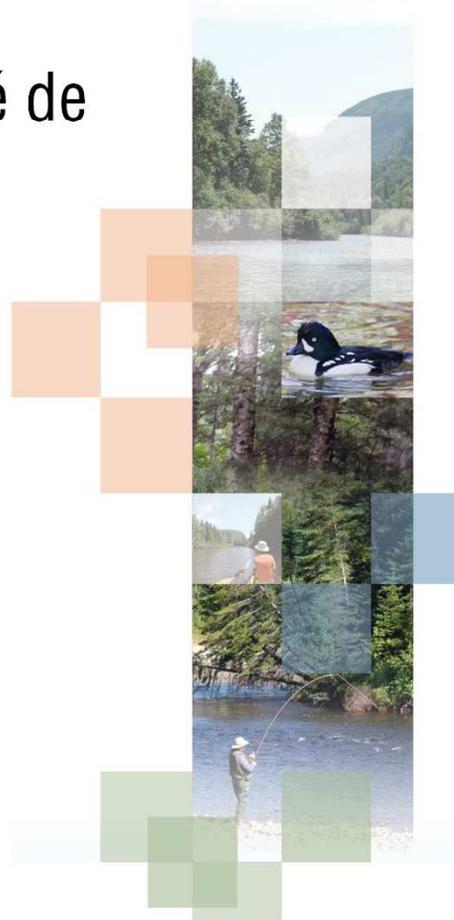




Protected areas
in Québec:

A Lifelong Heritage

Réserve de biodiversité de la Vallée-de-la-Rivière- Sainte-Marguerite



CONSERVATION PLAN

Québec 

Notice

On March 24, 2022, the Réserve aquatique de la Vallée-de-la-Rivière-Sainte-Marguerite became the Réserve de biodiversité de la Vallée-de-la-Rivière-Sainte-Marguerite pursuant to section 1 of 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).

Sections 46, 47 and 49 of the Natural Heritage Conservation Act (chapter C-61.01), as they read on March 18, 2021, and the Regulation respecting the Réserve aquatique de la Vallée-de-la-Rivière-Sainte-Marguerite (chapter C-61.01, r. 1.1), continue to apply to the territory until the regulation that applies to this reserve comes into force.

This conservation plan was updated in March 2022 to modify the name of the reserve, the protection status that now applies to the territory, and 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.

Cover page photos: Barrow's goldeneye: L. Master; other photos: Marc-André 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 aquatique projetée de la vallée de la rivière Sainte-Marguerite, and approved the boundaries and 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 aquatique projetée de la vallée de la rivière Sainte-Marguerite. 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).

Following this consultation, and with a view toward granting the territory permanent protection status, the Ministère de l'Environnement et de la Lutte contre les changements climatiques (MELCC), the MRC of Fjord-du-Saguenay and the Ministère de l'Énergie et des Ressources naturelles (MERN) worked out a process for dealing with possible area extension of resort leases covering less than 4 000 m².

The MELCC rejected the request to exclude Lac Résimond from the protected area, because it is the largest lake in that part of the watershed and is close to, and upstream from, the protected part of the river. The lake's role in protecting the river is essential to the achievement of the primary objectives of the protected area. The final boundaries of Réserve de biodiversité de la Vallée-de-la-Rivière-Sainte-Marguerite therefore include Lac Résimond, and correspond essentially to the territory proposed by the MDDEP and MRN at the hearings of 2012.

1 The territory of Réserve de biodiversité de la Vallée-de-la-Rivière-Sainte-Marguerite

1.1 Official toponym

The toponym chosen for this protected area is "Réserve de biodiversité de la Vallée-de-la-Rivière-Sainte-Marguerite".

1.2 Boundaries and location

The boundaries and location of the reserve are shown on the map comprising Appendix 1.

The reserve is about fifteen kilometres northeast of the city of Saguenay, lying between 48°18'15" and 48°32'43" north latitude and between 70°01'01" and 70°43'02" west longitude. Covering an area of 321.4 km², most of it (95.6%) is in Saguenay–Lac-Saint-Jean administrative region (MRC Le Fjord-du-Saguenay). It is mostly in the unorganized territory of Mont-Valin, with a section to the west in the municipality of Saint-Fulgence and a very small part (12.5 hectares) in the municipality of Sainte-Rose-du-Nord. The eastern extremity of the reserve is in Côte-Nord region, in the municipality of Sacré-Cœur. Route 172 and power line #7004 (735 kV) are excluded from the reserve, together with their rights of way.

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. Lac de la Roche in the southwest), the real boundary is the natural high-water mark. Where the boundary corresponds to a forest road, the right of way of the road is excluded from the protected area. 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 2 (February 27, 2019) and filed in the surveying archives of the Surveyor General of Québec (Greffé de l'arpenteur général

du Québec), Ministère de l'Énergie et des Ressources naturelles under document number 538389.

1.3 Ecological portrait

1.3.1 Physical environment

The reserve is in the southern part 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. The reserve straddles two distinct ecological units, for Rivière Sainte-Marguerite flows between two natural regions: the Saguenay graben in the south and the Monts Valin in the north.

The Monts-Valin massif is the southernmost of the three great massifs of the natural province, forming the southwest portion of the Monts-Valin natural region. At level 3 in the ecological reference framework of Québec, the massif corresponds to the physiographic complex of the Lac-Tremblay low hills, whose summits are generally over 700 m and can reach nearly 1000 m. The southern slope of this mountain massif is often very rugged, with vertical drops of up to 500 m over distances of one to two kilometres. On a central part of the slope between Bras des Murailles and Ruisseau Épinette, there is an intermediate step (400 to 500 m) between the top of the massif and the Rivière Sainte-Marguerite valley, caused by a linear fracture of the basement rock.

The Saguenay graben natural region was formed through the collapse of part of the earth's crust in

what was then the Rodinia supercontinent, about 600 million years ago. The Rivière Sainte-Marguerite valley corresponds to the main fault at the north side of the graben. Repeated glaciations during the Quaternary transformed the straight, narrow prequaternary valley into an incised, glaciated valley, relatively flat on the bottom and a few hundred metres wide. The hills along the south bank of Rivière Sainte-Marguerite rise to 350 to 500 m, while summits on the Monts-Valin massif, on the north side, reach 700 m and higher. A gneissic complex (charnockitic and mixed gneiss) forms the foundation of the east and west parts of the reserve, while orthopyroxene granitoids underlie the most spectacular part of the valley, in the centre of the reserve, where the river is bordered on either side by high hills and steep cliffs. In terms of relief, as its name implies the biodiversity reserve essentially protects the Rivière Sainte-Marguerite valley and its proximate slopes, which are particularly steep on the side of the Monts-Valin massif. The southern portion, adjacent to Parc national du Fjord-du-Saguenay, also includes low hills. Due to the rugged relief, water bodies and bogs (3.4% and 0.4% respectively) are rare in the reserve. The largest lakes are Lac Résimond and Premier lac du Portage, but the most important aquatic environment is unquestionably the river itself. Both north and south of the river, the surface deposits are of glacial origin (till), and are generally thin, but thicker in depressions. Bar rock is very common on steep slopes and along fractures. Extensive fluvio-glacial deposits occupy the valley bottom, forming outwash deposits and kame terraces (Robitaille and Saucier, 1998).

Rivière Sainte-Marguerite belongs to the great watershed of the Saguenay, draining a territory of more than 2000 km². The main branch of the river rises about ten kilometres north of Parc national des Monts-Valin, in lakes Sainte-Marguerite and Castor gras. It then heads south to cross Parc national des Monts-Valin, flowing through deep canyons before turning almost 90° to the east, to follow the fault line marking the northern boundary of the Saguenay graben. Where it leaves Parc national des Monts-Valin, the river enters the biodiversity reserve, flowing there for over 50 km before exiting at a point less than five km from the municipality of Sacré-Cœur. Some 20 km further east it empties into the Saguenay, after first being joined by its largest tributary, Rivière Sainte-Marguerite Nord-Est. Its second largest tributary is Rivière Sainte-Marguerite Nord-Ouest (also called "Bras des Murailles"), whose lower 15 km are included in the reserve and form its northern boundary over about a third of that length.

According to Gerardin and McKenney (2001), the territory of the biodiversity reserve has a steep climatic gradient. Thus, although the overall climate is subarctic and subhumid, it can be qualified as mild subarctic in the south (average temperature 1.9 to 4.5 °C) and cold subarctic on the Monts Valin in the north (-9.4 to -6.0°C). It has a long growing season in the south (180 to 209 days), but a medium growing season in the east and north (150 to 179 days). The average annual precipitation ranges from 800 to 1359 mm.

1.3.2 Biological environment

Given the physical context described above, the vegetation and wildlife of the reserve are highly diverse. The areas south of Rivière Sainte-Marguerite and the lower slopes to the north of the same river are in the balsam fir/yellow birch bioclimatic domain, while at mid-slope, toward the summits in the north, we cross into the balsam fir/white birch bioclimatic domain. Thus, along with the characteristic species of the boreal zone there are species more often associated with the temperate zone, some of them at the northern limit of their range. However, the logging done in the 19th and 20th centuries has altered the structure and composition of forests in the reserve. In the last half-century, spruce budworm outbreaks have had a significant impact on balsam fir, while other natural disturbances (fires, windthrows, landslides) have disturbed certain areas of the reserve. As shown in Table 1, the present-day vegetation consists largely of mixed formations dominated by balsam fir. White birch stands (32.2%), balsam fir stands (24.5%) and yellow birch stands (23.1%) are omnipresent.

Table 1: Forest summary of the territory of Réserve de biodiversité de la Vallée-de-la-Rivière-Sainte-Marguerite (MFFP, SIEF, 4th 10-year survey)

	Type of cover	Area (ha)	Proportion
Forest	Deciduous	3410.8	10.6%
	Mixed	21 988.1	68.4%
	Coniferous	4931.7	15.3%
	Regeneration	42.0	0.1%
Other	Alder stands	165.7	0.5%
	Wet barrens	140.9	0.4%
	Dry barrens	316.9	1.0%
	Water	1060.5	3.3%
	Island	9.6	0.0%
	Flooded	39.5	0.1
	Other	5.8	0.0%
Total		32 196.1	100.0%

There are also stands of black or red spruce (10.6%), a few maple stands (red maple or sugar maple) and poplar stands. The last are abundant along Bras d'Allen (a north-south stream that joins Rivière Sainte-Marguerite to the east of Bardville). Here and there one also finds white pine and cedar over 30 cm in diameter. American elm and black ash are fairly common along the riverbanks, where one occasionally finds balsam poplar. Due to the abundance of strong inclines, bogs and lakes are few in number and small in size. Overall there is a good proportion of old-growth forests, especially north of the river.

Surveys conducted between 1964 and 1972 revealed much about the vascular flora along Rivière Sainte-Marguerite. A more recent survey, in 2011, also studied the bryophytes (Lapointe *et al.* 2012; Faubert, 2012). From all of these surveys it can be stated that the total known

flora numbers 367 taxa, many of them near the limit of their range: *Cardamine diphylla*, *Carex radiata*, *Claytonia caroliniana*, *Dicentra cucullaria*, *Acer pensylvanicum*, *Deparia acrostichoïde*, *Impatiens pallida*, *Picea Rubens*, *Antennaria howellii* s.l., *Asplenium trichomanes*, *Dichantheium acuminatum* subsp. *implicatum*, *Elymus wiegandii*, *Micranthes virginensis*, *Sagittaria graminea* and *Toxicodendron radicans* subsp. *Rydbergii*. There is also a calcicole flora detached from the region's calcareous formations (La Malbaie, Rivière Shipshaw, south of Lac Saint-Jean). They include: *Carex capillaris* subsp. *capillaris*, *Cryptogramma stelleri*, *Primula mistassinica* and *Saxifraga oppositifolia*. The reserve also protects two populations of *Dulichium arundinaceum* var. *boreale*, a sedge found only in Québec, whose name should soon be added to the list of species that are threatened, vulnerable or likely to be so designated in Québec.

Turning to wildlife, no survey specific to the territory of the reserve has been done, but the elevation zoning of plant life, and the presence of rock faces favourable to certain rare species, make for an unusual diversity of wildlife. Common species in the region include black bear, moose, red fox, ruffed grouse, spruce grouse, Canada lynx, snowshoe hare and beaver, along with Atlantic salmon and anadromous brook trout (sea run brook trout) in the river. A number of water bodies are solely inhabited by freshwater brook trout. Rarer species are also present, such as Barrow's goldeneye, rock vole, arctic char Oquassa and woodland caribou, which frequent the reserve in spring and early summer (Chabot, 2008).

To these must be added the possibility of finding the red bat and hoary bat, whose presence has been confirmed just outside the reserve, in Parc national du Fjord-du-Saguenay. There are fishless lakes in the reserve that present wildlife interest in terms of amphibians and Barrow's goldeneye (MRNF, 2012).

1.3.3 Ecological representativeness

The reserve increases the representativeness of the national and regional network of protected areas in several respects.

With its high slopes, the long, broad glacial valley of Rivière Sainte-Marguerite is a major geological element at the junction of two natural regions, which in turn results in a rich geomorphological diversity. Narrower and canyon-like, the upstream part is protected by Parc national des Monts-Valin. The biodiversity reserve will protect most of the valley and the immediate slopes, which directly influence the quality of the river. Though the overall proportion of water bodies is low (3.4%), they are concentrated in the southern part of the reserve, and are representative of the general hydrography of the Saguenay fjord physiographic complex.

In sum, the biodiversity reserve protects characteristic ecosystems of the contact zone between the eastern part of the Saguenay graben natural region (which includes the Saguenay fjord) and the Monts-Valin natural region. Since this contact zone also corresponds to a contact zone between the boreal forest and the northern temperate forest, ecosystems and species that are characteristic of both are found

in the reserve, including many at the northern limit of their range.

Along with several other protected areas (notably Parc national des Monts-Valin, Réserve de biodiversité Akumunan, Réserve de biodiversité du Plateau-du-Lac-des-Huit-Chutes and the G.-Oscar-Villeneuve and Marcelle-Gauvreau ecological reserves), the biodiversity reserve enhances the representation of the Monts-Valin natural region. As for the Saguenay graben natural region, the ecosystems of its eastern part are now well represented, with the reserve joining the Monts-Valin and Fjord-du-Saguenay national parks, Parc marin du Saguenay–Saint-Laurent, and Réserve de biodiversité projetée de la Côte-de-Charlevoix to form a network of protected areas within it.

1.3.4 Outstanding ecological elements

The ecological integrity of the forest ecosystems of the reserve is remarkable, considering its proximity to inhabited areas. Despite the logging of the last two centuries, old-growth forests are relatively common on steep slopes, rugged summits and areas that are difficult to access (Appendix 2).

For example, between Rivière Sainte-Marguerite and Rivière Sainte-Marguerite Nord-Ouest (Bras des Murailles), there are over 200 hectares of maple/yellow birch stands in places with a favourable microclimate, in the valley bottom (one stand) and sheltered, well-exposed areas on the valley's north slopes (four stands). This type of forest is non-existent in the Monts-Valin massif. As for the forests between Bras des Murailles and Rivière

Sainte-Marguerite, they are difficult to reach and thus present a high degree of ecological integrity, which is confirmed by the bryophyte survey of 2012. From Lac Résimond to Bardsville (a distance of over 20 km), Route 172 runs to the south of Rivière Sainte-Marguerite, leaving the valley's north slope less accessible than the south, especially since it is steeper and hard to reach from the north. As a result, the present-day woodlands south of the river show all the impact of human activities, while the north slopes harbour old-growth forests, younger stands being due to natural disturbances. Although young forests dominate the reserve, there is a good proportion of old-growth forest (38.8%). It could be that hardwoods (sugar maple and yellow birch) were less affected by logging operations of the 19th and early 20th centuries, which centred on softwood harvesting. In any case, not only are there stands that are rare at this latitude, but some seem to have escaped the impact of human activities. In some of the old-growth forests there are very old, veteran trees that are large for this particular ecological context, as well as numerous dead trees (standing or fallen) that offer shelter and a source of food for various wildlife.

A number of plant species (vascular and bryophytes) are near the northern limit of their range, or rare at the regional, provincial and even continental level. One species, *Dulichium arundinaceum* var. *boreale*, is found nowhere else in the world, while another, *Saxifraga oppositifolia*, is found nowhere else in the region (Lapointe *et al.*, 2012).

Regarding bryophytes (Faubert, 2012), a notable find is *Dicranella crispa*, a rare species that is unknown further south in eastern America, and whose presence here extends its range considerably. The escarpments and scree slopes feature a wealth, luxuriance and great diversity of bryophytes. They include basophilic species, rare species and species on the edge of their range, while certain occurrences constitute significant range extensions (notably an arctic alpine species, *Tetralophozia setiformis*).

Regarding wildlife, apart from woodland caribou at the southern limit of its range (Équipe de rétablissement du caribou forestier du Québec, 2013), the biodiversity reserve helps protect another species considered vulnerable in Québec, Barrow's goldeneye. Arctic char Oquassa and rock vole, two species likely to be designated threatened or vulnerable in Québec, are also present in the reserve.

Appendix 3 shows the location of some of the many forests of ecological interest.

1.4 Land occupation and uses

Well before the European colonization, Rivière Sainte-Marguerite was frequented by Aboriginal populations (Lavoie-Painchaud, 2008). Réserve de biodiversité de la Vallée-de-la-Rivière-Sainte-Marguerite 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).

On arriving in the area, colonists of European descent made salmon fishing on Rivière Sainte-Marguerite a favourite activity. To illustrate, the following is a historical account from the recreational development plan of the Association de la rivière Sainte-Marguerite (ARSM, 2005):

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A SHORT HISTORY OF SALMON FISHING ON RIVIÈRE SAINTE-MARGUERITE

For generations, the salmon fishing on Rivière Sainte-Marguerite has been held in high esteem. Back when the Hudson's Bay Company ran a fur-trading post at Tadoussac, it held hunting and fishing rights along the river. Starting in 1838, it operated a fishing camp at the river mouth. When the lease was terminated in 1842, David Price (who ran a small sawmill at Anse-à-l'Eau) promptly asked the government to lease him a lot to build a mill, to meet the demand from people living near the river mouth. From 1848 to 1853, a clerk at the Tadoussac post named James Grant accompanied groups of officers and visitors on river expeditions. From this sideline, Grant became a passionate salmon fisherman and an enthusiast of Rivière Sainte-Marguerite. In 1859 the Hudson's Bay Company closed its trading post at Tadoussac. David Price then obtained a lease from the government granting him salmon fishing rights on the river. The quality of the fishing was very impressive. One of Price's friends, Willis Russell from Québec, dazzled by the beauty of the river, persuaded Price to trade him the right to fish on the northwest arm of the river,

in exchange for logging quotas that he had obtained from the government. Russell then joined forces with Robert Powell from Philadelphia to carry out the projects he had in mind. Price kept his fishing rights on the northeast arm of the river. In 1872, Russell and Powell built the Lower Fork house, right in front of the island, which was known as the Club House Station. Several other buildings were put up later: the Home Pool house, six kilometres to the north, and the Château, five kilometres upriver, then Sand's Pool, thirteen kilometres further north. Then came Bardsville, another thirteen kilometres north, and last of all Upper Forks, eleven kilometres even further upriver, which they renamed Grantville in honour of James Grant. In 1859 the Corporation de pêche Sainte-Marguerite (CPSM, today a subsidiary of Alcan) acquired the fishing rights on the northeast branch of Rivière Sainte-Marguerite. In 1974 the Québec government renewed a lease for five years on the main branch and for nine years on the northeast branch. In 1980 the government created ZEC de la rivière Sainte-Marguerite, stripping the CPSM of exclusive fishing rights on the river. The CPSM remained in place however, operating the fishery on its private lots, and is now a strategic client and collaborator of the ZEC's managing body, the Association de la Rivière Sainte-Marguerite (ARSM).

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Since the Bardsville sector is privately held, it is excluded from the biodiversity reserve.

The reserve connects the Monts-Valin and Fjord-du-Saguenay national parks, creating a

network of protected areas of nearly 2000 km², more than half of which is a marine environment. Easily accessible by Route 172, which links Saguenay to Tadoussac via Saint-Fulgence, Sainte-Rose-du-Nord and Sacré-Cœur, the territory of the reserve is used extensively for a host of outdoor activities, especially in the areas that overlie controlled harvesting zones (Rivière-Sainte-Marguerite ZEC, Martin-Valin ZEC and Chauvin ZEC).

Well before the completion of Route 172 in 1964, the valley's natural resources figured large in the local and regional economy. From the first half of the 19th century, Rivière Sainte-Marguerite was renowned for fishing, but logging was also done in the valley. In the 20th century, logging operations reached further away from the river, and the valley found favour with fishers, hunters, trappers and nature lovers. In the 1960s, the building of Route 172 along the river consolidated this vocation, facilitating access to this exceptional territory. Excluded from the protected area, the highway runs through the heart of the reserve for over 40 km, with a short stretch that follows the northern boundary of Parc national du Fjord-du-Saguenay.

In 2007, Route 172 was given the name Route du Fjord, becoming the first official tourist highway of Saguenay–Lac-Saint-Jean. There are also plans for a bicycle path along this road (MRNF, 2012).

The river itself is a well-known canoe-kayak route. A Trans-Québec snowmobile trail crosses the eastern part of the reserve (the road along Bras d'Allen), and there is a hiking trail at the western end (near Lac de la Roche). The territory

was proposed for a protected area in recognition of the beauty of the valley, the salmon fishing, and the fact that the topography is not conducive to logging operations.

The strategic development and tourism plan for the Saguenay fjord region (Agence de développement du Saguenay fjord, 2005) proposes ways to further develop the valley's potential. Since 2005, the Fondation de la faune du Québec, together with private partners, has supported an experimental project to develop Route 172 from Tadoussac to Saint-Fulgence as a "biodiversity valley". As part of this project, in 2008 a footbridge was built near pool 53, crossing the river to a trail that leads through an old-growth maple forest to Bras des Murailles (Rivière Sainte-Marguerite Nord-Ouest). Lastly, in the regional development plan for public lands (MRNF, 2005), the Sainte-Marguerite valley is designated for study concerning its recreotourism potential. A development plan for recreational activities, approved by the MRNF, is now in force for the Rivière-Sainte-Marguerite ZEC (Association de la Rivière Sainte-Marguerite Inc., 2005).

Due to the relief of this area, and the resulting hydrography, most of the territory of the reserve is completely free of land rights for resort purposes and temporary shelters. The sort of lakes that cottagers prize are rare in the reserve, where strong inclines and rugged slopes dominate the landscape. Thus the fifty-odd existing leases for resort purposes and temporary shelters are concentrated around the few suitable lakes. A few are near Lac Résimond, in the west, but most are in the east, between the Sainte-

Marguerite and Parc national du Fjord-du-Saguenay. These leases are around lakes Émélie, Morin, Louis and Pierre, plus the first and second Lac du Portage, the chain of Lacs à Édouard, and around ten small, nameless lakes in the uplands (elevation 300 to 400 m) between the river and the fjord (but outside of Parc national du Fjord-du-Saguenay). There is also a cluster of cottage sites around the first Lac Onésime, northeast of the reserve.

The Association de la rivière Sainte-Marguerite offers accommodation near the river. Backcountry camping is also offered near eight salmon pools.

The following land rights are documented:

- a telecommunications line
- 34 resort leases and 19 leases for temporary shelters
- three rights of way for Trans-Québec snowmobile trails
- a refuge

Other land rights include: one for the municipal waste disposal site; two for community purposes; one for community purposes for recreational activities (thematic pavilion about the forest); one for community purposes for a backcountry campsite; one for a telecommunications tower; and one for an individual telephone or power line. Two-phase power distribution line CHN 293 also passes through the reserve. There is a right of way for a hiking trail near Lac de la Roche and Lac Les Étangs. The municipality of Sainte-Rose-du-Nord operates a campground and municipal beach at the north end of Lac Résimond.

There are also five ZEC reception posts and three ZEC infrastructures (a fish farm and two ranger camps), but none of these eight occupations are tied to land rights. Finally, the reserve overlies fourteen Aboriginal trapping grounds with exclusive rights.

Due to its central position, the Bardsville area (excluded from the reserve) is strategically located for the management and development of Rivière-Sainte-Marguerite ZEC. The ARSM maintains a seasonal reception post there. The buildings (including several cottages) originally belonged to the Alcan fishing club, but were ceded in 1985 to the Régie intermunicipale de la vallée de la rivière Sainte-Marguerite, then acquired by Fjord-du-Saguenay MRC in 2012.

Again due to its spectacular relief, the reserve is a great idea for climbing enthusiasts. There are seven rock faces where the sport is practised (MRNF, 2012), and in winter, climbers come to the frozen waterfalls beneath escarpments (Filion and coll., 1999).

Appendix 4 presents the main occupations and uses of Réserve de biodiversité de la Vallée-de-la-Rivière-Sainte-Marguerite.

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. Based on the information presented in section 1, the conservation issues to be taken into account for Réserve de biodiversité de la Vallée-de-la-Rivière-Sainte-Marguerite, and the orientations and objectives to which they give rise, are set out in the sections that follow.

2.2 Protection of biodiversity

Protection of the river

Protection of the ecological integrity of Rivière Sainte-Marguerite (see sidebar) is the first conservation issue to take into account for this reserve. Therefore, a central management objective is to protect the river and its particular ichthyological fauna (Atlantic salmon and anadromous brook trout).

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).

This can only be achieved by preserving the ecological integrity of the reserve's entire hydrographic network, together with that of the adjacent terrestrial and aquatic environments, especially its near-shore environments. The corresponding objective is: *Avoid any development that could have negative effects on*

the ecological integrity of the hydrographic network of the biodiversity reserve.

Protection of rare, threatened or vulnerable species

The second conservation issue stems from the presence of threatened, vulnerable and rare species, in particular a number of species that are at the north or south limit of their range. Management of the reserve must ensure the protection of the habitats of these species, and preserve known occurrences. The corresponding objective is: *Prohibit any activity that could affect the habitat of a threatened, vulnerable or rare species.*

Protection of representative or exceptional ecosystems

The third conservation issue concerns the protection of a representative sample of the ecosystems of the Monts-Valin and Saguenay graben natural regions, as well as certain rarer ecosystems. Part of the reserve is almost undisturbed and contains representative or rare forests whose ecological integrity must be protected. Some are doubly protected, since the biodiversity reserve includes eight conservation areas constituted under the *Sustainable Forest Development Act*. They include three exceptional forest ecosystems (rare and old-growth forests) and five biological refuges (see Appendix 1). Other parts of the reserve have undergone considerable disturbance, and should be managed with a view toward gradually restoring the structure and composition of the natural

landscapes to which they are suited. The corresponding objectives are:

- *Preserve the ecological integrity of the terrestrial ecosystems present in the biodiversity reserve.*
- *Avoid any development that could reduce the age of the forest cover.*

2.3 Development activities

The territory of the reserve offers numerous attractions for recreation (hunting, fishing, vacationing). Readily accessible by Route 172, it is frequented by the regional population. The western part is mainly used by people from Sainte-Rose-du-Nord municipality, while the eastern part is mainly used by people from Sacré-Cœur municipality. The Martin-Valin and Chauvin ZECs are in charge of the development, harvesting and conservation of wildlife on 37.9% of the area of the reserve, while the Rivière-Sainte-Marguerite ZEC has the same responsibilities with regard to salmon fishing on the river. The three bodies are also responsible for facilitating user access. Climbing and hiking are also practised in the reserve.

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. Existing activities could be intensified, and new activities developed, provided that they are compatible with the vocation of the reserve; for this reason they must be authorized by the MELCC.

The MELCC wants all concerned stakeholders to be involved in preparing zoning specifications and an action plan to carry out the conservation objectives, in particular the protection of sensitive or fragile natural environments, the recovery of old-growth forests, and the protection of threatened, vulnerable or rare species. To encourage participation by all stakeholders, 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

Specific objective:

- **Conduct plant and animal surveys, and monitor the general evolution of ecosystems**

Past surveys have laid a foundation of knowledge about the flora and fauna of Réserve de biodiversité de la Vallée-de-la-Rivière-Sainte-Marguerite, yet that knowledge 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 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. Thanks to its unique location, the reserve offers a privileged space in which to measure the impact of climate change on biodiversity.

2.5 Conservation and management objectives

Réserve de biodiversité de la Vallée-de-la-Rivière-Sainte-Marguerite 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 and Saguenay graben natural regions, as well as

certain rarer ecosystems. 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 Aboriginal communities who frequent the land, as well as the recreotourism activities currently practised there.

Taking into account the issues set out in sections 2.1 to 2.4, and the geographical sectors of interest corresponding to the elements described in section 1 (see Appendix 2 and Appendix 3), the conservation and management objectives specific to the reserve are:

- Avoid any development that could have negative effects on the ecological integrity of the hydrographic network of the biodiversity reserve.
- Prohibit any activity that could affect the habitat of a threatened, vulnerable or rare species.
- Preserve the ecological integrity of terrestrial ecosystems present in the biodiversity reserve.
- Avoid any development that could reduce the age of the forest cover.
- 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.

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

3 Zoning

The MELCC does not propose any zoning in the present plan, but will invite interested parties to participate in drawing up a functional zoning plan for the biodiversity reserve.

4 Activity framework applicable to Réserve de biodiversité de la Vallée-de-la-Rivière-Sainte-Marguerite

The activity framework applicable to Réserve de biodiversité de la Vallée-de-la-Rivière-Sainte-Marguerite follows from the provisions of the *Natural Heritage Conservation Act* and the Regulation respecting the Réserve aquatique de la Vallée-de-la-Rivière-Sainte-Marguerite (chapter C-61.01, r. 1.1).

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, 47 and 49 of the *Natural Heritage Conservation Act*, as they read on 18 March 2021.

Under sections 46 and 47, the principal activities prohibited in the territory of Réserve de biodiversité de la Vallée-de-la-Rivière-Sainte-Marguerite 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;
- activities that could degrade the bed, banks or littoral zone, or otherwise affect the integrity of a water body or watercourse;
- operation of a motorized vessel in violation of the conditions contained in the Regulation.

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 aquatique de la Vallée de-la-Rivière-Sainte-Marguerite

Accordingly, the provisions set out in Regulation respecting the Réserve aquatique de la Vallée-de-la-Rivière-Sainte-Marguerite 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 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);

and **delivery of authorizations** (forest roads) and **protection of exceptional forest ecosystems and 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*.
- **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 de la Vallée-de-la-Rivière-Sainte-Marguerite. Among other things, the Minister sees to the application of the *Natural Heritage Conservation Act* and the Regulation respecting the Réserve aquatique de la Vallée-de-la-Rivière-Sainte-Marguerite. In its management, the MELCC enjoys the collaboration and participation of other government representatives that have specific responsibilities in or adjacent to the territory. Since the latter is accessible and often frequented by humans, the MELCC intends to take a “participative” approach to management. The principal local and regional stakeholders

concerned will be invited to participate in management activities. Depending on needs, their participation could take place through the creation of a management committee, a zoning plan, the development and implementation of an action plan, and follow-up on actions taken.

6.2 Monitoring

As mentioned in section 2 on conservation and management issues, measures will be taken toward monitoring the status of the natural environment, in collaboration with the various stakeholders. In particular, the MELCC, in collaboration with the Ministère des Forêts, de la Faune et des Parcs, wants to evaluate the contribution of this protected area to the maintenance of rare, threatened and vulnerable species, by:

- monitoring the status of habitats
- following the evolution of herd numbers
- conducting botanical and wildlife surveys

6.3 Participation of stakeholders

To fulfill its management responsibilities, the MELCC will seek the collaboration and participation of the principal actors concerned by the territory, including:

- the MRC of Fjord-du-Saguenay and the MRC of Haute-Côte-Nord
- the Innu Essipit First Nation
- the municipalities of Saint-Fulgence, Sainte-Rose-du-Nord and Sacré-Cœur
- Sainte-Marguerite, Martin-Valin and Chauvin ZECs
- the holders of land rights
- fishers, hunters and trappers
- the regional units of other government departments that have responsibilities in the biodiversity reserve

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Appendix 3 — Elements of ecological interest

