09751R142) have been protected under the Sustainable Forest Development Act (chapter A-18.1). These three biological refuges contribute, since 2008, to preserve old forests. However, half of the intact areas previously mentioned were affected by the great spruce budworm outbreak of the 1980s, which drastically reduced coniferous numbers to the benefit of white birch and trembling aspen. The result is that there are now a great many mixed and young stands in the territory. Based on topographic zones, forest density and age classes, one can distinguish five distinct forest vegetation units (Conseil de la Première Nation des Innus Essipit and Gouvernement du Québec, 2015).

In 2008 the MELCC conducted a summary plant survey in the territory of Réserve de biodiversité Akumunan. The following species were observed: lowbush blueberry (*Vaccinium angustifolium*), velvet-leaf blueberry (*Vaccinium myrtilloïdes*), wild salsaparilla (*Aralia nudicaulis*), creeping snowberry (*Chiogenes hispidula*), bluebead lily (*Clintonia borealis*), threeleaf goldthread (*Coptis groenlandica*), black spruce (*Picea mariana*), skunk currant (*Ribes glandulosum*), prickly currant (*Ribes lacustre*), sheep laurel (*Kalmia angustifolia*), twinflower (*Linnaea borealis*), Canada mayflower (*Maianthemum canadense*), mountain woodsorrel (*Oxalis montana*), creeping buttercup

(*Ranunculus reptans*), Labrador tea (*Rhododendron groenlandicum*), balsam fir (*Abies balsamea*) and northern starflower (*Trientalis borealis*).

No systematic wildlife survey has been done for the territory of the reserve. However, one can draw an approximate portrait based on a report by the Commission régionale sur les ressources naturelles et le territoire du Saguenay–Lac-Saint-Jean, entitled “Portrait de la ressource faune du Saguenay–Lac-Saint-Jean” (CRRNT-02, 2011).

That portrait is incomplete however, since it mostly concerns species of interest for hunting and fishing. From that point of view, the biodiversity reserve is home to large mammals like moose (*Alces americanus*), black bear (*Ursus americanus*) and the forest ecotype of woodland caribou (*Rangifer tarandus caribou*). The mid-sized mammals include snowshoe hare (*Lepus americanus*), porcupine (*Erethizon dorsatum*), American marten (*Martes americana*), American beaver (*Castor canadensis*), red fox (*Vulpes vulpes*), Canada lynx (*Lynx canadensis*), muskrat (*Ondatra zibethicus*), American mink (*Neovison vison*), striped skunk (*Mephitis mephitis*) and raccoon (*Procyon lotor*). The small mammals include: red squirrel (*Tamiasciurus hudsonicus*), chipmunk (*Tamias striatus*), deer mouse (*Peromyscus maniculatus*) and a few species of bat (order Chiroptera).

Turning to avian wildlife, the territory is frequented by a number of common species, including ruffed grouse (*Bonasa umbellus*), spruce grouse (*Falcipennis canadensis*), American woodcock (*Scolopax minor*), common

snipe (*Gallinago gallinago*), American crow (*Corvus brachyrhynchos*), gray jay (*Perisoreus canadensis*), redwing blackbird (*Agelaius phoeniceus*) and Barrow's goldeneye (*Bucephala islandica*). Warblers should also be present (family Parulidae), along with raptors such as red-tailed hawk (*Buteo jamaicensis*). Some of the cliffs and escarpments could well provide a habitat for peregrine falcon (*Falco peregrinus*). Great horned owl (*Bubo virginianus*) and barred owl (*Strix varia*) could also be present. Observed nearby, Bicknell's thrush (a vulnerable species) may frequent balsam fir stands at higher elevations (over 600 metres) in the reserve.

Several species of amphibian are also found in Akumunan, including American toad (*Anaxyrus americanus*) and common garter snake (*Thamnophis sirtalis*).

The lakes and rivers are exclusively home to allopatric (geographically isolated) brook trout (*Salvelinus fontinalis*).

1.3.3 Ecological representativeness

Réserve de biodiversité Akumunan will enrich the representation of the characteristic ecosystems of the Monts-Valin natural region in Québec's protected areas network. Together with Réserve de biodiversité du Plateau-du-Lac-des-Huit-Chutes, Réserve aquatique de la Vallée-de-la-Rivière-Sainte-Marguerite and Parc national des Monts-Valin, Réserve de biodiversité Akumunan completes the representation of the characteristic ecosystems of the highlands (elevations > 600 m) in the southwest part of the natural region, which basically correspond to the Lac-Tremblay low hills physiographic complex (level 3 in the ecological reference framework of

Québec). While some of the protected areas mentioned above also protect low-altitude ecosystems (< 500 m), the biodiversity reserves of Plateau-du-Lac-des-Huit-Chutes and Akumunan are on the uplands of the massif (basically between 500 and 800 m). These two protected areas are highly representative of the types of physical environments and surface deposits characteristic of the Lac-Tremblay low hills physiographic complex.

With regard to biology, the present-day forests of the biodiversity reserve and the areas around it differ considerably, in structure and composition, from the natural forest landscapes (Grondin *et al.*, 2010). The latter authors recommend that the stands of balsam fir/white birch and fir/black spruce (mixed Eastern forest) be the focus of forest restoration efforts, to gradually bring their structure and composition closer to those of natural landscapes. The cessation of logging will contribute to that end by letting the young forests (fir and spruce stands) to age.

Réserve de biodiversité Akumunan is in the Eastern bioclimatic subdomain, whose climate, wetter than its counterpart to the west, results in a longer forest fire cycle. For this reason it normally contains more old-growth forests. The current presence of a high proportion of such forests (which will increase over time) heightens the reserve's ecological value, since the surrounding forests are considerably younger due to the impact of logging.

In this respect, the biodiversity reserve forms a conservation nucleus of over 100 km², in which the biodiversity components expressed across the landscape (types of physical environments

and assemblages of associated species) will continue evolving with greater ecological integrity (see sidebar).

ECOLOGICAL INTEGRITY

The condition of a protected area that is considered characteristic of its natural region and likely to persist, including abiotic [non-living] components and the composition and abundance of native species and biological communities, rates of change and supporting processes.

Adapted from the definition in the Canada National Parks Act (S.C. 2000, c. 32).

CONSERVATION NUCLEUS

An area where the protection of biodiversity, ecological integrity, the natural environment and other similar values take precedence over usage values.

Brassard *et al.*, 2010.

Having a conservation nucleus of good size will ensure the long-term effectiveness of the reserve in protecting ecosystem functionality, while reducing its vulnerability to natural disturbances and changes in the surrounding landscape.

1.4 Land occupation and uses

Réserve de biodiversité Akumunan lies entirely within the Nitassinan of the Innu Essipit First Nation, as demarcated in Schedule 4.1 of the Agreement-in-Principle of General Nature between the First Nations of Mamuitun and Nutashkuan and the Government of Québec and the Government of Canada (signed in March 2004).

In 1927, anthropologist Frank G. Speck mapped the hunting grounds of the Montagnais of Lac Saint-Jean and the St. Lawrence River (Speck, 1927). Historical information about the presence of Essipiunnuat ancestors in the territory of the reserve was found in the Grande Recherche du Conseil Attikamekw-Montagnais (Laforest, 1983) and in studies of that research for the Innu Essipit First Nation (Parcoret, 2009).

For the Nitassinan of Essipiunnuat (Innus from Essipit), six traditional hunting grounds were identified and mapped to indicate the Innu families occupying them. These territories had Innu toponyms and corresponded to the principal watersheds of the rivers of Essipit Nitassinan. Réserve de biodiversité Akumunan straddles two of these hunting grounds. One is the hunting ground of Rivière Sainte-Marguerite, *pépolsemiskà*, which also includes Rivière Sainte-Marguerite Nord-Est. The other is the hunting ground of Rivière des Escoumins, *ecibiucibu*, meaning “shell river”, which represents about 80% of Akumunan.

The reserve is at the head of two main watersheds that, according to oral sources, were used and occupied by the Essipiunnuat in the 19th and 20th centuries: the watersheds of Rivière Sainte-Marguerite and Rivière des Escoumins. The Denis, Nicolas, Duberger, Jacques and Moreau families occupied the Sainte-Marguerite territory, i.e. the southwest part of the reserve. Another branch of the Moreau family and the Dominique and Ross families occupied the Escoumins territory, i.e. the north and east parts of the reserve.

Due to its geographic and hydrographic location, the Akumunan territory was shared by these Innu families in a manner that reflected the natural barriers constituted by watersheds. To reach their trapping ground in the Sainte-Marguerite Nord-Est watershed, Essipiunnuat families had to pass through the Rivière des Escoumins watershed. At the same time, families that trapped in the Rivière Portneuf area had to portage from Lac des Cœurs to Lac de la Croix, going through Lac Girard and Lac aux Renards, in the northern part of the reserve.

Today, various points of entry offer access to Réserve de biodiversité Akumunan. However, the network of roads that enter or are within the reserve is of very uneven quality. The area is still used and occupied by members of the Innu Essipit First Nation (IEFN). There are four main camps belonging to Essipiunnuat, where they practise traditional activities (Innu Aitun) including hunting, fishing, trapping, gathering, and any other activity with a connection to the Innu culture of the IEFN. These traditional activities, like those practised throughout the Nitassinan, are monitored in terms of occupation and use (Innu Aitun monitoring).

The reserve is mostly in hunting zone 28 (87%), with the rest being in hunting zone 18, which is basically the part of Nordique ZEC that is within the boundaries of the protected area (13%).

Réserve de biodiversité Akumunan overlaps two controlled harvesting zones (ZECs):

- Hunting and fishing: Nordique ZEC (38 km² = 13.7%)
- Salmon fishing: Rivière Sainte-Marguerite ZEC (1.4 km² = 10.3%)

The reserve also overlaps a sector used by an outfitter without exclusive rights that has a right of occupation for its accommodations under the *Act respecting the lands in the domain of the State*:

- Outfitter without exclusive rights: Pourvoirie du Lac Pierre

A total of 29 land rights have been granted within the perimeter of the reserve. They consist of resort leases (cottage lots) and leases for temporary forest shelters (hunting camps):

- Eighteen resort leases

- Eleven leases for temporary forest shelters, six of which belong to IEFN members³

Besides the above-mentioned land rights, there are six sites for trapping camps, one of which belongs to an IEFN member. The territory of the reserve overlaps six leased trapping grounds, four of them being leased to IEFN members under an agreement signed in 1989 with the Ministère du Loisir, de la Chasse et de la Pêche. The main present-day uses and rightful occupations on the territory of the reserve are shown on the map comprising Appendix 2.

In summary, the territory of Réserve de biodiversité Akumunan is chiefly used for vacationing, hunting, fishing and trapping. The level of use can be considered light, since the cottages are concentrated around lakes that are accessible by road, and there are none at all in most of the reserve.

2 Conservation and management issues

2.1 Introduction

Generally, a biodiversity reserve is dedicated to protection of the natural environment, nature discovery and recreation. For this reason, activities that could have a significant impact on ecosystems and biodiversity, particularly of an industrial nature, are prohibited. Less harmful activities, such as those involving recreation, wildlife, ecotourism or education, are permitted in this type of protected area. However, the management framework to which they are subject is conditioned by conservation issues

specific to each biodiversity reserve. The conservation and other issues to be taken into account for Réserve de biodiversité Akumunan, and the orientations and objectives to which they give rise, are set out in the sections that follow.

2.2 Protection of biodiversity

Restoration of forest ecosystems

For this conservation issue, the corresponding objective is: *Promote the gradual restoration of the characteristic ecosystems of the Monts-Valin natural region.* The absence of industrial activities will allow the average age of forest stands to gradually increase. Ultimately, old stands of balsam fir (with black spruce and white birch) should cover most of the land. Old-growth forests are rare ecosystems. Their considerable presence in the reserve will serve to protect birds, insects, mushrooms, mosses and lichens that prefer such forests, which are rich in dead trees, woody debris and other important elements (Despots and coll., 2002, 2004). The second objective is therefore: *Avoid any development that could reduce the age of the forest cover.*

Protection of threatened or vulnerable species

Pursuing the previous objective will help preserve and improve the conditions needed for the survival of woodland caribou. Despite its small size, Réserve de biodiversité Akumunan is one of the solutions set out in the *Plan d'aménagement de l'habitat du caribou forestier* (management plan for woodland caribou habitat), specifically for the Lac des Cœurs herd, as the initial central

³ As part of a process for managing Aboriginal occupations currently being deployed by the Innu Essipit First Nation, these six leases from the MERN will eventually be transferred to become Innu Aitun leases from the IEFN.

core. The potential contribution of the protected area to maintaining the species in the surrounding (developed) forest will have to be evaluated over the coming years.

Another species to protect is the Barrow's goldeneye, considered an arboreal duck because it usually nests in natural cavities in trees (Savard and Robert, 1997). Large trees that could offer nesting cavities are generally rare in the north, and current practices in forestry favor the production of healthy trees (without cavities). Special attention should therefore be given to the reserve's intact forests and small headwater lakes, which these ducks seem to prefer. Accordingly, the next objective is: *Adapt the management of the reserve to protect threatened or vulnerable species for which it provides a habitat.*

Protection of lacustrine ecosystems and near-shore environments

With its high proportion of headwater lakes, the hydrographic network of the reserve has excellent ecological integrity and water quality. Accordingly, maintaining the integrity of aquatic, wetland and near-shore environments is another conservation issue for the reserve. The corresponding objective is: *Avoid any new development that could degrade the quality of aquatic, wetland or near-shore environments.*

2.3 Development activities

Réserve de biodiversité Akumunan is relatively remote, yet is readily accessible by forest roads that also serve in winter for snowmobilers. The territory offers numerous attractions for recreation (hunting, fishing, vacationing) and for the traditional activities of the Essipit Innu.

Further development of the reserve's potential to meet the needs of its users is justified, particularly in terms of maintaining the traditional activities of the Essipit Innu, continuing operations by the ZECs and the outfitter, maintaining a quality environment for the cottagers, and providing opportunities for the public to be in contact with nature and Innu culture.

Practised in accordance with the applicable laws and regulations, these activities by users of the territory are compatible with the status of biodiversity reserve, and can continue to be practised normally.

The MELCC and the IEFN want all concerned stakeholders to be involved in preparing an action plan to carry out these conservation objectives, in particular the protection of certain sensitive or fragile natural environments, the recovery of old forests and the protection of threatened or vulnerable species. To encourage participation by all stakeholders who use the territory, the following objectives have been set: (1) *Establish participative and collaborative management.* (2) *Inform all users as to the conservation and management objectives being pursued in the protected area.*

2.4 Knowledge acquisition and environmental monitoring

Existing information about the ecosystems of Réserve de biodiversité Akumunan (section 1.3) is fragmentary. Knowledge acquisition, besides being crucial to the achievement of objectives specific to natural heritage protection, will make it possible to monitor the natural environment. The knowledge acquired could also be used in developing activities for nature discovery, education and public awareness. It will facilitate

the analysis of development projects, and ensure that management partners have a common understanding of the issues.

Ecological knowledge, especially about the support capacity of natural environments, and about the impact of recreational and tourist activities on ecosystems, must also be developed. The corresponding objective is: *Promote knowledge building, in particular by conducting targeted surveys and monitoring biodiversity.*

The IEFN and the MELCC will target certain needs related to knowledge building on biodiversity. With the help of regional partners, the MELCC aims to establish an inventory of the plant and animal species found in the reserve. The subjects of surveys and research to prioritize will be determined later, and will concern both existing and expected ecological problems.

2.5 Conservation and management objectives

Réserve de biodiversité Akumunan is a “protected area” as defined in the *Natural Heritage Conservation Act*, and appears in the *Registre des aires protégées du Québec* constituted under the Act. Thus, it was primarily created to ensure the protection and maintenance of the area’s biological diversity, with the associated natural and cultural resources. In addition, protecting this territory enhances the representativeness of the national and regional protected areas network, since it holds numerous ecological components of interest that are representative of the characteristic ecosystems of the Monts-Valin natural region. For the government, the protection of these components and ecosystems, described

in section 1.3, is a major objective. Note that this protection will allow the pursuit of traditional activities by members of the IEFN who frequent the land, as well as the recreotourism activities currently practised there.

Taking into account the issues set out in section 2 and the geographical sectors of interest corresponding to the elements described in section 1 (see Appendix 3), the conservation and management objectives specific to Réserve de biodiversité Akumunan are as follows:

- *Avoid any development that could reduce the age of the forest cover.*
- *Adapt the management of the reserve to protect threatened or vulnerable species for which it provides a habitat.*
- *Avoid any new development that could degrade the quality of aquatic, wetland or near-shore environments.*
- *Protect the Innu heritage and promote the practice of Innu Aitun.*
- *Establish participative and collaborative management.*
- *Inform all users as to the conservation and management objectives being pursued in the protected area.*
- *Promote knowledge building, in particular by conducting targeted surveys and monitoring biodiversity.*

Additional objectives, complementary to those listed above, may be found in the *Plan détaillé de conservation et de mise en valeur de la Réserve de biodiversité Akumunan* (Conseil de la Première Nation des Innus Essipit et Gouvernement du Québec, 2015).

To achieve those objectives, the conservation and management of Réserve de biodiversité Akumunan will be guided by an activity framework whose several dimensions are set out in sections 4, 5 and 6 of this plan.

3 Zoning

Taking into account the ecosystems, occupation and use of the territory, as well as the present condition of the natural environment and the protection and management objectives, the biodiversity reserve has been subdivided into three zones. While all enjoy the same degree of legal protection and have the same activity framework, their protection measures and development possibilities reflect their respective features.

The three zones are presented in the map comprising Appendix 4. The MELCC will consider this zoning in managing the reserve and when evaluating applications for authorization concerning activities or developments.

The three zones are:

- I. (West) Plateau of small lakes
- II. (Centre) Lac Pilote and Rivière Pilote
- III. (East) Large lakes and Rivière de la Sainte-Marguerite Nord-Est

Zone I: Plateau of small lakes

This zone is distinguished by an abundance of small and mid-sized lakes, large areas of old-growth forest, medium usage by woodland caribou, and just three resort leases. With its varied forest cover, Zone I can be subdivided into two subzones (Conseil de la Première Nation des Innus Essipit and Gouvernement du Québec, 2015). It is a conservation zone, allowing minimal intervention, except for habitat restoration,

scientific research, monitoring and control, and outfitter activities.

Zone II: Lac Pilote and Rivière Pilote

This zone is characterized by the presence of medium-sized lakes and Rivière du Bras-Pilote, but it has fewer lakes than Zone I. It has a high level of naturalness, despite the presence of a network of secondary roads, a well-used central artery for ATV travel, and a few resort leases. Zone II should only be used with care, limiting interventions to a strip along either side of the central artery, the width of which will be decided later.

Zone III: Large lakes and Rivière de la Sainte-Marguerite Nord-Est

Despite containing some old-growth forests, this zone has been heavily modified, both by forestry and the spruce budworm outbreak, resulting in the dominance of second-growth forests. The level of use and occupation is quite high, notably by the holders of land rights (60%), especially to the north of Lac Brûlé. Added to this are the northwest part of Nordique ZEC and the left bank of Saumon ZEC along Rivière Sainte-Marguerite Nord-Est. Zone III is where infrastructures and/or facilities for ecotourism activities could be deployed. Particular attention should be paid to backcountry camping activities around Bras-Pilote falls.

4 Activity framework applicable to Réserve de biodiversité Akumunan

The activity framework applicable to Réserve de biodiversité Akumunan follows from the provisions of the *Natural Heritage Conservation Act* and the Regulation respecting the Réserve de biodiversité Akumunan (chapter C-61.01, r. 71.1).

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*, as they read on 18 March 2021.

Under section 46, the principal activities prohibited in a territory with the status of biodiversity reserve are the following:

- mining and gas or oil extraction or exploration;
- forest management within the meaning of section 4 of the *Sustainable Forest Development Act* (chapter A-18.1);
- the development 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 Akumunan*

Accordingly, the provisions set out in Regulation respecting the *Réserve de biodiversité Akumunan* present additional prohibitions beyond those already stipulated in the Act.

Their purpose is to set conditions for the performance of certain permitted activities, thus ensuring better protection of the natural environment in accordance with the principles of conservation and other management objectives for the biodiversity reserve. Certain activities are therefore subject to prior authorization by the Minister.

The measures contained in Regulation specifically concern new interventions. They do not affect activities that are already being practised or facilities that are already present, so many existing uses are therefore preserved.

However, for activities subject to authorization, the provisions set out in Regulation do not identify which activities could be refused authorization, being considered incompatible with the vocation of the biodiversity reserve. 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.mdelcc.gouv.qc.ca/biodiversite/aires_protegees/regime-activites/regime-activite-reserve-bio-aqua-en.pdf.

For certain activities, Regulation also includes exemptions to the requirement for prior authorization.

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.

Within the biodiversity reserve, a particular legal framework may govern permitted activities under the following categories:

- **Protection of the environment:** measures set out in particular by the *Environment Quality Act* (chapter Q-2) and its regulations.
- **Archeological research and discoveries:** measures set out in particular 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 relating 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 set out in particular by the *Act respecting the lands in the domain of the State* (chapter T-8.1) and the *Watercourses Act* (chapter R-13).
- **Issuance and oversight of forest development permits** (harvesting of firewood for domestic purposes, wildlife development, recreational development), **delivery of authorizations** (forest roads), and **protection of biological refuges:** 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*, by the *Act respecting the conservation and development of wildlife* (chapter C-61.1) when in a ZEC, and by its regulations, including regulations adopted by delegated management bodies.
- **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 the Environment and the Fight against Climate Change

The Minister of the Environment and the Fight against Climate Change is responsible for the management of Réserve de biodiversité Akumunan. Among other things, the Minister sees to the application of the *Natural Heritage Conservation Act* (chapter C-61.01) and the Regulation respecting the Réserve de biodiversité Akumunan. In its management, the MELCC enjoys the collaboration and participation of other government representatives that have specific responsibilities in or adjacent to the territory.

The process leading to the creation of Réserve de biodiversité Akumunan is the fruit of ongoing collaboration between the MELCC and the Innu Essipit First Nation. Accordingly, the Minister plans to establish a partnership with the Band Council of the Innu Essipit for the management of Réserve de biodiversité Akumunan, under terms and conditions to be defined in an agreement.

The principal local and regional stakeholders concerned by the biodiversity reserve will be invited to participate in management activities.

6.2 Monitoring

As mentioned in section 2, measures will be taken toward monitoring the status of the natural environment, in collaboration with the various stakeholders. Botanical and wildlife surveys may also be conducted.

6.3 Participation of stakeholders

To fulfill its management responsibilities pertaining to the biodiversity reserve, the MELCC intends to focus on partnership with IEFN, and will seek collaboration and participation of the principal actors concerned by the territory, including the MRC of Fjord-du-Saguenay, Nordique ZEC, De la rivière Sainte-Marguerite ZEC, the Lac Pierre outfitter, the holders of land rights and the regional units of other government departments that have responsibilities in the biodiversity reserve.

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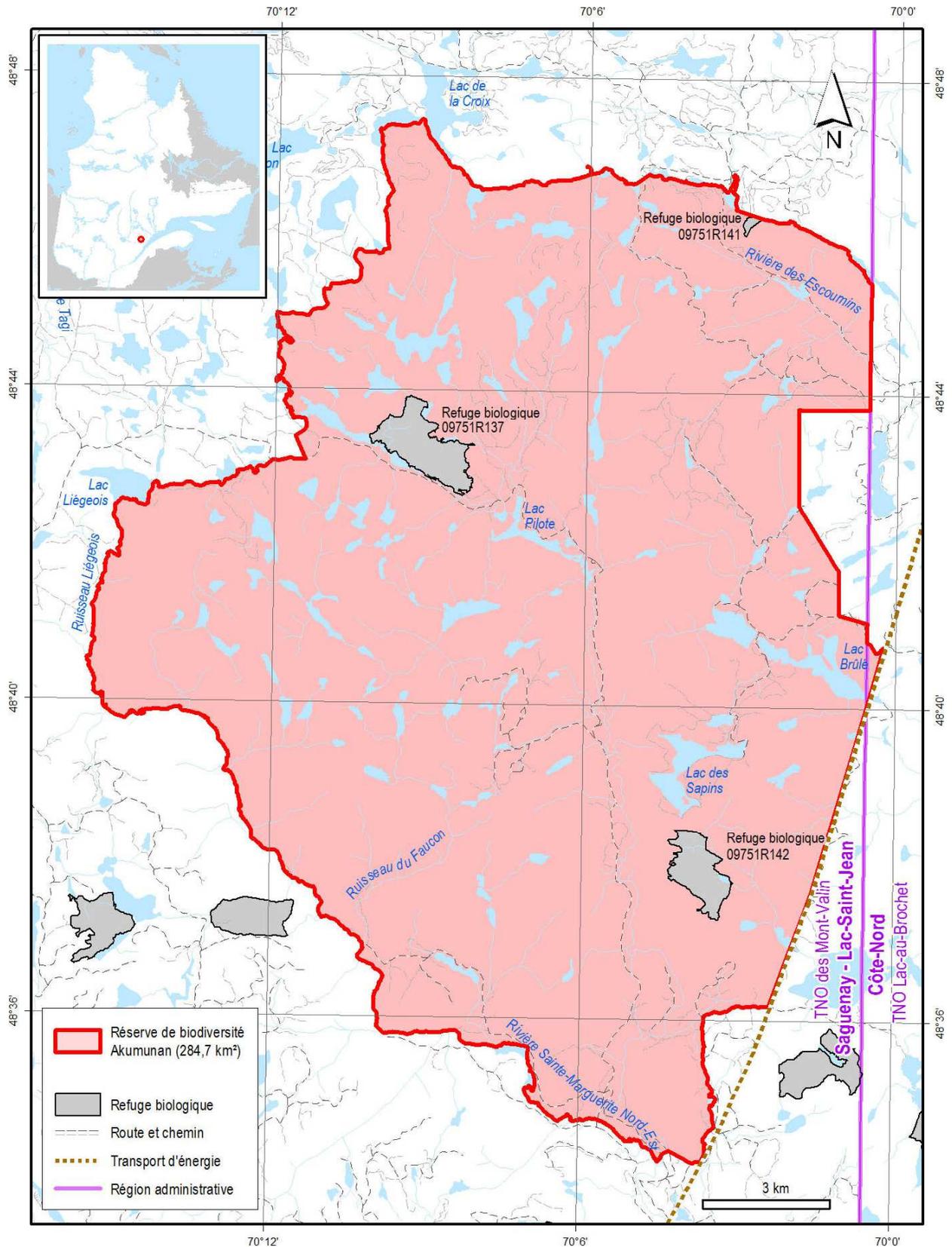
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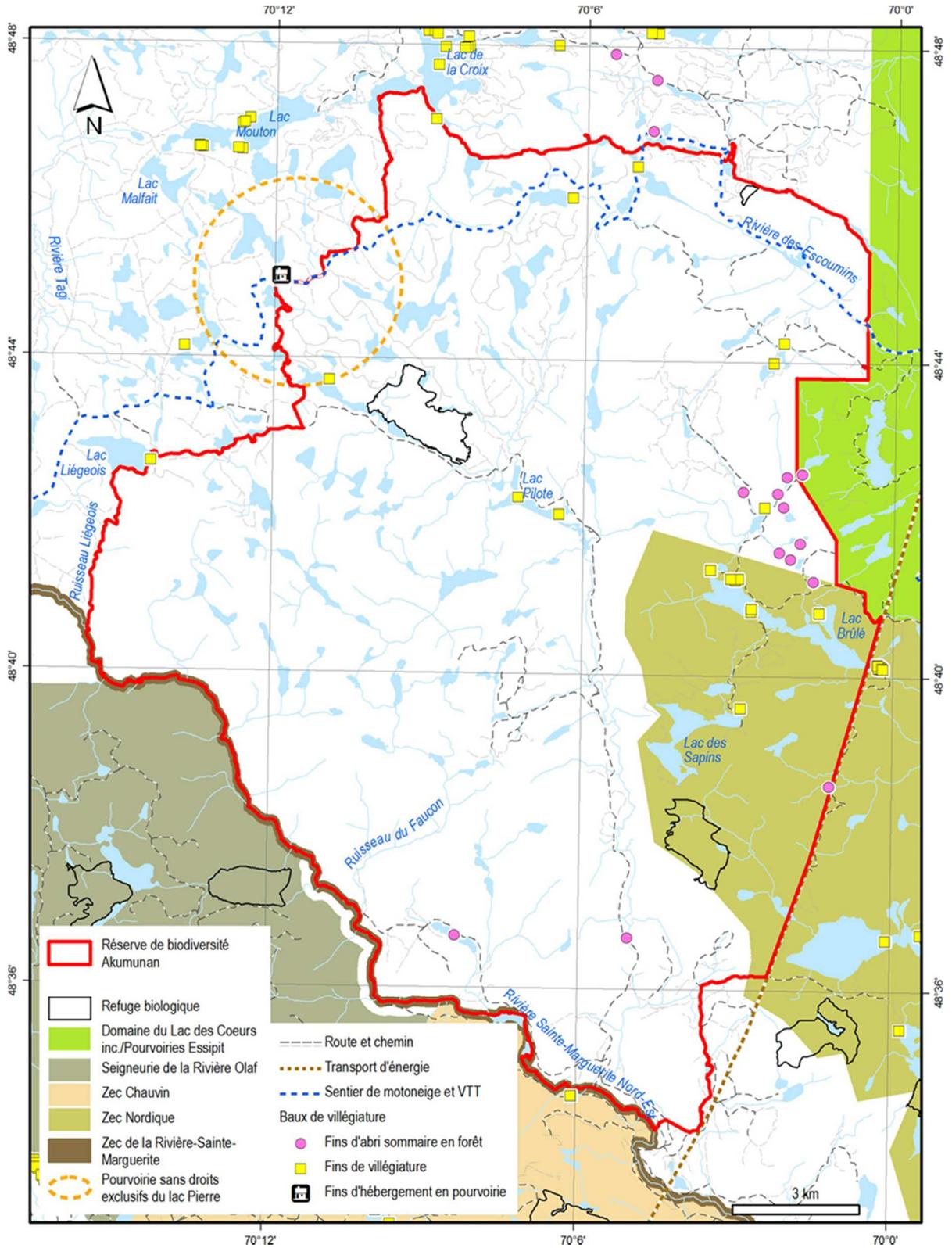
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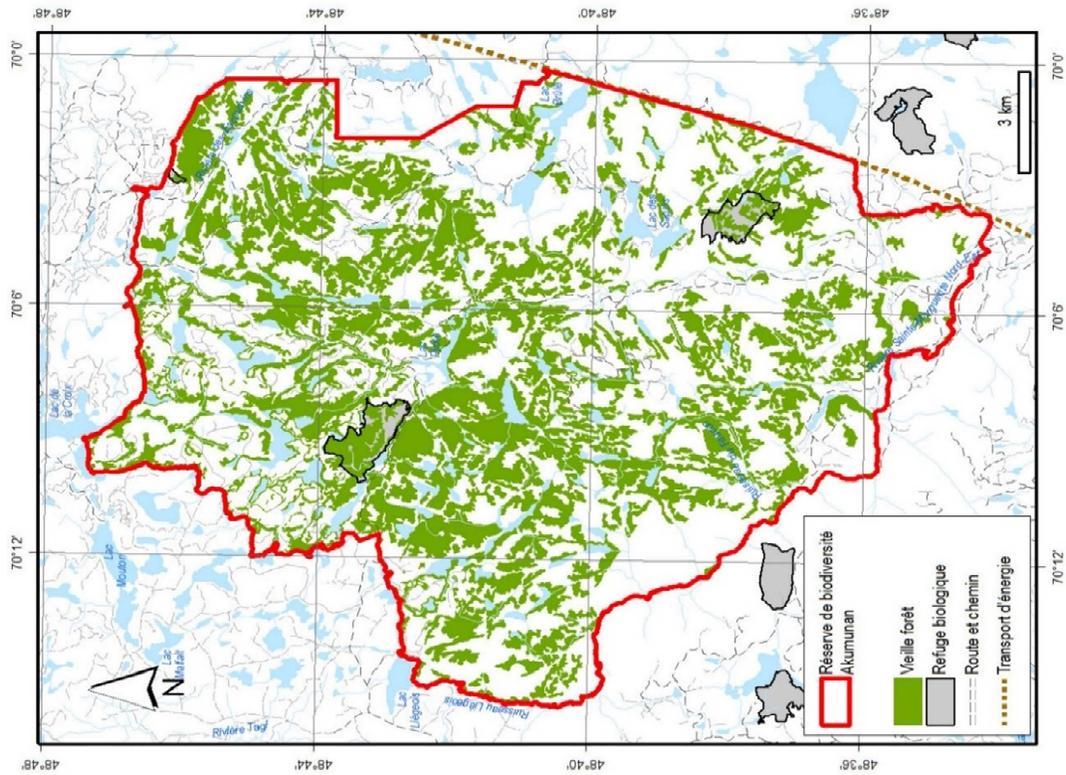
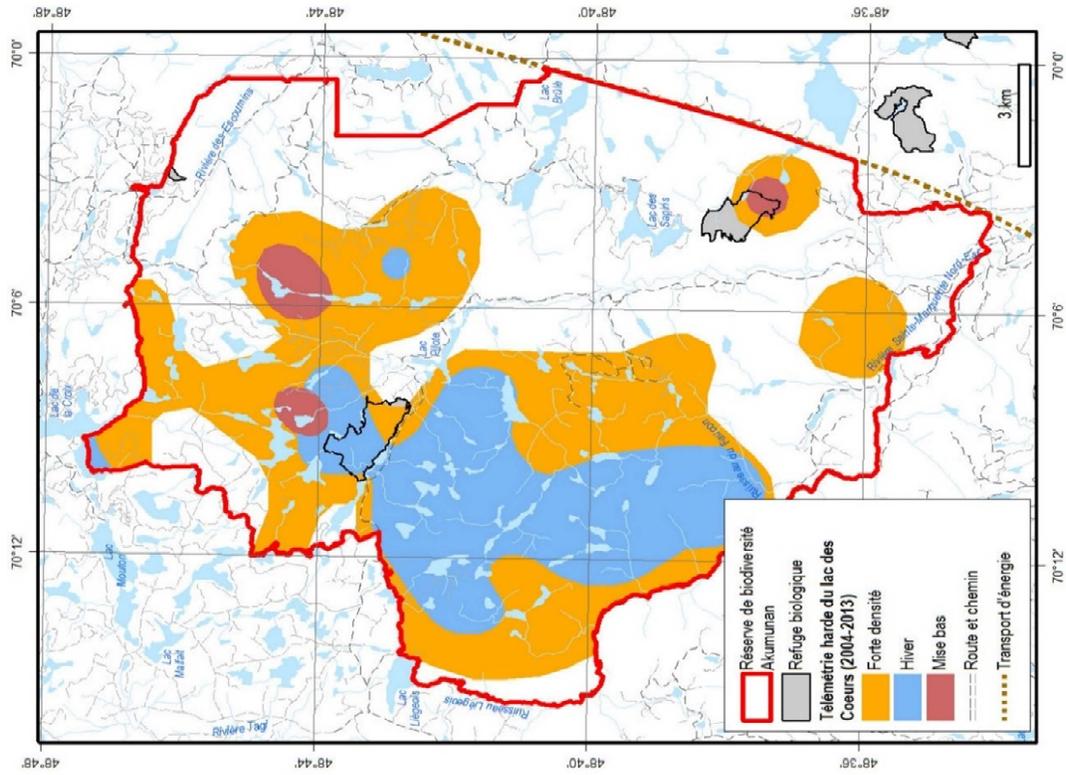
Appendix 1 — Boundaries and location



Appendix 2 — Land occupation and use



Appendix 3 — Location of sectors of interest



Appendix 4 — Zoning

