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de la Faune
et des Parcs**

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Direction de la gestion de la faune de l'Estrie, de Montréal,
de la Montérégie et de Laval, Secteur des opérations régionales

TECHNICAL REPORT

MARGUERITE-D'YOUVILLE Wildlife Preserve Project
(Including a part of Saint-Bernard Island and a portion of de la Commune Park in
Châteauguay)



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TEAM MEMBERS

Ministère des Forêts, de la Faune et des Parcs

Secteur des opérations régionales

Direction de la gestion de la faune de l'Estrie, de Montréal, de la Montérégie et de Laval

Analyses and writing:

Renée Gravel
José Bonyème
Pierre Bilodeau
Paul-Émile Lafleur

Traitement de texte :

Marie-Hélène Grignon

Collaborations

From the Ministère des Forêts, de la Faune et des Parcs :

Direction générale de la valorisation du patrimoine naturel

Direction des territoires fauniques structurés
et de la gestion intégrée des ressources

Isabelle Parent
Caio Alcântara Vasconcelos

Direction des affaires législatives et des permis

Yvon Boilard

Direction générale de la faune et des habitats

Direction de l'expertise sur la faune terrestre,
l'herpétofaune et l'avifaune

Catherine Poussart

From Héritage Saint-Bernard :

Dominic Gendron

Translation :

Anita Rogic

Photo credit, cover page: Jacques Turcot

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1 INTRODUCTION

1.1. Background

Saint-Bernard Island and de la Commune Park, part of the Châteauguay's refuge project, are natural landscapes totaling 213 hectares and represent some of southern Quebec's exceptional ecosystems. During the 1990's, this site was designated the "Marguerite-d'Youville Wildlife Preserve" (MYWP) in honour of the founder of the Grey Sisters of Montréal Congregation, who ensured that this jewel of natural heritage remained protected to the present day. This site currently has the term "Preserve" within its name only, which was authorized on May 20th, 1993 by the Minister of Recreation, Hunting and Fishing. This report exposes the richness of the territory and why it is presently anticipated, even essential, to provide it with the legal status of a wildlife Preserve under the *Act respecting the conservation and development of wildlife* (RLRQ, chapter C-61.1).

This site is located in the city of Châteauguay, just south of the island of Montréal, along the margins of Lake Saint-Louis. More than 245 bird species have been identified within this area, which provides important nesting and brood-rearing sites and is used as a migratory stopover for waterfowl (CIC, 2009). The site attracts more than 50 000 visitors every year, who come to enjoy the great outdoors and observe the wildlife, especially since a large variety of species and unique habitats found within southern Quebec may also be found directly here (Héritage Saint-Bernard, 2013). The state has already recognized the significant value of this sector and has assigned two types of wildlife habitats under the Regulation on Wildlife Habitats (chapter C-61.1, r.18): those which host a Waterfowl Gathering Area (WGA) and many muskrat habitats, as well as an Exceptional Forest Ecosystem (EFE). Furthermore, there is a large calm water spawning area where northern pike, largemouth bass and yellow perch arrive to spawn (MLCP, 1991). This Preserve project is connected directly to the Saint-Jean Creek Wildlife Site, which is recognized by the Saint-Lawrence Seaway's Study Committee as the most important spawning site within the floodplains of Lake Saint-Louis due to spring flooding by the river. The site making up the focus of this project consists of a mosaic of marshes, swamps, riparian zones, and forest stands of interest, which helps demonstrate how the site supports such a large diversity of flora and fauna.

There has been a global decrease of wetlands largely due to human interests, including urban, agricultural, industrial, and commercial activities. This is predominately the case for the entire Saint Lawrence Valley, particularly the Montérégie region where extremely heavy developmental pressures occur. There has been an almost complete disappearance of wetlands within the Roussillon Regional County Municipality (RCM). Wetlands in its southern portion have all been drained or filled for residential, commercial, industrial, or agricultural purposes. The northern section of the RCM on the other hand, is largely affected by urbanization, with the exception of the wildlife Preserve project's sector and its adjacent territories, including the Kahnawake Indian Reserve. According to experts, the proportion of this territory that is comprised of wetlands, including the different types of wetlands that are found, are representative of what was once found throughout the entire RCM (CIC, 2006). On a regional level, this highlights the importance of preserving these residual areas, as is proposed within the Marguerite-D'Youville Wildlife Preserve Project.

To protect this site from the pressures of real estate development and speculation, which are still real threats, and to assure a permanent sustainability of the site as a wildlife habitat, the Ministry of Forests, Wildlife and Parks (MFFP) acquired this territory and began the procedure for assigning it to the status of “wildlife Preserve” under the *Act respecting the conservation and development of wildlife* (ARCDW). This report thus describes the site, identifies the threats that weigh upon its various habitats, and describes the beneficial protective elements that would allow it to obtain the legal status of a wildlife Preserve.

1.2. History

Over time, the Marguerite-D'Youville Wildlife Preserve Project's territory could not completely escape development pressures, and Saint-Bernard Island has already experienced agriculture. In 1765, Sister Marguerite d'Youville, founder of the Grey Sisters of Montréal Congregation, acquired the Seigneurie of Châteauguay. The island has thus hosted outbuildings for the Grey Nuns, as well as a youth camp created in 1932 of which only its ruins remain. The de la Commune Park in Châteauguay simultaneously served as a tourist destination at that time.

In 1993, an agreement between the Grey Sisters of Montréal, the Wildlife Foundation of Quebec (FFQ) and the city of Châteauguay allowed the creation of a conservation area designated to develop wildlife environments and showcase this exceptional territory, and a notarized agreement was sealed assuring the protection of this site until 2033. Since then, significant protection efforts have been implemented, particularly by the Fondation de la faune du Québec (FFQ) and the wildlife sector of the Quebec government¹. Ducks Unlimited Canada (CIC) had also played a leading role in this conservation project, which met the objectives of the North American Waterfowl Management Program (NAWMP). Some of the more important actions taken include an approximate \$500 000 investment by DUC between 1998 and 2000 towards wildlife development, including the addition of dikes (2 km), fish pools, structures to control water levels, and a pumping system. These changes were aimed towards improving breeding habitats for ducklings, as well as fish spawning and rearing (CIC, date unknown). En 2019-2020, des investissements de 800 000\$ pour des travaux de remise à neuf des digues et des structures de contrôles ont été réalisés par CIC en collaboration avec le MFFP.

Recently, the Grey Sisters of Montréal Congregation signaled their intent to divert from this territory. To ensure the preservation of the site, the CIC thus acquired the property in 2010 as part of a financial partnership agreement with the Ministry of Natural Resources and Wildlife (now the MFFP) towards the protection of natural environments. It is through this agreement that the CIC were able to raise both government and private funds that enabled the acquisition. As stated in the agreement, the acquired properties had to be subsequently transferred over to the MFFP and subjected to a perpetual conservation easement, which was carried out in April 2014. The CIC has remained the owner of a five

¹ Wildlife concerns have been under the leadership of various departments: the Ministry of Recreational Hunting and Fishing (MLCP: 1973-1993), the Ministry of the Environment and Wildlife (MEF: 1994-1999), the Society of Wildlife and Parks (FAPAQ: 2000-2002), the Ministry of Natural Resources, Wildlife and Parks (MRNF: 2003-2004), the Ministry of Natural Resources and Wildlife (MRNF: 2005-2011), the Ministry of Sustainable Development, Environment, Wildlife, and Parks (MDDEFP: 2012), and since 2013, the Ministry of Forestry, Wildlife and Parks (MFFP).

hectares plot located on Saint-Bernard Island, which serves as the prevailing background terrain.

It is equally important to mention the involvement of the Héritage Saint-Bernard (HSB), a non-profit organization working to save the environment since 1987, which manages the site and develops the value of these natural environments in collaboration with the FFQ, CIC, MFFP, and the city of Châteauguay. HSB and the city of Châteauguay developed an environmental awareness program and ensured the management of public access to this remarkable territory. Since 1993, more than five million dollars has been invested to develop and enhance the territory. An observation shelter, walkways on stilts, docks, and picnic tables have been built on-site. Furthermore, infrastructures have been developed to accommodate the public, including a visitor's center and a bistro which are located just outside the boundaries of the wildlife Preserve project area. All of this enables more than 50 000 annual visitors to enjoy this exceptional territory while simultaneously maintaining the quality of the environment.

2 SITE DESCRIPTION

2.1. Site Location

The site is located south of the island of Montréal, in the Châteauguay municipality (Figure 1). It includes the large majority of Saint-Bernard Island, situated at the mouth of the Châteauguay River, as well as a portion of the de la Commune Park in Châteauguay. The island portion of this site is bounded in the northwest by Lake Saint-Louis and by the Châteauguay River in its southern and eastern ends (Figure 2). The mainland portion of this site is situated in the city of Châteauguay between the southern river bend of the Châteauguay River and an ancient road once named Vinet. These two portions make up the wildlife Preserve project, and their areas and central geographical coordinates are:

- Saint-Bernard Island (*Island sector*)
 - Lot 378-P (lots 5 140 602 and 5 140 603 « au cadastre rénové »), includes the majority of the island except the southwestern and southeastern tips, as well as the 5 hectare portion owned by the CIC, which serves as the prevailing background terrain. (Figure 2, Appendix 1); Area : **199.3 ha**
 - Latitude : 45° 23'30" N, Longitude : 75° 45'30" O
- de la Commune Park in Châteauguay (*Park sector*)
 - Lot 289-P (lot 5 140 607 « au cadastre rénové »), portion located between the ancient Boulevard d'Youville and the ancient Vinet road (in the south) (Figure 2, Appendix 1); Area : **13.6 ha**
 - Latitude : 45° 23' 00" N, Longitude : 73° 45' 45" O

The site is located in the Montérégie region, eight kilometers southwest of Montréal, and is easily accessible to nearly 60% of the Quebec population.

Figure 1. Location of the Marguerite-D'Youville Wildlife Preserve Project

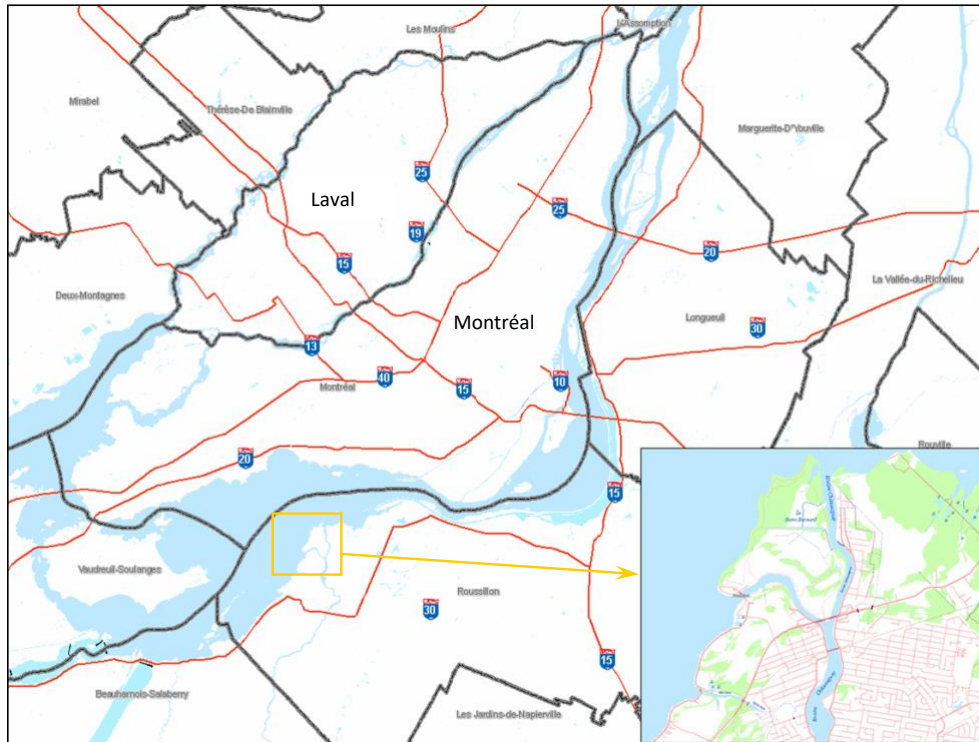


Figure 2. Land boundaries of the Marguerite-D'Youville Wildlife Preserve Project



Source: Ducks Unlimited

2.2. Topography, hydrography and generalities

With its relatively flat topography and an average altitude of less than 22 meters above sea-level, Saint Bernard Island is almost entirely subjected to river floods (Gratton, 1984). This territory is part of the Lake Saint-Louis floodplain, whose floods reach 22.33 meters (for the period between 1960 and 2012) and is characterized by a mosaic of wetlands that nearly cover the entire island. The Preserve project represents 45% of the city of Châteauguay's wetlands and 6% of those within the Roussillon RCM (CIC, 2009). Furthermore, it is one of the largest wetland complexes across the scale of Lake Saint-Louis (CIC, 2006). The island contains some terrestrial environments, one of which is located on the southwestern tip and peaks at 26 meters. The entire western side of the island is a coastline which presents several small elevations whose average heights reach 23 meters. Another sector comprised of elevation is located at the head of the island's delta formation. The southern tip of the island also shows higher altitudes, reaching 25 meters in elevation (Gratton, 1984). In terms of de la Commune Park in Châteauguay, the landform is generally flat with altitudes reaching between 21 – 22.9 meters, with D'Youville Boulevard reaching the highest point (Gratton, 1984). Additionally, this park provides continuity with the Saint John Creek Wildlife Site.

To improve the potential fish and waterfowl habitat on Saint-Bernard Island, modifications were designed by the CIC and implemented between 1998 and 2002. These include structures for water level control, the erection of dikes, the creation of three shallow marshes totaling 104 hectares, and the management of fish pools that are maintained by the pumping system (Figure 15). These modifications optimize water levels even after the spring floods have retreated, which helps maximize the total amount of superficial habitat available for migrating waterfowl and fish spawning. The levels may be adjusted, which helps fish facilitate their access to Lake Saint-Louis (Appendix 1). These modifications also improved brood rearing sites which simultaneously benefited other species as well, including the muskrat, a notorious habitant of the island.

Saint-Bernard Island is recognized as muskrat habitat under the direction of the Wildlife Habitats Regulation. It is also surrounded by a crucial waterfowl area (Figure 11). Furthermore, the island and the park are connected to the Saint-Jean Creek Wildlife Site, identified as Lake Saint-Louis' most important spawning area, as well as the Kahnawake Indian Reserve, where the wetlands have remained virtually intact. All of this territory is an integral part of what is known as the Châteauguay-Léry Green Corridor. The metropolitan community of Montréal has recognized the value of this green belt and identified it as a territory to be protected within its interim control by-law and included it within its agreement on sustainable development. This area is one of the last natural areas within Roussillon RCM.

The proposed wildlife Preserve is situated within zone 8 of fishing and hunting, as well as within the fur-bearing animals management unit (UGAF) 84.

2.3. The flora

Saint Bernard Island is home to a large diversity of plant communities. While studying potential sites where ecological reserves may be established upon the Archipelago of Montréal, Gratton (1984) highlighted the island's rich flora by identifying 40 different plant

communities. This site contained the greatest plant diversity among all other studied sites. The main plant communities in this territory that require protection are associated with wetlands and include both emergent and submerged plants. Although the terrestrial environments have been deemed less important, they nonetheless add great value to the area by housing several plant species at risk (Sabourin, 2003).

2.3.1. General floral diversity

The floral environment was recently altered through several significant events. High water levels that persisted throughout the 70s led to the decline of riparian forests in the fluvial section of the Saint-Lawrence River. This event, among others, caused significant damage to the silver maples surrounding Lake Saint-Louis, particularly to an important portion of a large maple grove that once colonised a swamp located in the heart of Saint-Bernard Island (Environment Canada, 1998; Gratton, 1984). Since the late 90s, landscape developments designed by the CIC, with the intention of improving potential habitats for both waterfowl and fish, have somewhat altered the proportions of different wetlands as well.

Comprehensive plant inventories were carried out prior to the island's modifications. This data however, described in the MLCP report (1993), remains an indicator nonetheless of the island's overall plant composition and is presented in Table 1. More recently however, the CIC completed the mapping of wetlands in Montréal's metropolitan community. Mapping was conducted by photo-interpretation, followed by a field validation study (Beaulieu et al. 2010). After the mapping exercise, the areas of different wetland types were as follows: on the island – 91 hectares of swamps, 71 hectares of marshlands, 26 hectares of wet grasslands, and roughly 11 hectares of terrestrial environments; in the park – 7 hectares of swamps, 3 hectares of marshlands, 5 hectares of wet grasslands, and roughly 0.3 hectares of terrestrial environments (Figure 3). Shallow types of environments are found on all the shores. The shoreline along the northern end of the island is characterized by a succession of sandy gravel beaches bordered by bulrush marshes. On the Lake Saint-Louis side, bank slopes are pronounced in the southwest but soften towards the north where the shoreline forms a succession of open and shallow sandy bays. These banks undergo active erosion by waves created by the wind and by large vessels that pass through a nearby navigation channel. Despite this, dense grass beds composed of cattails, arrowheads and pickerelweed with heart-shaped leaves have developed there, and beds of submerged plants extend over large areas offshore (Gratton, 1984). On the Châteauguay River side, the banks have a medium to high slope, and the river's turbid waters give way to the submerged beds.

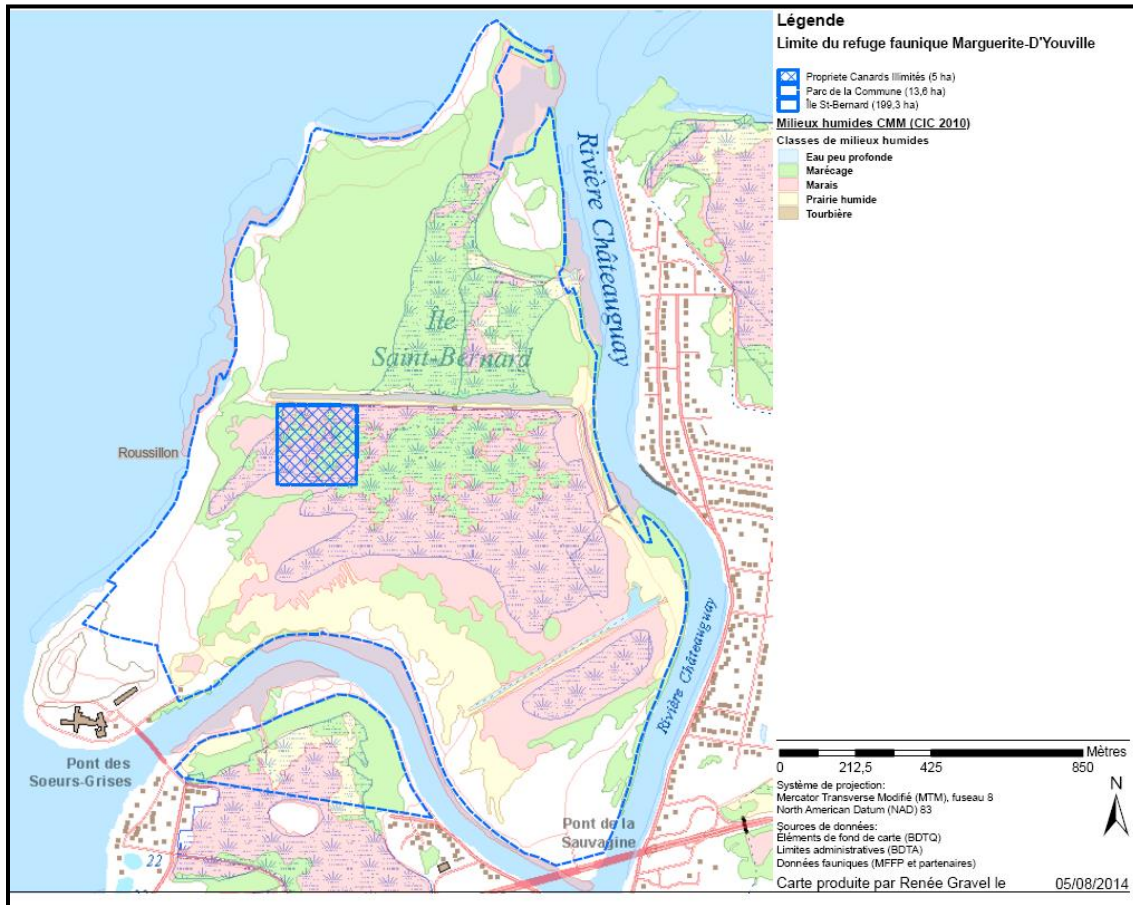
Inventories carried out in 2012 and 2013 have confirmed the presence of 20 different species of bryophytes, five of which are found on both the island and in the park (Michel Lamond, *personal communication*).

In summary, Saint-Bernard Island is composed of a mosaic of wetlands (marshes, swamps, wet grasslands, shallow waters) and several ponds and streams. The remaining exposed areas are characterized by the presence of maple-hickory stands in the northeast, fields and meadows (and most recently documented hawthorn scrublands) in the south, and by swamp white oak stands in the northwest. Conducting a novel floral inventory however, would be ideal to help obtain a more reliable picture of the evolution of the plant communities.

Table 1. Characterization of the plant cover found on the Marguerite-D'Youville Wildlife Preserve Project's territory prior to its landscape modifications between 1998 and 2002 (Source: MLCP, 1993)

Vegetation unit	Proportion (and area) of the island	Definitions
<i>Saint-Bernard Island</i>		
Woodlands	4 % (8.6 ha)	Maple-hickory stands located on the northeastern tip of the island and along its western shoreline.
<i>Phalaris</i> grasslands	28 % (44.4 ha)	Found at the southern tip of the island and along its southwestern and eastern border.
Swamp forest	20 % (39.7 ha)	Composed of oak, maple, ash, poplar, and willow, with some groups having experienced stress from the river's high water levels during the 1970s. It is mainly found in the northwestern end of the island and along its eastern shore.
Shrub swamp	4 % (7.6 ha)	Occurs at the edge of the flood zone along the island's western shore and includes buckthorn, staghorn sumac and raspberry.
Wet <i>Phalaris</i> grasslands	7 % (13.1 ha)	At the edge of the marsh in the southern portion of the island.
Shallow and deep marshes	43 % (85 ha)	These marshes are largely dominated by bur-reed and cattails and occupy the center of the island; 10.5 ha consist of shrubby islands dominated by common buttonbush and located in the center of the marshes, and 1.2 ha consist of eastern cottonwood.
Aquatic vegetation	55.3 ha	Surrounds the island and is composed of <i>Alisma gramineum</i> , common threesquare and wild celery on the western shore; wild celery, <i>Myriophyllum spicatum</i> , Canadian waterweed, and water plantains on the eastern shore.
<i>de la Commune Park</i>		
Shrub swamp	2 % (0.3 ha)	Willows in its interior and forms an island in the western part of de la Commune Park.
Wet <i>Phalaris</i> grasslands	46 % (5.8 ha)	Characterized by eastern cottonwood
Shallow marshes	46 % (5.8 ha)	Located in the center of de la Commune Park and include cattails, bur-reed and <i>Sagittaria</i> .
Aquatic vegetation	4 % (0.5 ha)	In the center of the channel, and characterized by <i>Lemna</i> , <i>Spirodela</i> and frogbit

Figure 3. Map of the wetlands located on the Marguerite-D'Youville Wildlife Preserve Project's territory



2.3.2. Plant characteristics

Exceptional Forest Ecosystems (EFE)

The island was recognized by the MFFP as consisting of exceptional forest ecosystems (or EFE) due to two particular forest systems: swamp white oak stands in the west that cover a small area of approximately 3 ha, as well as sugar maple-bitternut hickory stands and a mixed deciduous forest in the northeast (Sabourin, 2003). The swamp white oak stand is considered a *rare forest*, with at least 30 mature individuals recorded. An immense tree within this stand, which recently fell over from the force of Hurricane Irene, measured 3.7 m in circumference and was likely the largest specimen in Quebec. The second aforementioned stand covers an area of 5.6 ha and is considered a *forest Preserve* as several species at risk were identified within it (Sabourin, 2003).

Figure 4. Illustration of the species that designate specific forest systems as an Exceptional Forest Ecosystem, including the (a) swamp white oak and (b) bitternut hickory stands.



Photo credit: Dominic Gendron

Footnote:

¹Status designated by the Ministry of Forests, Wildlife and Parks for forest systems that contribute towards maintaining biodiversity. This status is granted under the Sustainable Forest Development Act (RLRP, chapter A-18.1) and allows them to be protected from all activity likely to alter them.

Plant species at risk

Inventories conducted by Gratton (1995) and Sabourin (2003) helped identify the island's vascular plants that are considered threatened in Quebec or at risk to be designated so. Sabourin (2003) also documented the different species of hawthorn that are found in abundance on this island. A total of 11 hawthorn species were documented, two of which are at risk. Furthermore, a total of 11 vascular plants species were documented to be in precarious situations, all with the status of likely to be designated as threatened or vulnerable. These include wild onions, swamp beggarticks, cockspur hawthorn, broad-leaved hawthorn, galingale, white oak, yellow water buttercup, and sand violet. Small beggarticks however, were removed from the list of threatened species in 2008 bringing the list down to ten. Their scientific names may be found in Appendix 2.

It is extremely important to protect the cockspur hawthorn (Figure 5), as it is in decline in Quebec and only three populations occur in the L ry-Ch teauquay region. Approximately 1000 individuals remain across the province, and there is little chance of discovering any new ones (H ritage Saint-Bernard, 2010). The only protected specimens found on the territory fall under the wildlife Preserve project and the Centre  cologique Fernand S guin.

Figure 5. Illustration of the cockspur hawthorn (*Crateagus crus-galli*)



Photo credit : Dominic Gendron

2.4. Wildlife

This territory has rich and diverse wildlife mainly due to the large variety of habitats found on the island and within the park, as well as due to its location in the heart of well-preserved natural environments along Lake Saint-Louis. Furthermore, this territory maintains connectivity between surrounding natural landscapes and the diverse populations dwelling within them (e.g. the Châteauguay-Léry forest corridor, the wildlife habitat of Saint-Jean Creek and the Kahnawake Indian Reserve wetlands).

This site is located along the Atlantic Flyway (MLCP, 1991), therefore a large variety of bird species will take rest there during their spring and fall migrations. As previously mentioned, this site is part of the Lake Saint-Louis floodplain, making it an ideal spawning site for several fish species. According to fisheries managed by the fish monitoring network governed by the MFFP, various segments of Lake Saint-Louis display a density, biomass and richness that is significantly higher than that of Lake Saint-François, and is among the highest in the whole river (Laviolette *et al.* 2003).

2.4.1. General wildlife diversity

Avian fauna

A total of 246 bird species have been identified to date on the project's territory. Use of the site varies according to species. Although there are some bird species that will merely use it temporarily for food and rest, others will nest there and raise their young before migrating, and some may live there permanently as well. The complete list of birds that have been observed is shown in Appendix 3.

Waterfowl

Waterfowl inventories were last carried out by the Ministry in the spring of 1988, and different species were confirmed to be using this site for nesting and brood-rearing, including the wood duck (Figure 6), mallard, black duck, pintail, American wigeon, gadwall, and blue-winged teal (MLCP 1993). The waterfowl nesting potential was considered weak to medium at that time. Nesting sites were also observed in a portion of de la Commune Park. Since these inventories however, several elements have changed and influenced the waterfowl's use of this site, including the modifications set up by the CIC to improve nesting and brood-rearing conditions which were completed in 2003. The site is also an official migratory stop. Furthermore, an important Waterfowl Gathering Area (WGA), as defined by the Wildlife Habitat Regulations, is found in the western part of the territory (Figure 11a). Diving ducks, including the greater scaup, lesser scaup, common goldeneye, and common merganser, dominate Lake Saint-Louis in the spring, whereas the blue-winged teal and ring-necked duck are found there in the fall.

Figure 6. Wood duck (*Aix sponsa*)



Photo credit: Dominic Gendron

The great blue heron and black-crowned night heron

Until 1988, Saint-Bernard Island housed the third-largest heron colony in Quebec, with 169 active nests identified in 1987 (MLCP, 1993). The island colony was considered the most important in the Montréal region and third most important within the entire province (Héritage Saint-Bernard, 1987). Since then however, the site has no longer been used for breeding purposes largely due to several factors, including human disturbance and the presence of raccoons. Despite this, the great blue heron and black-crowned night heron still use the assembly of marshes for feeding purposes. Herons on the island principally nest in swamp white oak, followed by silver maple, both of which contain living-to-dead

plant ratios of 50:50 (Héritage Saint-Bernard, 1987). The return of nesting on this site should therefore not be entirely excluded, as these forest environments are still present on the island.

Other birds

Saint-Bernard Island offers favourable habitats for several other species of aquatic and terrestrial birds that profit from its diversity. Many species nest on-site, including the ruffed grouse, common gallinule, killdeer, American woodcock, black tern, American bittern, green heron, American kestrel, tufted titmouse, pileated woodpecker, yellow-bellied sapsucker, eastern screech owl, pied-billed grebe, great horned owl, and the least bittern (provincial status: vulnerable).

Passerines, vireos, swallows, mockingbirds, thrushes, warblers, sparrows, cardinals, plovers, waders, woodpeckers, and owls are also found. The birds that have been identified represent 45 families, with breeding and feeding behaviours of their own, which reflects the grand diversity of the available habitats.

For several of the species, the territory serves as their nesting site, therefore simple habitat protection is a key element in maintaining their populations. For others, supervising human activities of observation or sampling are equally as important to encourage reproduction.

According to provincial legislation, 13 bird species considered endangered, threatened or at risk of being designated so are found on the territory. Table 2 lists these species, the main threats they face, and lists their use of the wildlife Preserve project's territory. In addition to this are the species that are recognized by the federal government as threatened, including the barn swallow, listed since 2011.

Table 2. List of all bird species identified in the Marguerite-D'Youville Wildlife Preserve, including their conservation status, use of the site and main threats they encounter.

Species	Status	Site use			Principal threats
		Nesting	Feeding	Migration	
Bald eagle	Vulnerable		x		Habitat loss along major bodies of water, pesticides, disturbance in breeding habitats by human activities, culling by guns, and accidental capture by trapping.
Golden eagle	Vulnerable		x		Habitat loss, accidental trapping and disturbance and death caused by human activities.
Peregrine falcon	Vulnerable		x		Collisions with power lines, cars or building windows; disturbances by climbers or hikers; and culling.
Least bittern	Vulnerable	x	x		Loss of nesting habitats due to wetland destruction.
Barrow's goldeneye	Vulnerable			x	The removal of trees that serve as nesting sites, however applicable to those that nest further north.
Horned grebe	Threatened			x	Populations that nest in the Magdalen Islands whose threats include disturbance by human activities, habitat modification and competition.
Caspian tern	Threatened			x	The illegal harvesting of both eggs and adults, as well as the disturbances caused by these activities. Nesting migrants roost further north.
Common nighthawk	Susceptible		x		The decline of nesting habitats of suitable potential, or habitats at ground level.
Chimney swift	Susceptible		x		Pesticide use causes a decrease in insects (their primary food source) and habitat loss (large dead snags and brick chimneys).
Olive-sided flycatcher	Susceptible		x		Habitat loss and modification of breeding and wintering habitats; they breed in forest stands.
Sedge wren	Susceptible		x		Habitat loss due to intensive agricultural practices and urbanisation. Inhabits wet grasslands composed of <i>Carex</i> and scattered bushes, wet fields and occasionally within the borders of bogs.
Canada warbler	Susceptible		x		Loss of breeding and wintering (forested wetland areas).
Rusty blackbird	Susceptible		x	x	The conversion of wetlands for agriculture or human settlement has resulted in the loss of breeding habitat, which consists of thickets of small conifers, deciduous trees or shrubs, and dead trees, found above or near a body of water.

* Status under Quebec provincial legislation

Fish

A large part of the site is subject to spring flooding by the river, thus becomes a vast calm water spawning area, and is particularly popular with the northern pike, but the brown bullhead and carp may also be found (Figure 11b). The Saint-Jean Creek Wildlife Site, adjacent to this project's area, is recognized as the most important multispecies spawning ground within the Lake Saint-Louis floodplain. These calm water spawning areas found within the project's territory as well as within Saint-Jean Creek are used by the northern pike (Figure 7), perch, brown bullhead, bowfin, carp, largemouth bass, sunfish, mudminnows, golden shiner, black crappie, and several other cyprinid species.

Figure 7. Northern pike (*Esox lucius*)



© Sentier CHASSE-PÊCHE
Source : La grande encyclopédie de la pêche

Experimental fisheries carried out in 2001 and 2006 confirmed the presence of 21 species of fish on Saint-Bernard Island (Philippe Brodeur, *personal communication*) (Appendix 4). Among these, six species are of interest for sport fishing and include the smallmouth bass, largemouth bass, northern pike, perch, brown bullhead, and pumpkinseed. This site makes an excellent nursing site. The fry have rapid growth rates due to the warm waters and high primary productivity found within the environment (MLCP, 1991). Pike growth rates are comparable to those measured in US states located a significant way to the south. In Saint-Jean Creek, 25 different fish species have been confirmed, and at least two are considered rare, including the American pickerel (susceptible status; Figure 8) and the bridle shiner (vulnerable status; Figure 9). Along with the aforementioned species, we may include the walleye, smallmouth bass, muskellunge, and rock bass (Dubé et Gravel, 1977). Fisheries carried out in Lake Saint-Louis confirmed that at least 30 different fish species reside in the southern shore of the lake (Laviolette *et al.* 2003).

Figure 8. American pickerel



Photo credit : Joseph R. Tomelleri

Figure 9. Bridle shiner



*Photo credit : New York State Department of
Environmental Conservation*

Reptiles and amphibians

Available data indicates the presence of at least 13 species of reptiles and amphibians on the territory (Appendix 5). Most individuals are those of common species and are distributed in the following orders: seven anurans, two caudatans, one squamate, and three testudines.

Concerning at risk species, we may make mention of the chorus frog, however its presence has not been reconfirmed through song identification since 2010. Due to its small size, it has many predators including fish, birds and many insects, such as dragonfly larvae. The presence of these predators on the island may significantly reduce the chorus frog's chances of survival. The existence of the spiny softshell turtle in several locations along Lake Saint-Louis's border has also been mentioned in historical records (threatened status; Figure 10a). Finally, a map turtle (vulnerable status; Figure 10b) was observed on Saint-Bernard Island in 2013, but this occurrence has yet to be confirmed. Their presence however, has been confirmed during surveys carried out around Lake Saint-Louis in 2013 (Nathalie Tessier, *personal communication*, 05/02/2015).

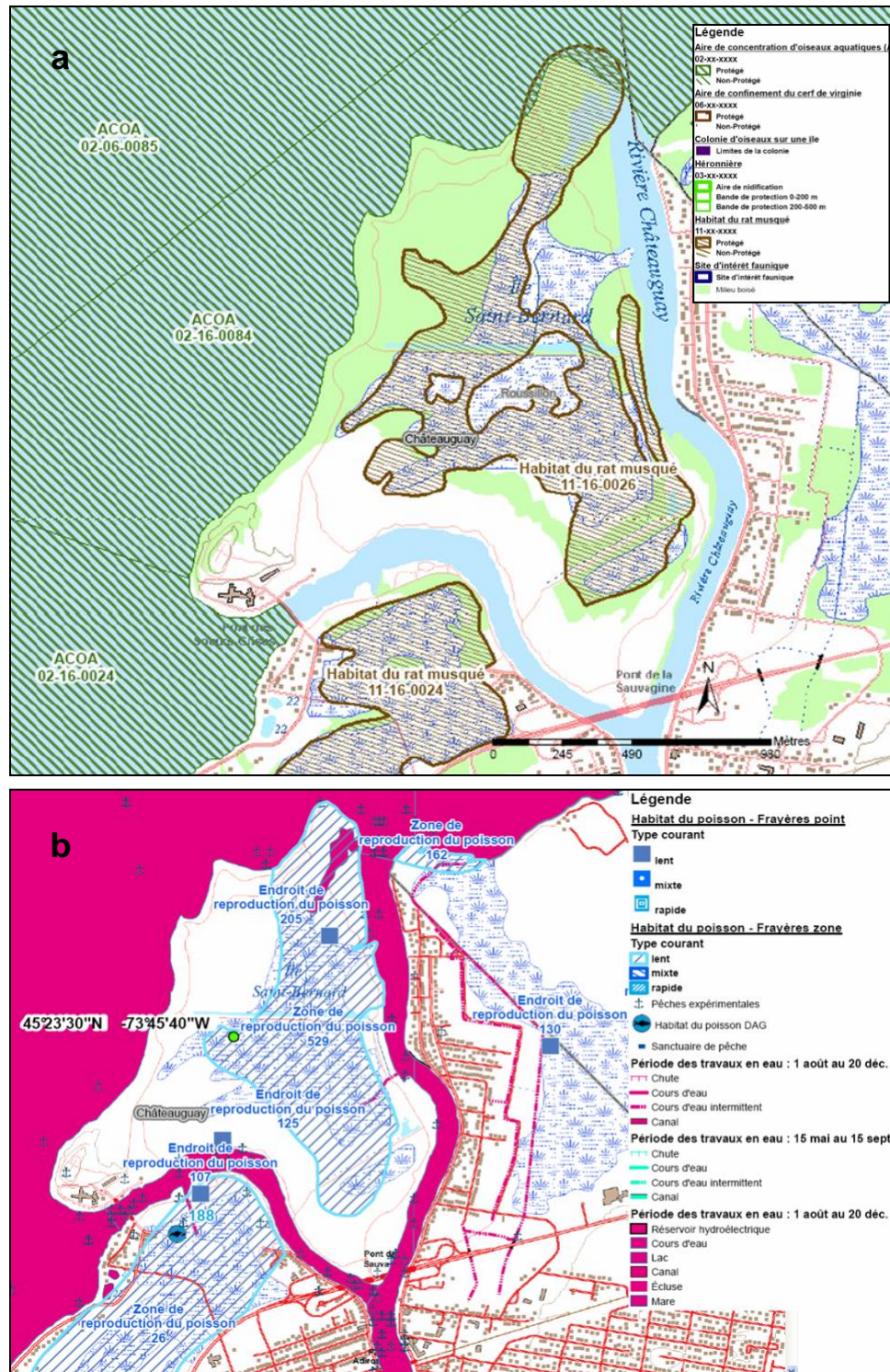
Figure 10. Spiny softshell turtle (a) and map turtle (b)



Mammals

We find 26 species of mammals on the territory (Appendix 6). The most representative is the muskrat, found throughout the territory in vast meadows of emergent plants, which is prime habitat for feeding and finding the necessary materials for their shelters. Legal muskrat habitats are also present on the island and in de la Commune Park (Figure 11a). Furthermore, the habitat attracts white-tailed deer, the Canadian beaver, woodchuck, and raccoon. The river otter and American mink are also reported occasionally. Some species may be highlighted largely for the sale of their fur considering that they appear among the species permitted to be trapped in Quebec, as is the case of the muskrat, beaver, American mink, and river otter. The white-tailed deer is prized by hunters for its flesh. Another mammal of interest is the silver-haired bat, which is considered likely to be designated as threatened or vulnerable.

Figure 11. Location of (a) muskrat (*Ondatra zibethicus*) habitats and Waterfowl Gathering Areas, and (b) fish spawning habitats within the Marguerite-D'Youville Wildlife Preserve area



2.4.2. Wildlife characteristics

To survive, a species must combine three basic essentials: food, shelter and reproduction. The disappearance of habitats that are required to meet their needs introduces a pressure on the populations, which is particularly detrimental towards populations of species at risk. This project's territory houses 16 wildlife species at risk (according to provincial legislation), two of which are endangered, seven that are vulnerable and seven at risk; most of which are bird species (Table 3). The presence of so many threatened species may be explained by the large diversity of available habitats, as their needs are linked to specific environments. Therefore, by protecting and restoring the habitat of species with special ecological requirements, the entire ecological network improves, which helps counter the disastrous effects of habitat loss and fragmentation on biodiversity. This is largely the case for the bald eagle who feeds within the territory, as well as the silver-haired bat and the least bittern who use the site for feeding, shelter and breeding purposes. Threats to these species, and the needs they fulfill within this project's territory, are described in the following sections.

Table 3. The number of wildlife species at risk identified in the Marguerite-D'Youville Wildlife Project's territory

Group	Status†	Endangered	Vulnerable	At risk of being designated endangered or vulnerable	Total
Birds		2	5	6	13
Herpetofauna		-	2	-	2
Mammals		-	-	1	1
Fish		-	-	-	0
Total		2	7	7	16

† Status of the species according to the Act Respecting Threatened and Vulnerable Species of Quebec

Bald eagle

The bald eagle (Figure 12) is a diurnal bird of prey whose status is considered vulnerable. It prefers to nest in tall trees within mature forests located near large bodies of water. We find these types of environments on Saint-Bernard Island, however the bald eagles currently observed on the island seem to be there largely for feeding purposes and nest in the neighbouring territory, the Kahnawake Indian Reserve (Dominic Gendron, on-site observation). Protecting known nesting sites and limiting sources of disturbances within the nesting territories have been identified as priority strategies for the recovery of this species (SFP, 2002).

Figure 12. Bald eagle (*Haliaeetus leucocephalus*)



Photo credit: Jean Lapointe

Silver-haired bat

The silver-haired bat, at risk of being designated as endangered or vulnerable, is an arboreal species of relatively large size that spends the summer in the territory. A large body size and wingspan reduces its mobility, which gives it the tendency to prefer open habitats (Tremblay and Jutras, 2010). The silver-haired bat typically hunts in open habitats and sparse forests and is thus generally associated with forests containing large canopy openings and trees with large diameters. Habitat loss is considered the principal factor limiting their populations, therefore preserving this site and its forest stands ensures the sustainability of the habitat and helps maintain populations of arboreal bats. A single occurrence of this species was reported on Saint-Bernard Island (Dominic Gendron, *personal communication*, September 2014).

Least bittern: The flagship species of this project

The least bittern (Figure 13) is the smallest heron in North America. Its breeding range extends from southeastern Canada and covers much of the eastern United States. In Canada, they are found in southern Manitoba, Ontario, Quebec, New-Brunswick, and possibly Nova Scotia. Since 2009, the least bittern was designated as *vulnerable* under the Act Respecting Threatened and Vulnerable Species of Quebec (RLRQ, chapter E-12.01), and as *endangered* under the Species at Risk Act of Canada (L.C. 2002, chapter 29).

Figure 13. Least bittern (*Ixobrychus exilis*)



Photo credit: Dominic Gendron

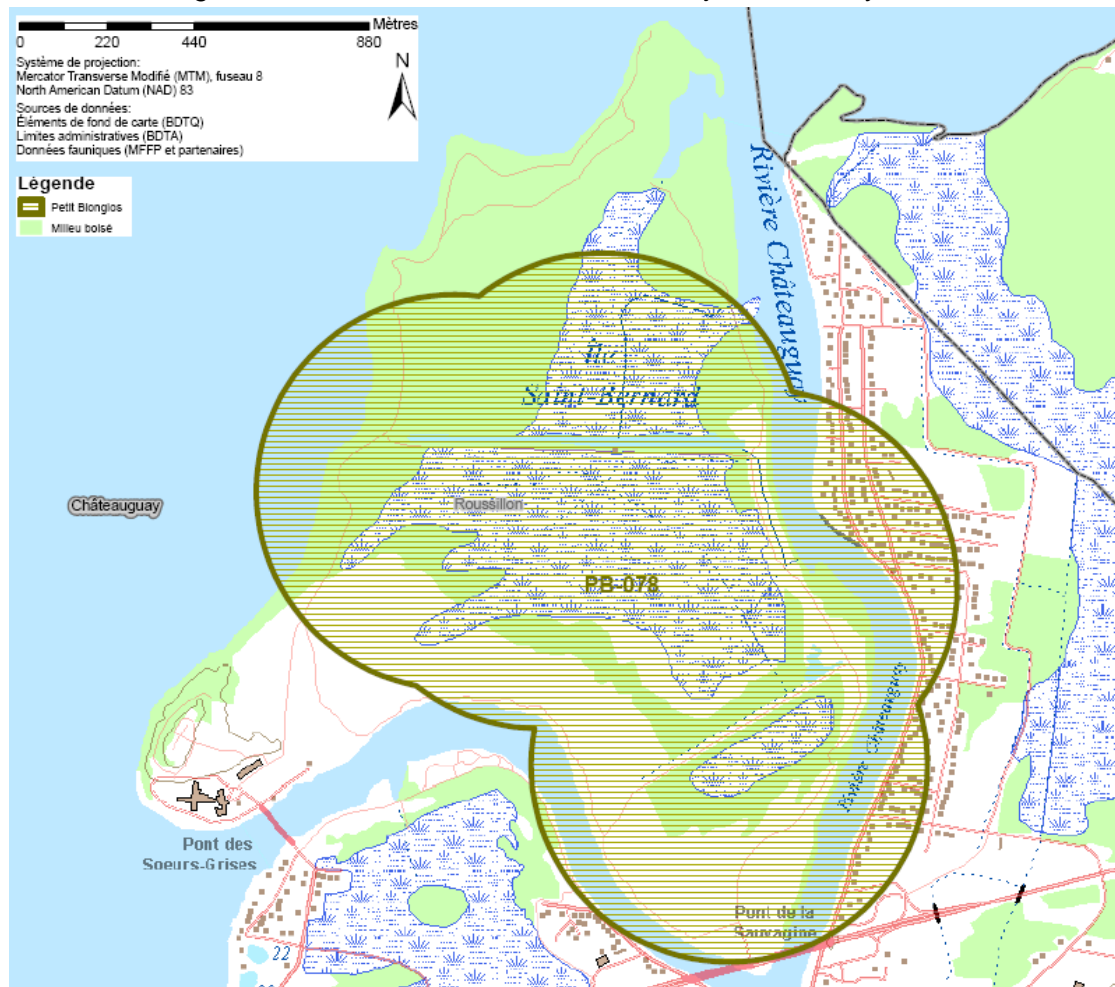
This species nests in areas that are comprised of tall and dense emergent vegetation (often dominated by cattail species), located among areas of open water. Population size data and the exact distribution of this discrete species is fairly limited, however their Quebec population is estimated to consist of 200 to 300 couples. In 2007, the least bittern was spotted in 138 sites in Quebec, primarily within the Mixedwood Plains ecozone and especially along the Saint Lawrence, Richelieu and Ottawa Rivers (COSEPAC, 2009).

Least bittern inventories were carried out in the project's territory in 2006 and 2010 by Environment Canada's Canadian Wildlife Service. These surveys concluded that Saint-Bernard Island is one area in Quebec where the most individuals of this species are found: up to 19 individuals were observed within a single surveillance day in 2010. The least bittern was found in areas located between the small and large dam, and in marshes composed of cattails or buttonbush, however seemed particularly fond of marshes that were heavily colonized with buttonbush. Moreover, according to the site's surveyors

(Benoît Jobin, Canadian Wildlife Service; and Pierre Fradette, Regroupement Québec Oiseaux), this habitat type is a rare in Quebec and the current buttonbush colony on the island is one of the largest and most densely populated in Quebec.

Within Quebec, 53 sites occupied by the least bittern are located in fully protected areas, four are partially protected and 12 are on the verge of being so (COSEPAC, 2009). Thus no more than half of their nesting sites possess a certain level of protection, however the principal decline of the least bittern is due to habitat loss and the degradation of high quality marshes within its range (COSEPAC, 2009). Breeding habitats will designate an area as critical habitat, and the suitable habitat occupied by the least bittern is considered to extend in a 500 m radius from the center of documented breeding activities. The least bittern's critical habitat on Saint-Bernard Island however, occupies almost three quarters of the island (Figure 14). The protection of this island and the regulation of its activities would therefore preserve the critical habitat for this vulnerable species and promote its reproductive success.

Figure 14. Location of the least bittern's critical habitat (*Ixobrychus exilis*) on the Marguerite-D'Youville Wildlife Preserve Project's territory



2.5. Ecological network

The ecological network refers to the existing interrelations between wildlife and its habitat, as well as between the habitats themselves, thus maintaining an ecological link. As previously mentioned, the targeted area within this project's framework consists of a link between the wildlife territories of Saint-Jean Creek and the wetlands of the Kahnawake Indian Reserve. Furthermore, the diversity of habitats found within this site, as well as the quality of their preservation, largely explains the observed wildlife diversity. Birds, totaled at 226 different species of which 13 out of 15 at risk species are found on the island, demonstrated a strong link within their habitat between the characteristics of the vegetation and hydrologic conditions. The selection of nesting sites by marsh birds are influenced by three important environmental variables: tree cover and its degree of canopy openness, hydrologic conditions and the degree of the riparian landscape's heterogeneity (Talbot, 2006). Table 4 describes several examples of the territory's wildlife and habitat networks.

Table 4. Examples of habitat and wildlife networks on the Marguerite-D'Youville Wildlife Preserve Project territory.

Habitat type	Several uses
Dry grasslands	<ul style="list-style-type: none"> • Used as nesting cover by the wood duck, mallard, black duck, pintail, American wigeon, gadwall, and blue-winged teal
Marshes	<ul style="list-style-type: none"> • For brood rearing early in the season; ducklings find good vegetation cover, sufficient food and many rest areas in the still flooded grasslands • Provides least bitterns with their necessary elements of shelter, food and breeding
Swamps	<ul style="list-style-type: none"> • Dead trees, snags, trucks, and stumps are used for nesting by the mallard, black duck (on occasion) and the wood duck (typical habitat). Woodpeckers, chickadees, nuthatches, and other birds also use it for nesting and feeding purposes • Large trees that can be used as an observation post for the golden eagle and the bald eagle
Aquatic vegetation on the edge of the island and open water (channel development)	<ul style="list-style-type: none"> • Sites sought by the muskellunge, white sucker, walleye, northern pike, and yellow perch for shelter, food and spawning
Oak stands	<ul style="list-style-type: none"> • 65% of the great blue heron nests were recorded on the island in 1986 and 1987, constructed on swamp white oak stands
Mature forests	<ul style="list-style-type: none"> • Feeding habitat for the silver-haired bat
Hawthorn shrublands	<ul style="list-style-type: none"> • Prized by fruit-eating birds that eat hawthorn fruits during the autumn and winter periods. The habitat is particularly favoured by shrikes
Dead trees on the ground	<ul style="list-style-type: none"> • Fishing post for herons and egrets, and shelters for amphibians and small mammals that reside under woody debris, or that establish their burrows under the tree cover (Darveau and Desrochers, 2001). Turtles use them for basking in the sun
Tree cavities made by woodpeckers	<ul style="list-style-type: none"> • May serve multiple bird species for nesting purposes, as well as the silver-haired bat (likely)

3 ISSUES

Initiatives for the conservation of this territory's rich natural environment began many years ago. Thanks to agreements between the owners of the land, the Grey Sisters of Montréal Congregation and various collaborators (including the Wildlife Foundation of Québec, Héritage Saint-Bernard, Ducks Unlimited Canada, and the city of Châteauguay), it has been possible to preserve this environment and organize activities that endorse education and awareness, while limiting disturbances to the local flora and fauna. When the congregation stated their intentions to depart from the territory, wildlife partners carried out the necessary steps to achieve lasting protection over it. Through government and private funds, the lands were purchased by the CIC, who then surrendered it to the state in order to assure its protection under the Act Respecting the Lands in the Public Domain (RLRQ, chapter T-8.1).

These actions allowed the site to be removed from the perpetual threats imposed by agricultural development, urbanization and industrialization, which have been responsible for the disappearance, deterioration and major loss of wetlands in the region of Montréal and across the province.

All of the aforementioned activities have contributed towards disrupting the balance within the heart of existing communities. For that reason, the protection of these wetlands are associated with thorough interventions to help preserve the integrity of the ecological heritage and to help save wildlife populations. More than 280 species of animals may find a feeding, living, resting or breeding habitat within this project's territory. This area currently houses some of the province's most important populations of the least bittern (vulnerable status), and until 1988, one of the most important heron colonies. Since then, herons have not nested on-site any longer, however the site retains its nesting potential.

The desired objectives in acquiring this territory were the conservation of the site and its wildlife and plant populations, as well as educational and recreational activities. The delineation of a Wildlife Preserve under the *Act respecting the conservation and development of wildlife* is recommended because it is a critical tool that will simultaneously assure the conservation of wildlife habitats as well as the recreational and educational developments on-site. This status is an additional means to ensure the protection of habitats considered priority under the Act respecting the conservation and development of wildlife from harmful activities, in order to ensure its harmonious use by wildlife.

The Wildlife Management Branch of Estrie, Montréal, Montérégie, and Laval of the Ministry of Forests, Wildlife and Parks thus recommends the legal status of *wildlife Preserve* to be implemented on a section of Saint-Bernard Island and de la Commune Park of Châteauguay. The assignment of this legal status will contribute significantly towards reducing habitat loss and the depletion of wildlife diversity and abundance in southwestern Quebec.

4 PROJECT JUSTIFICATION

The objective of the Marguerite-D'Youville Wildlife Preserve Project is to ensure quality habitats that meet the needs of vulnerable, threatened and at risk species found on this site.

This project is unique on a regional and provincial level in terms of the diversity and concentration of its wildlife and floral species.

To provide an official status of wildlife Preserve to this site, the challenge is to preserve the diversity and quality of habitats as well as the survival of the wildlife and aquatic populations found within them. This requires the preservation, even improvement, of tree cover, hydrologic conditions and heterogeneity of riparian landscapes. The work conducted by the CIC contributed to these improvements.

Analyses reveal that areas of Saint-Bernard Island and de la Commune Park of Châteauguay meet several selection criteria that would provide them with the legal status of wildlife Preserve. These areas are habitats frequented by species considered rare, threatened or vulnerable on a regional or provincial level; they support an exceptional animal population density; and they support a very important species diversity on a regional scale.

5 LAND OWNERSHIP

The territory to be protected covers an area of 212.9 hectares. The MFFP is its main landowner for an area of 207.9 hectares, or 97.7% of the protected area (see section 2.1).

The remaining 5 hectares, creating the prevailing background of the 378-P lot and owned by the CIC, would be integrated into the wildlife Preserve by means of an agreement with the Registry Office of the Registration Division of Châteauguay.

6 CURRENT LAND USE AND USERS

The entire Saint-Bernard island and de la Commune Park once belonged to the Grey Sisters of Montréal Congregation. In April of 1993, on behalf of the partners of the Eastern Habitat Joint Venture (EHJV), the FFQ signed an agreement with the community and city of Châteauguay to ensure the protection of the territory until 2033 and to permit its wildlife development. Since then, the territory underwent development by the CIC in the early 2000s and work was completed by 2003. The Héritage Saint-Bernard organization conducted on-site developments to increase access to the public and recreational and educational activities. Figure 15 depicts the wildlife developments, whereas Figure 16 illustrates the recreation and tourism layouts. The majority of the work was carried out from 1999 to 2003. This organization however, continues to make improvements to the insular portion of the territory. The island now has a network of trails that are accessible from the island lodge parking lot (*excerpt from a CIC internal document*).

The city has also contributed to the development of this territory by integrating two parking areas within the boundaries of the wildlife Preserve, as well as several additional amenities (including a walkway and picnic area) in de la Commune Park.

The following amenities are found within the Preserve's boundaries:

- Fishing ditches, dikes (2 km) and water level control structures implemented by Ducks Unlimited
- Tree plantings
- Nesting boxes for species such as wood ducks, the eastern bluebird, bats, etc.
- Bird feeders
- Shelters for small animals
- Recreational and educational facilities
- Trails (8 km)
- Walkways (roughly 700 m)
- Bridges (3)
- Gazebo
- Picnic areas (tables, cover, garbage cans)
- Observation tower
- Information panels
- Audio-guided trails

The site is visited by a large variety of people, including:

- Ornithologists
- Photographers
- Hikers
- Joggers
- Families
- Walking groups
- Daycares
- Youth (schoolchildren, summer camp children) conducting awareness and educational projects
- Researchers

Figure 15. Wildlife developments within the zone of the Marguerite-D'Youville Wildlife Preserve Project

Hubert Reeves (Astrophysicien canadien)

Le bon niveau d'eau est plus rare que l'or.

Des milieux humides contrôlés au profit de la faune

La création du refuge faunique Marguerite-D'Youville a non seulement permis d'encadrer la protection de l'île Saint-Bernard, mais aussi d'améliorer la qualité de ses milieux humides pour la faune.

Auparavant, des milliers de poissons restaient emprisonnés et mouraient à l'intérieur de l'île après le retrait des crues printanières et l'assèchement des zones humides qui suivait en période estivale. Mais la construction d'ouvrages de contrôle du niveau d'eau par l'organisme Canards Illimités, complétée en 2002, a permis de régler ce problème et d'améliorer les conditions de reproduction des poissons, tout en offrant des conditions aussi favorables aux oiseaux aquatiques.



Cartographie : Sylvain Bolduc

Ces ouvrages composés de digues construites avec de la terre prélevée sur place et de diverses structures de contrôle ont eu pour effet de créer trois marais peu profonds qui totalisent 104 hectares. Les aménagements comprennent en outre des fossés piscicoles qui dirigent le poisson vers les structures de contrôle lors des opérations de vidange printanières et automnales. Ces fossés servent d'habitat préférentiel au poisson en été et fournissent des conditions propices à la survie du rat musqué en hiver.

Segment 1

Ce premier segment est géré de façon à favoriser à la fois la reproduction de la sauvagine et du poisson. Au printemps, des structures permettent l'accès des poissons au marais. Les vannes sont ensuite refermées afin de conserver un haut niveau d'eau, maximisant ainsi la superficie d'habitats disponibles pour la migration de la sauvagine et le frai (ponte des œufs) de plusieurs espèces de poissons. Un système de pompes permet de combler les fuites et de maintenir un niveau optimal.

Au début de la saison estivale, le niveau d'eau est abaissé une première fois afin d'évacuer les poissons adultes et les alevins (jeunes poissons) des frayeurs hatifs, comme le grand brochet. Puis, tout au long de l'été, le marais constitue un habitat d'élevage de qualité, tant pour les canards que pour le développement des poissons. Plusieurs autres espèces fauniques profitent également du maintien du niveau d'eau: amphibiens, reptiles, oiseaux et mammifères aquatiques.

En octobre, le niveau est abaissé à nouveau pour assurer l'évacuation vers le lac Saint-Louis des autres poissons encore présents.

Segment 2

Ce segment sert exclusivement à la sauvagine et aux espèces fauniques autres que le poisson : oiseaux aquatiques, rat musqué, vison, castor, etc. Sauf exception, le niveau d'eau demeure le même tout au long de l'année.

Segment 3

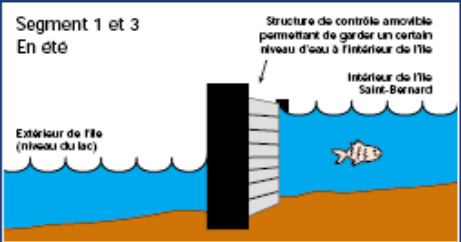
Ce segment vise à bonifier les conditions de frai du poisson et constitue un habitat intéressant pour la migration et l'élevage des couvées de canards. Le niveau d'eau est maintenu de manière à permettre l'accès du poisson au printemps et à faciliter ses déplacements vers le lac Saint-Louis toute l'année.

Digues, vannes et pompes assurent le bon niveau d'eau pour la faune aquatique sur une grande partie de l'île Saint-Bernard, ce qui assure un excellent taux de reproduction des espèces.



Segments 1 et 3

Schema : Sylvain Bolduc



Segment 1 et 3
En été

Structure de contrôle amovible permettant de garder un certain niveau d'eau à l'intérieur de l'île

Intérieur de l'île Saint-Bernard

Extérieur de l'île (niveau du lac)

Schema : Sylvain Bolduc

Figure 16. Recreational and touristic amenities within the zone of the Marguerite-D'Youville Wildlife Preserve Project



7 CURRENT AND FUTURE PROTECTION MEASURES

Despite the exceptional quality of the wildlife habitats and the growing pressure generated by developing human activities, there are currently no regulatory measures in effect to ensure the protection of the territory intended for the wildlife Preserve. At all legal levels, laws and regulations protect only certain aspects specific to the territory's allocation, as well as to the wildlife and their habitats, and do not preserve the ecological integrity of the environment. Several wildlife and plant species on the territory however, received the legal designation of species at risk under the Act Respecting Threatened or Vulnerable Species of Quebec or the Species at Risk Act of Canada.

Under the Wildlife Conservation and Development Act, regulations regarding wildlife habitats provide protection to many waterfowl gathering areas, as well as to the muskrat and fish habitats found within the wildlife Preserve's territory. No person may thus carry out any activities that may modify the biological, physical or chemical features specific to the habitat of the animal or fish.

This general restriction regulates all the physical interventions on the environment in question but does not completely prohibit potential harm towards the wildlife themselves and the tranquility of their habitats. The implementation of new regulatory measures that are efficient and specific to certain areas would allow the management of recreational and touristic activities, as well as the surveillance of environmental misuse.

The only means by which the Ministry may guarantee coexistence between the development of the regional ecological heritage and the conservation of wildlife species and their habitats is to create the Marguerite d'Youville Wildlife Preserve. Assigning this status would help preserve ecological integrity by setting the terms for resource use as well as any recreational and educational activities. Preserve-specific regulations would allow wildlife protection officers and (where applicable) assistants for the protection of wildlife and environmental wardens to intervene more efficiently. This would then ensure the conservation of wildlife habitats should violations be committed on the public lands of the Quebec government.

8 REGULATORY TERMS

Under article 122 of the Act respecting the conservation and development of wildlife (RLRQ, chapter C-61.1):

“The Minister may establish on lands in the domain of the State, on private lands or on both a wildlife preserve in respect of which the conditions governing the use of the resources and the carrying on of recreational activities incidental thereto are fixed with a view to preserving the wildlife habitat or the habitat of a species of wildlife” [...]

The terms of use may be determined by a government regulation, specific to each of the wildlife Preserves, under article 125 of this same Act.

The regulation regarding habitat protection and activities carried out within the territory are structured around the elements presented in Table 5. This table presents the conditions envisaged (at the time of this document’s writing) for managing all activities in the future wildlife Preserve. The regulation shall be specific but may undergo improvements during the process of creating the wildlife Preserve.

The Preserve is divided into two sectors: Saint-Bernard Island (“Island sector”) and de la Commune Park (“Park sector”). It is understood that the regulation seeks to honour the conservation easement with *“the intent to preserve natural, ecological and landscape characteristics while maintaining the possibility of hosting activities, including conservation, restoration, development, education, and recreation”*, as stipulated in this Preserve’s territory easement. Furthermore, it should be noted that obtaining the authorization of the Minister does not exempt the project initiator to obtain the licenses and permits required under other federal, provincial and municipal laws and bylaws.

Table 5. Preliminary modalities for drafting a regulation for the proposed Marguerite D’Youville Wildlife Preserve, including Saint-Bernard Island (*Island Sector*) and de la Commune Park (*Park Sector*)

TERMS AND CONDITIONS	DETAILS AND COMMENTS
1. ACCESS AND CIRCULATION	
Any person who will access the wildlife Preserve will be required to do so at the locations identified for this purpose.	It is important to ensure control of the access points.
Any person who will access, travel or engage in any activity within the wildlife Preserve will be required to use the infrastructures identified for these purposes and to comply with the established terms.	Manage access and circulation. Ensure that the nomenclature allows all situations to be covered. Infrastructures include the trails, observation platforms, walkways, dikes, playgrounds, the gazebo, or any other structures.
Any person who will access the wildlife Preserve’s <i>Island sector</i> must respect the opening hours and periods as defined by the regulation. In the <i>Park sector</i> , municipal regulations concerning hours and periods of access will be applied.	

TERMS AND CONDITIONS (continuity)	DETAILS AND COMMENTS
1.1. PROHIBITIONS	
<p>No one may access the <i>Island sector</i> accompanied by a domestic animal, with the exception of people who must be accompanied by a guide dog or service dog, as stipulated by the Charter of Human Rights and Freedoms of Quebec.</p> <p>Regarding the <i>Park sector (Parc de la Commune)</i>, dogs are allowed under certain conditions in order to reflect current municipal regulations which allow dogs in certain parks.</p>	<p>The city currently allows dogs in certain parks and under certain conditions:</p> <p>Regulation: "- keep your pets on a leash (2 m) at all times; - respect the areas where animals are prohibited, including parks and playgrounds for children where they must be kept at a distance of more than 2 m..."</p>
No one may have access to the wildlife Preserve by boat or by docking.	
No one may access the <i>Island sector</i> by vehicle.	For the definition of a vehicle, see section 1 of the ARCDW
No one may access the <i>Island sector</i> by bicycle.	
Nul ne peut, dans le refuge faunique, se livrer à une activité quelconque, susceptible de modifier un élément biologique, physique ou chimique de l'habitat de la faune.	
1.2. EXCEPTIONS	
<p>Notwithstanding the terms of access and circulation, and under the condition of a written authorization from the Minister, a person or business, who is exercising their duties or rights may benefit from an exception that grants access to the wildlife Preserve territory for the purposes of:</p> <ul style="list-style-type: none"> — Public safety — Scientific research — Surveillance, inspection, or protection of the wildlife Preserve, fauna, flora, infrastructures, or its users — Management or development of fauna (without removal) and flora — Maintenance of natural environments in the context of plant or wildlife facilities — Maintenance or development of improvements or structures — Easement rights — Silviculture — Archaeological activities — Control of invasive or harmful species 	<p>Conditions for access include opening hours and periods, the use of vehicles, the use of the trails.</p>

TERMS AND CONDITIONS (continuity)	DETAILS AND COMMENTS
2. AUTHORIZED RECREATIONAL ACTIVITIES	
Archaeological activities will be permitted only UNDER THE CONDITION of the Minister's approval and predetermined conditions.	The CIC easement prevents any alterations or modifications of the territory except for recreational and educational activities. Under this easement, scientific activities are NOT included in the definition of educational activities. Scientific activities are permitted on an ad hoc basis.
Cross-country skiing, snowshoeing, hiking, and wildlife observation and interpretation activities will be allowed on the entire wildlife Preserve territory, provided that they are carried out in the paths identified for this purpose. The use of a bicycle will be allowed in the <i>Park sector</i> PROVIDED that one uses the paths identified for this purpose.	
Apiculture for the purpose of managing organic orchards will be permitted under the condition of the Minister's approval and predetermined conditions.	
Bird feeding activities shall be allotted for specific food items and by birdfeeders. The only authorized food are seeds.	These restrictions are designed to limit modifications in the behavior of wildlife, avoid the transmission of diseases and meet municipal regulations (Codification administrative du règlement G-2000, article 1.13.4).
3. PROHIBITED RECREATIONAL ACTIVITIES	
The harvest of plants, fruits or mushrooms is prohibited, EXCEPT: 1) For the purposes of research or species control AND 2) Under the condition of the Minister's approval and predetermined conditions.	
It is prohibited to stay or to camp anywhere on the wildlife Preserve territory.	The term "stay" refers to remaining past appropriate opening hours and periods.
Outdoor fires are prohibited throughout the wildlife Preserve territory.	
The use of a bicycle is prohibited within the <i>Island sector</i> of the Preserve, EXCEPT when it is used for scientific research purposes. However, its use will be permitted in the <i>Park sector</i> on the designated trails.	
The use of the canoe is prohibited, EXCEPT: 1) For scientific research purposes OR 2) For purposes of wildlife or depredation management	

TERMS AND CONDITIONS (continuity)	DETAILS AND COMMENTS
4. HUNTING	
<p>Hunting activities are prohibited throughout the wildlife Preserve territory, EXCEPT:</p> <ol style="list-style-type: none"> 1) If it is a one-time activity carried out for the purpose of preventing depredation <p>AND</p> <ol style="list-style-type: none"> 2) Under the condition of the Minister's approval and predetermined conditions. 	
5. TRAPPING	
<p>Trapping is prohibited throughout the wildlife Preserve territory, EXCEPT:</p> <ol style="list-style-type: none"> 1) For the purposes of preventing depredation <p>OR</p> <ol style="list-style-type: none"> 2) For scientific research purposes <p>AND</p> <ol style="list-style-type: none"> 3) Under the condition of the Minister's approval and predetermined conditions 	
6. FISHING	
<p>All fishing activities are prohibited throughout the wildlife Preserve, EXCEPT:</p> <ol style="list-style-type: none"> 1) If it is a one-time only activity carried out for the purpose of preventing depredation <p>OR</p> <ol style="list-style-type: none"> 2) For scientific research purposes <p>AND</p> <ol style="list-style-type: none"> 3) Under the condition of the Minister's approval and predetermined conditions 	
7. COMMERCIAL ACTIVITIES	
<p>All agricultural activities are prohibited in the <i>Island sector</i> EXCEPT:</p> <ol style="list-style-type: none"> 1) Those required for wildlife management <p>OR</p> <ol style="list-style-type: none"> 2) Those required for wildlife development or recreational/educational activities. <p>AND</p> <ol style="list-style-type: none"> 3) Under the condition of the Minister's approval and predetermined conditions <p>All agricultural activities are prohibited in the <i>Park sector</i>.</p>	In compliance with the CIC easement

TERMS AND CONDITIONS (continuity)	DETAILS AND COMMENTS
<p>All forestry activities will be prohibited throughout the wildlife Preserve territory, UNLESS:</p> <p>1) The goal of the activity is to make or maintain wildlife facilities</p> <p>OR</p> <p>2) The activity is required for the removal of dangerous trees</p> <p>OR</p> <p>3) The activity is required to repress insect outbreaks, invasive exotic species or cryptogamic diseases</p> <p>OR</p> <p>4) If silviculture is required for the restoration of significant plant cover</p> <p>AND</p> <p>5) Under the condition of the Minister's approval and predetermined conditions</p>	<p>Imposed by the CIC easement</p>
<p>Apiculture for recreational and commercial purposes will be allowed in the <i>Island sector</i> under the condition of the Minister's approval and predetermined conditions. This activity must comply with the access rules stipulated in the regulation.</p>	
<p>The dispersion of insecticides is prohibited on the Preserve, whether by land or by air, EXCEPT under the condition of the Minister's approval and predetermined conditions.</p>	
<p>8. TERRITORY IMPROVEMENTS, CONSTRUCTIONS AND MODIFICATIONS</p>	
<p>Any improvement, construction and modification of the territory will be prohibited EXCEPT those carried out in the context of wildlife development and those aimed at the organization of educational or recreational activities.</p> <p>To carry out any improvements, constructions or modifications within the wildlife Preserve, the agency, person or association may do so under the condition of the Minister's approval and predetermined conditions.</p>	
<p>9. FEES</p>	
<p>Daily access to the <i>Island sector</i> may not exceed seven (7) dollars per person.</p> <p>Annual access to the <i>Island sector</i>, valid between the dates set out in the regulation, may not exceed the amount of thirty (30) dollars per person.</p> <p>Access to the <i>Park sector</i> is free.</p>	
<p>10. INDEXATION</p>	
<p>Payable duties will be indexed annually on April 1st by applying the percentage of annual variation to the value of the duties from the previous year (calculated for the month of June of the previous year), by the general Consumer Price Index (CPI) published by Statistics Canada</p>	

TERMS AND CONDITIONS (continuity)	DETAILS AND COMMENTS
<p>11. VIOLATIONS</p> <p>BESIDES the exceptions explicitly listed in this regulation, violations and fines will be imposed upon any persons found carrying out the following within the wildlife Preserve:</p> <ul style="list-style-type: none"> • Parking their vehicle on a trail or access path • Capturing, introducing, disturbing, killing, or feeding an animal • Transplanting, introducing or collecting plants, trees, fruits, or mushrooms • Using an unauthorized vehicle • Practicing any unauthorized recreational activity • Entering the Preserve with a domestic animal • Entering the Preserve outside the permitted opening hours and periods • Not respecting the access and traffic conditions stipulated by the Minister • Avoid paying the fees to access the Preserve or a fee-based activity • Throwing trash or waste outside the proper waste containers • Not respecting the authorization conditions provided by the Minister to carry out the activities governed by this current regulation 	

Incentive measures may be taken by the municipality, in agreement with the Minister and Transport Canada, to monitor the conditions of use of all motorized vessels around Saint-Bernard Island to help minimize the effect of the waves during spawning and decrease riverbank erosion.

In light of the arguments presented in the previous sections, the Wildlife Management Branch of Estrie, Montréal, Montérégie, and Laval propose that a part of Saint-Bernard Island and a portion of de la Commune Park in Châteauguay be granted the legal status of a wildlife Preserve.

This will provide the necessary protection to the habitats and wildlife found within the targeted territory, as has been suggested in recent years by numerous state and local agencies.

9 ORGANIZATION OF ACTIVITIES, MONITORING AND CONTROL

This project's territory was once private property, which had simplified delegating this site's management. Now that it is publicly owned, the MFFP foresees entering into a contract (at the moment the wildlife Preserve is created) with a qualified non-profit organization to ensure the territory's wildlife conservation and the sound establishment of recreational and educational activities.

Enforcement of the regulations will be conducted by wildlife protection officers. Furthermore, a qualified agency may hire staff to fulfill the role of wildlife protection assistants, or as environmental wardens, to help increase surveillance within the territory.

For many years, the Héritage Saint-Bernard organization has carried out the coordination of projects on Saint-Bernard Island and a part of the Saint-Jean Creek Wildlife Site that were presented within the framework of the "Five-Year Agreement and Eastern Habitat Joint Venture" in 1993. Since then, the development of recreational and educational activities on the Saint-Jean Creek territory has been entrusted to them, as well as the services that touch upon the development or use of the wildlife habitats. These include the organization of educational activities within the natural environment, operating water level control structures within Management Units in accordance with a versatile wildlife management plan and, eventually, taking charge of research activities.

The environment within the Montérégie region is clearly displaying a need for certain forms of resource management. The Héritage Saint-Bernard has demonstrated this capability through their growing number of volunteers and 28 years of experience managing the Saint-Jean Creek territory and the Marguerite-D'Youville Wildlife Preserve Project. They presently remain as the prospective agency.

Elsewhere in Quebec, other initiatives reflect the environmental concerns concerning wetland conservation. For example, the implementation of a project at Baie-du-Febvre has helped revitalize surrounding communities due to the economic benefits generated by recreation and tourism and the start of small lucrative businesses. In Saguenay-Lac-Saint-Jean, the Corporation for the Management of Small Marshes of Saint-Gédéon opened to the public the first nature trail in the fall of 2000. During the fall season, a hunting quota is reserved for hunters within exclusive sites.

10 STATUS QUO

The deterioration and progressive loss of wildlife habitats caused by anthropogenic pressures are clearly unavoidable without establishing the Marguerite D'Youville Wildlife Preserve. Assignment of this legal status is the only way to ensure the conservation of species and their habitats, while respecting the development of authorized activities within the wildlife Preserve. Any activities deemed harmful towards the conservation of the ecological heritage and enhancement of biodiversity are subject to the regulations that favour the harmonious use of natural habitats.

In the absence of strict legal measures, it is highly unlikely that we may properly adjust the recreation and tourism vocation in ways compatible to the conservation of the territory. In these cases, it is essential to properly allocate wildlife users to help prevent overlapping activities offered within the same area. Existing regulations do not establish the set operating conditions necessary for the specialized supervision and safe deployment of recreational activities, however support by local agencies would promote close monitoring of the natural environments. Illegal logging, the destruction of infrastructures, illegal harvesting, disturbance of wildlife, off-trail traffic, camping, camp fires, and poaching are just some examples of the recalcitrant violations that would be better controlled on State property. According to the *Civil Code of Quebec*, wildlife protection officers may present additional lawsuits, other than those conferred by the legal assignment of wildlife Preserve status, towards harmful injustices to help compensate for the damage committed to the wildlife and its habitats.

11 THE PROS AND CONS

In light of the information shared by the MFFP, no negative social impact is foreshadowed by the establishment of this wildlife Preserve. Furthermore, this site has been recognized and called a wildlife Preserve since 1993. The predictable and beneficial social consequences of assigning a wildlife Preserve status to Saint-Bernard Island are numerous:

- Public awareness for the conservation and protection of habitats
- The implication of community organizations, including Héritage Saint-Bernard, and landowners in the aforementioned objectives
- Preservation of the quality of life for citizens within a region in the Greater Montréal area
- Respond to the expectations of tourists drawn to the region due to its proximity to nature and the collective economic benefits this presents
- Contribute towards the protection of the most imposing natural site of Lake Saint-Louis in terms of area

12 CONCLUSION

Through the efforts of the Grey Sisters of Montréal Congregation, the Saint-Bernard Island and de la Commune Park of Châteauguay have retained their natural characteristics and provided shelter, food, rest areas, and breeding grounds for many wildlife, as well as contributed towards maintaining an abundant and diverse wildlife on both the metropolitan and provincial levels. The 212.9 hectares that make up this territory contain the most important area of intact floodplain in Lake Saint-Louis and house the most important multispecies spawning grounds within the entire lake, as well as the highest diversity of plant communities. A total of 226 bird species, 21 fish species, 22 mammal species, and at least 13 amphibian and reptile species have been identified in this territory. Furthermore, this site supports certain plant and animal species considered threatened, vulnerable or at risk.

In conjunction with existing legal dispositions, assigning the status of Wildlife Preserve will strengthen the traits of the site and preserve the integrity of its habitats.

Furthermore, given the aforementioned characteristics of this site (which consists of a part of Saint-Bernard Island and a portion of de la Commune Park of Châteauguay), it is in the opinion of several organizations dedicated towards conservation that the preservation of a wildlife habitat's specific purpose is of the utmost importance.

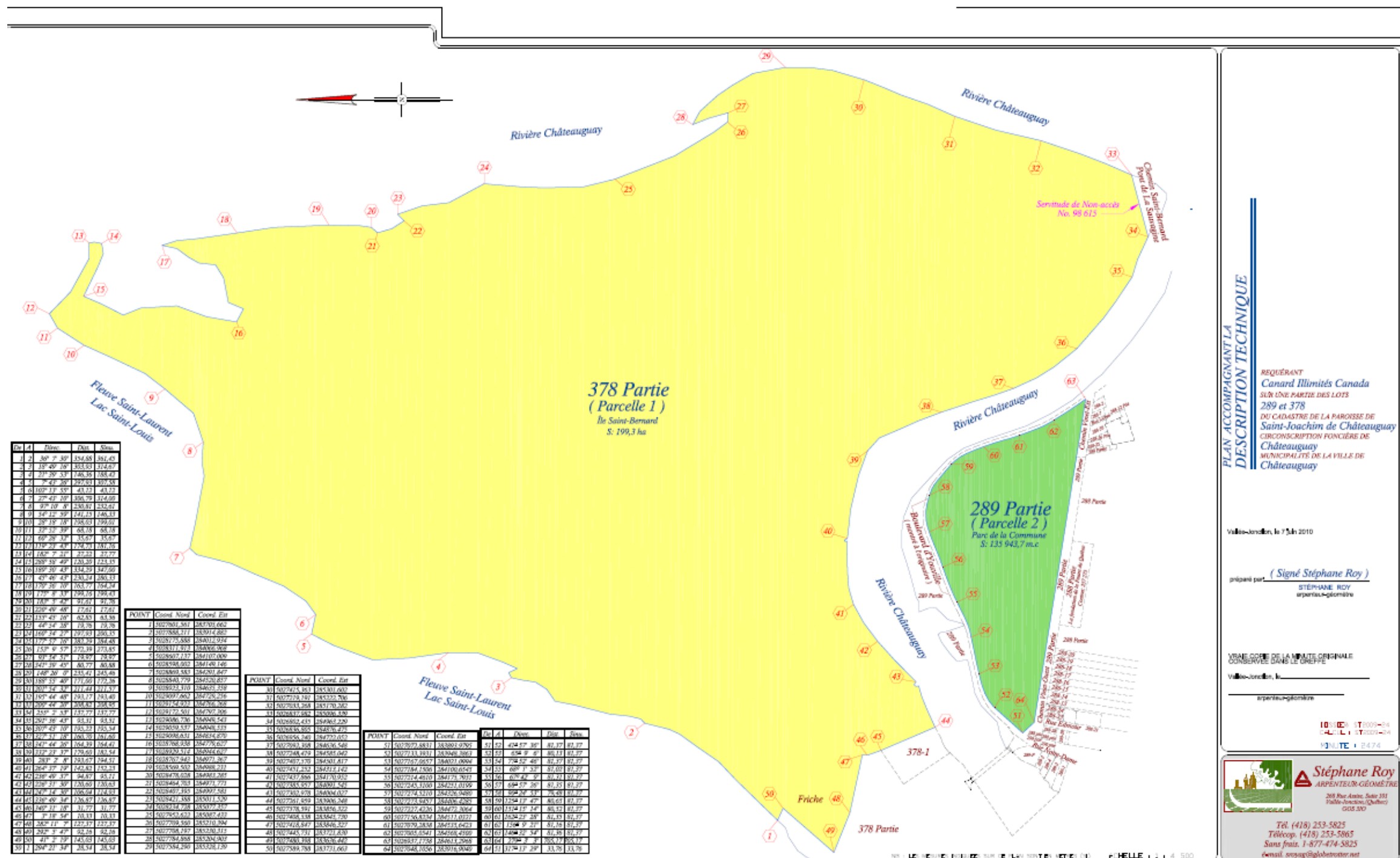
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14 APPENDICES

Appendix 1 – Land surveying plan, 2010



Appendix 2 – Plants with special status and hawthornes listed in the Marguerite D'Youville Wildlife Preserve Project's territory

Nom verniculaire	Nom latin	Statut provincial	Statut fédéral
Chêne bicolore	<i>Quercus bicolor</i>	Susceptible	-
Ail du Canada	<i>Allium canadense</i>	Susceptible	-
Calypso bulbeux	<i>Cardamine bulbosa</i>	Susceptible	-
Cardamine découpée	<i>Cardamine concatenata</i>	Susceptible	-
Micocoulier occidental	<i>Celtis occidentalis</i>	Susceptible	-
Souchet odorant	<i>Cyperus odoratus</i> var. <i>engelmannii</i>	Susceptible	-
Renoncule à éventails	<i>Ranunculus flabellaris</i>	Susceptible	-
Violette affine	<i>Viola affinis</i>	Susceptible	-
Bident discoïde	<i>Bidens discoideus</i> *	retrait	-
Rénoncule à long bec	<i>Ranunculus longirostris</i> ou <i>confervioide</i>	pas ds cdpnq2008	-
Nymphéa tubéreux	<i>Nymphaea tuberosa</i>	pas ds cdpnq2008	-
Décodon verticillé	<i>Decodon verticillatus</i>	pas ds cdpnq2008	-
Rubaniar rameux	<i>Sparganium erectum</i>	pas ds cdpnq2008	-
Aubépine ergot-de-coq	<i>Crataegus crus-galli</i> var. <i>crus-galli</i>	Susceptible	-
Aubépine dilatée	<i>Crataegus coccinioides</i> (anciennement <i>c.</i>	Susceptible	-
Aubépine du Canada	<i>Crataegus canadensis</i>	Susceptible	-
Aubépine dorée	<i>Crataegus chrysocarpa</i> var. <i>chrysoca</i>	-	-
Aubépine flabelliforme	<i>Crataegus flabellata</i> var. <i>grayana</i>	-	-
Aubépine de Holmes	<i>Crataegus holmesiana</i>	-	-
Aubépine à longues épines	<i>Crataegus macracantha</i>	-	-
Aubépine variable	<i>Crataegus macrosperma</i>	-	-
Aubépine écarlate	<i>Crataegus pedicellata</i>	-	-
Aubépine ponctuée	<i>Crataegus punctata</i>	-	-
Aubépine subsoyeuse	<i>Crataegus submollis</i>	-	-
Aubépine suorbiculaire	<i>Crataegus suborbiculata</i>	Susceptible	-
Cardamine bulbeuse	<i>Cardamine bulbosa</i>	Susceptible	-
Iris de Virginie	<i>Iris virginica</i> var. <i>shrevei</i>	Susceptible	-
Sanicula du Canada	<i>Sanicula canadensis</i> Linnaeus var. <i>canadensis</i>	Susceptible	-
Wolffie boréale	<i>Wolffia borealis</i>	retrait	-

Appendix 3 – Bird species observed in the Marguerite D'Youville Wildlife Preserve Project's territory

	Nom verniculaire	Famille	Statut provincial	Statut fédéral		Nom verniculaire	Famille	Statut provincial	Statut fédéral
1	Aigle royal	Accipitridae	Vulnérable	non en péril	65	Pluvier bronzé	Charadriidae		
2	Autour des palombes	Accipitridae			66	Pluvier kildir	Charadriidae		Candidat, inférieur
3	Balbusard pêcheur	Pandionidae			67	Pluvier sémipalmé	Charadriidae		
4	Busard des marais	Accipitridae			68	Pigeon biset	Columbidae		
5	Buse à épaulettes	Accipitridae			69	Tourterelle triste	Columbidae		
6	Buse à queue rousse	Accipitridae			70	Cornelle d'Amérique	Corvidae		
7	Buse pattue	Accipitridae			71	Geai bleu	Corvidae		
8	Épervier brun	Accipitridae			72	Grand Corbeau	Corvidae		
9	Épervier de Cooper	Accipitridae			73	Coulicou à bec jaune	Cuculidae		
10	Petite Buse	Accipitridae			74	Coulicou à bec noir	Cuculidae		Candidat, inférieur
11	Pygargue à tête blanche	Accipitridae	Vulnérable	non en péril	75	Crécerelle d'Amérique	Falconidae		Candidat, inférieur
12	Martin-pêcheur d'Amérique	Alcedinidae		Candidat, inférieur	76	Faucon émerillon	Falconidae		
13	Bernache cravant	Anatidae			77	Faucon pèlerin	Falconidae	Vulnérable	Préoccupante
14	Bernache du Canada	Anatidae			78	Bec-croisé bifascié	Fringillidae		
15	Bernache de Hutchins	Anatidae			79	Charonnetet jaune	Fringillidae		
16	Canard branchu	Anatidae			80	Durbec des sapins	Fringillidae		
17	Canard chipeau	Anatidae			81	Gros-bec errant	Fringillidae		
18	Canard colvert	Anatidae			82	Roselin familier	Fringillidae		
19	Canard d'Amérique	Anatidae			83	Roselin pourpre	Fringillidae		
20	Canard noir	Anatidae			84	Sizerin flammé	Fringillidae		
21	Canard pilet	Anatidae			85	Tarin des pins	Fringillidae		
22	Canard siffleur	Anatidae			86	Huard à collier	Gavidae		
23	Canard souchet	Anatidae			87	Plongeon catmarin	Gavidae		
24	Eider à tête grise	Anatidae			88	Grue du Canada	Gruidae		
25	Érismature rousse	Anatidae			89	Hirondelle à ailes hérissées	Hirundinidae		
26	Fuligule à collier	Anatidae			90	Hirondelle à front blanc	Hirundinidae		
27	Fuligule à tête rouge	Anatidae			91	Hirondelle à front brun	Hirundinidae		
28	Fuligule à dos blanc	Anatidae			92	Hirondelle bicolore	Hirundinidae		
29	Fuligule milouinan	Anatidae			93	Hirondelle de rivage	Hirundinidae		
30	Garrot à oeil d'or	Anatidae			94	Hirondelle noire	Hirundinidae		
31	Garrot d'Islande	Anatidae	Vulnérable	Préoccupante	95	Hirondelle rustique	Hirundinidae		
32	Grand Harle	Anatidae			96	Carouge à épaulettes	Icteridae		
33	Harelde kakawi	Anatidae			97	Goglu des prés	Icteridae		
34	Harle couronné	Anatidae			98	Oriole de Baltimore	Icteridae		
35	Harle huppé	Anatidae			99	Oriole des vergers	Icteridae		
36	Macreuse à bec jaune	Anatidae			100	Quiscale bronzé	Icteridae		
37	Macreuse à front blanc	Anatidae			101	Quiscale rouilleux	Icteridae	Susceptible	Préoccupante
38	Macreuse brune	Anatidae			102	Stumelle des prés	Icteridae		
39	Oie des neiges	Anatidae			103	Vacher à tête brune	Icteridae		
40	Petit Fuligule	Anatidae			104	Pie-grièche grise	Laniidae		
41	Petit Garrot	Anatidae			105	Goéland à bec cerclé	Laridae		
42	Sarcelle à ailes bleues	Anatidae			106	Goéland argenté	Laridae		
43	Sarcelle d'hiver	Anatidae			107	Goéland bourgmestre	Laridae		
44	Martinet ramoneur	Apodidae	Susceptible	Menacée	108	Goéland brun	Laridae		
45	Aigrette bleue	Ardésidae			109	Goéland marin	Laridae		
46	Aigrette neigeuse	Ardésidae			110	Guifette noire	Laridae		
47	Bihoreau gris	Ardésidae			111	Mouette de Bonaparte	Laridae		
48	Butor d'Amérique	Ardésidae			112	Mouette de Franklin	Laridae		
49	Grand Héron	Ardésidae			113	Mouette pygmée	Laridae		
50	Grande Aigrette	Ardésidae			114	Sterne caspienne	Laridae	Menacé	non en péril
51	Héron vert	Ardésidae			115	Sterne pierregarin	Laridae		
52	Petit Blongios	Ardésidae	Vulnérable	Menacée	116	Moqueur chat	Mimidae		
53	Jaseur boréal	Bombycillidae			117	Moqueur polyglotte	Mimidae		
54	Jaseur d'Amérique	Bombycillidae			118	Moqueur roux	Mimidae		
55	Plectropane des neiges	Calcariidae			119	Pipit d'Amérique	Motacillidae		
56	Plectropane lapon	Calcariidae			120	Grive à dos olive	Musicapidae		
57	Engoulevent d'Amérique	Caprimulgidae	Susceptible	Menacée	121	Grive à joues grises	Musicapidae		
58	Cardinal à poitrine rose	Cardinalidae			122	Grive des bois	Musicapidae		
59	Cardinal rouge	Cardinalidae			123	Grive fauve	Musicapidae		
60	Passerin indigo	Cardinalidae			124	Grive solitaire	Musicapidae		
61	Urubu à tête rouge	Cathartidae			125	Merle d'Amérique	Musicapidae		
62	Urubu noir	Cathartidae			126	Mésange à tête brune	Paridae		
63	Grimpereau brun	Certhiidae			127	Mésange à tête noire	Paridae		
64	Pluvier argenté	Charadriidae			128	Mésange bicolore	Paridae		

Appendix 3 – Bird species observed in the Marguerite D’Youville Wildlife Preserve Project’s territory

	Nom verniculaire	Famille	Statut provincial	Statut fédéral		Nom verniculaire	Famille	Statut provincial	Statut fédéral
129	Paruline à calotte noire	Parulidae			187	Gobemoucheron gris-bleu	Polioptilidae		
130	Paruline à collier	Parulidae			188	Foulque d'Amérique	Rallidae		
131	Paruline à couronne rousse	Parulidae			189	Gallinule d'Amérique	Rallidae		
132	Paruline à croupion jaune	Parulidae			190	Marouette de Caroline	Rallidae		
133	Paruline à flancs marron	Parulidae			191	Rôle de Virginie	Rallidae		
134	Paruline à gorge grise	Parulidae		Candidat, inférieur	192	Roitelet à couronne dorée	Régulidae		
135	Paruline à gorge jaune	Parulidae			193	Roitelet à couronne rubis	Régulidae		
136	Paruline à gorge noire	Parulidae			194	Barge hudsonienne	Scolopacidae		Candidat, intermédiaire
137	Paruline à gorge orangée	Parulidae			195	Bécasse d'Amérique	Scolopacidae		
138	Paruline à joues grises	Parulidae			196	Bécasseau à croupion blanc	Scolopacidae		
139	Paruline à poitrine baie	Parulidae			197	Bécasseau à poitrine cendrée	Scolopacidae		
140	Paruline à tête cendrée	Parulidae			198	Bécasseau de Baird	Scolopacidae		
141	Paruline bleue	Parulidae			199	Bécasseau minuscule	Scolopacidae		
142	Paruline couronnée	Parulidae			200	Bécasseau sanderling	Scolopacidae		
143	Paruline des pins	Parulidae			201	Bécasseau semipalmé	Scolopacidae		
144	Paruline des ruisseaux	Parulidae			202	Bécasseau variable	Scolopacidae		
145	Paruline du Canada	Parulidae	Susceptible	Menacée	203	Bécassin roux	Scolopacidae		
146	Paruline du Kentucky	Parulidae			204	Bécassine de Wilson	Scolopacidae		
147	Paruline flamboyante	Parulidae			205	Chevalier grivelé	Scolopacidae		
148	Paruline jaune	Parulidae			206	Chevalier solitaire	Scolopacidae		
149	Paruline masquée	Parulidae			207	Courlis corlieu	Scolopacidae		
150	Paruline noir et blanc	Parulidae			208	Grand Chevalier	Scolopacidae		
151	Paruline obscure	Parulidae			209	Petit Chevalier	Scolopacidae		
152	Paruline orangée	Parulidae			210	Toumepierre à collier	Scolopacidae		
153	Paruline rayée	Parulidae			211	Sittelle à poitrine blanche	Sittidae		
154	Paruline tigrée	Parulidae			212	Sittelle à poitrine rousse	Sittidae		
155	Paruline triste	Parulidae			213	Labbe parasite	Stercorariidae		
156	Paruline verdâtre	Parulidae			214	Chouette épervière	Strigidae		
157	Bruant à couronne blanche	Passerellidae			215	Chouette lapone	Strigidae		
158	Bruant à gorge blanche	Passerellidae			216	Chouette rayée	Strigidae		
159	Bruant chanteur	Passerellidae			217	Grand-duc d'Amérique	Strigidae		
160	Bruant de Le Conte	Passerellidae			218	Harfang des neiges	Strigidae		
161	Bruant de Lincoln	Passerellidae			219	Petit-duc maculé	Strigidae		
162	Bruant des champs	Passerellidae		Candidat, intermédiaire	220	Petite Nyctale	Strigidae		
163	Bruant des marais	Passerellidae			221	Étoumeau sansonnet	Stumidae		
164	Bruant des prés	Passerellidae			222	Piranga écarlate	Thraupidae		
165	Bruant familial	Passerellidae			223	Ibis falcinelle	Threskiornithidae		
166	Bruant fauve	Passerellidae			224	Colibri à gorge rubis	Trochilidae		
167	Bruant hudsonien	Passerellidae			225	Troglodyte à bec court	Troglodytidae	Susceptible	non en péril
168	Bruant vespéral	Passerellidae			226	Troglodyte de Caroline	Troglodytidae		
169	Junco ardoisé	Passerellidae			227	Troglodyte des forêts	Troglodytidae		
170	Tohi à flancs roux	Passerellidae			228	Troglodyte des marais	Troglodytidae		
171	Moineau domestique	Passeridae			229	Troglodyte familial	Troglodytidae		
172	Pélican d'Amérique	Pelecanidae			230	Merlebleu de l'Est	Turdidae		
173	Cormoran à aigrettes	Phalacrocoracidae			231	Moucherolle à côtés olive	Tyrannidae	Susceptible	Menacée
174	Dindon sauvage	Phasianidae			232	Moucherolle à ventre jaune	Tyrannidae		
175	Gélinotte huppée	Phasianidae			233	Moucherolle des aulnes	Tyrannidae		
176	Grand Pic	Picidae			234	Moucherolle des saules	Tyrannidae		
177	Pic à dos noir	Picidae			235	Moucherolle phébi	Tyrannidae		
178	Pic à tête rouge	Picidae			236	Moucherolle tchébec	Tyrannidae		Candidat, inférieur
179	Pic à ventre roux	Picidae			237	Pioui de l'Est	Tyrannidae		
180	Pic chevelu	Picidae			238	Tyran huppé	Tyrannidae		
181	Pic flamboyant	Picidae			239	Tyran tritri	Tyrannidae		
182	Pic maculé	Picidae			240	Viréo à gorge jaune	Vireonidae		
183	Pic mineur	Picidae			241	Viréo à tête bleue	Vireonidae		
184	Grèbe à bec bigarré	Podicipedidae			242	Viréo aux yeux rouges	Vireonidae		
185	Grèbe esclavon	Podicipedidae	Menacé	En voie de disparition	243	Viréo de Philadelphie	Vireonidae		
186	Grèbe jougris	Podicipedidae			244	Viréo aux yeux blancs	Vireonidae		
					245	Viréo mélodieux	Vireonidae		

**Appendix 4 – Fish species captured during experimental fishing programs
in 2001 and 2006 in the Marguerite D’Youville Wildlife Preserve
Project’s territory**

Nom verniculaire	Nom latin	Intérêt sportif	Fraie confirmée
Achigan à grande bouche	<i>Micropterus salmoides</i>	x	
Achigan à petite bouche	<i>Micropterus dolomieu</i>	x	
Barbotte brune	<i>Ameiurus nebulosus</i>	x	x
Carpe	<i>Cyprinus carpio</i>		x
Crapet-soleil	<i>Lepomis gibbosus</i>	x	
Cyprinidés sp.			
Dard, raseux	<i>Etheostoma sp.</i>		
Épinoche à cinq épines	<i>Culaea inconstans</i>		
Fondule barré	<i>Fundulus diaphanus</i>		
Grand brochet	<i>Esox lucius</i>	x	x
méné à grosse tête (anc. tête-de-boule)	<i>Pimephales promelas</i>		
méné à museau arrondi (anc. ventre-pourri)	<i>Pimephales notatus</i>		
Méné émeraude	<i>Notropis atherinoides</i>		
Méné jaune	<i>Notemigonus crysoleucas</i>		
Méné pâle	<i>Notropis volucellus</i>		
Menton noir	<i>Notropis heterodon</i>		
Quitouche	<i>Semotilus corporalis</i>		
Perchaude	<i>Perca flavescens</i>	x	
Queue à tache noire	<i>Notropis hudsonius</i>		
Umbre de vase	<i>Umbra limi</i>		
	<i>Notropis sp.</i>		

Appendix 5 – Amphibian and reptile species observed in the Marguerite D'Youville Wildlife Preserve Project's territory

Nom verniculaire	Nom latin	Ordre	Statut provincial	Statut fédéral
Necture tacheté	<i>Necturus maculosus</i>	Urodèles	-	-
Salamandre à points bleus	<i>Ambystoma laterale</i>	Urodèles	-	-
Rainette crucifère	<i>Pseudacris crucifer crucifer</i>	Anoures	-	-
Rainette faux-grillon de l'Ouest	<i>Pseudacris triseriata</i>	Anoures	Vulnérable	Menacée
Rainette versicolore	<i>Hyla versicolor</i>	Anoures	-	-
Grenouille verte	<i>Lithobates (Rana) clamitans melanota</i>	Anoures	-	-
Grenouille léopard	<i>Lithobates (Rana) pipiens</i>	Anoures	-	-
Grenouille des bois	<i>Lithobates (Rana) sylvaticus</i>	Anoures	-	-
Ouaouaron	<i>Lithobates (Rana) catesbeianus</i>	Anoures	-	-
Couleuvre rayée	<i>Thamnophis sirtalis</i>	Squamates	-	-
Tortue peinte	<i>Chrysemys picta</i>	Testudines	-	-
Tortue serpentine	<i>Chelydra serpentina serpentina</i>	Testudines	-	Préoccupante
Tortue géographique	<i>Graptemys geographica</i>	Testudines	Vulnérable	Préoccupante

Appendix 6 – Mammal species observed in the Marguerite D'Youville Wildlife Preserve Project's territory

Nom verniculaire	Nom latin	Statut provincial	Statut fédéral
Campagnol des champs	<i>Microtus pennsylvanicus</i>	-	-
Castor du Canada	<i>Castor canadensis</i>	-	-
Cerf de Virginie	<i>Odocoileus virginianus</i>	-	-
Vespertilion brun (Petite chauve-souris brune)			
Sérotine brune (Grande chauve-souris brune)			
Chauve-souris cendrée			
Chauve-souris rousse			
Chauve-souris argentée	<i>Lasionycteris noctivagans</i>	Susceptible	-
Condylure à nez étoilé	<i>Condylura cristata</i>	-	-
Coyote	<i>Canis latrans</i>	-	-
Écureuil gris	<i>Sciurus carolinensis</i>	-	-
Grande Musaraigne	<i>Blarina brevicauda</i>	-	-
Belette à longue queue	<i>Mustela frenata</i>	-	-
Lapin à queue blanche	<i>Sylvilagus floridanus</i>	-	-
Loutre de rivière	<i>Lontra canadensis</i>	-	-
Marmotte commune	<i>Marmota monax</i>	-	-
Mouffette rayée	<i>Mephitis mephitis</i>	-	-
Musaraigne cendrée	<i>Sorex cinereus</i>	-	-
Orignal*	<i>Alces alces</i>	-	-
Pékan*	<i>Martes pennanti</i>	-	-
Porc-épic d'Amérique	<i>Erethizon dorsatum</i>	-	-
Rat-musqué commun	<i>Ondatra zibethicus</i>	-	-
Raton laveur	<i>Procyon lotor</i>	-	-
Renard roux	<i>Vulpes vulpes</i>	-	-
Souris-sauteuse sp.		-	-
Vison d'Amérique	<i>Mustela vison</i>	-	-

* : Visiteur exceptionnel

Appendix 7 – Plan showing sectors 1 (Island) and 2 (Park) of the the Marguerite D'Youville Wildlife Preserve Project

