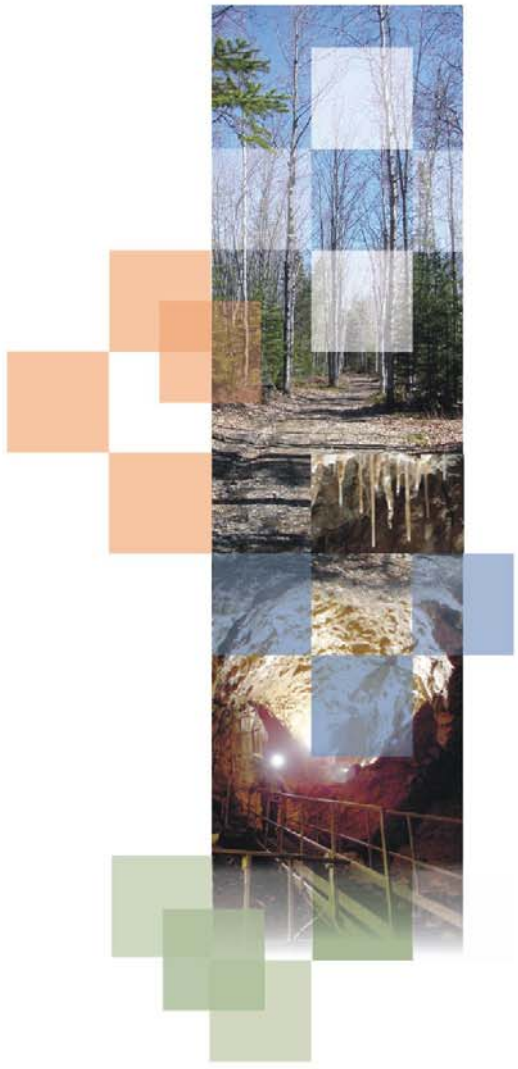
Protected areas in Québec:

A Lifelong Heritage

Réserve de biodiversité du Karst-de-Saint-Elzéar



CONSERVATION PLAN

Québec

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Introduction

On June 20, 2005, the Québec government authorized the Minister of Sustainable Development, Environment and Parks to assign the legal status of proposed biodiversity reserve to the karst of Saint-Elzéar, under the *Natural Heritage Conservation Act* (R.S.Q., c. C-61.01). This temporary protection status became effective on September 7, 2005, prohibiting the main industrial activities likely to threaten the conservation of the natural environment (logging, hydroelectric generation and mining).

It is important to note that karstic ecosystems are poorly represented in the current network of protected areas. The Réserve de biodiversité projetée du karst de Saint-Elzéar was therefore established to

- conserve a portion of land whose physiography is characteristic of the Appalachians natural province;
- preserve an area of geological interest;
- protect the biodiversity of forest ecosystems;
- acquire additional knowledge about the natural heritage, in particular karst phenomena and the evolution of the vegetative cover;
- acquire additional knowledge about the cultural heritage, especially archaeological resources.

On July 25, 2006, the Minister of Sustainable Development, Environment and Parks asked the Bureau d'audiences publiques sur l'environnement (BAPE) to conduct an inquiry and public hearing on the Réserve de biodiversité projetée du karst de Saint-Elzéar and the Réserve aquatique projetée de l'estuaire de la rivière Bonaventure under section 39 of the *Natural Heritage Conservation Act*, which provides for a period of public consultation before the Québec government is asked to grant permanent status to land set aside as a protected area. The BAPE inquiry began in August 2006 and ended in December 2006. The BAPE commission held public hearings in Saint-Elzéar and Bonaventure on September 19 and 20 and October 24, 2006. The report on the BAPE inquiry and public hearing (rapport 234) was submitted to the Minister of Sustainable Development, Environment and Parks in December 2006, and released by the Minister in February 2007.

The Commission noted widespread acceptance for the project in the community, as expressed by individuals, community organizations and public authorities. Like these participants, the Commission recommended that the protected area be granted permanent protection status as soon as possible.

This conservation plan was drafted by the Ministère du Développement durable, de l'Environnement et des Parcs (MDDEP) following the BAPE hearing and recommendations. It sets out the MDDEP's vision concerning the conservation and development of the land included in the Réserve de biodiversité du Karst-de-Saint-Elzéar and repeats much of the content of the document prepared by the MDDEP in July 2006 for the public hearing, released as part of the BAPE inquiry and public consultation process. The conservation plan reflects the concerns of all the governmental and non-governmental stakeholders involved, in connection with this project, in the implementation of the strategic action plan for protected areas.

1. Area covered by the biodiversity reserve

1.1 Historical background to the conservation project

The Saint-Elzéar cave system was discovered by residents of Saint-Elzéar in 1976; however, according to local tradition people had been aware of the access shaft for many years. Since the discovery, Québec government and university researchers, as well as the Société québécoise de spéléologie, have studied the cave system and other karst phenomena in the Saint-Elzéar region. Local organizations such as the Comité de promotion des ressources naturelles de Saint-Elzéar Inc. (CPRN) and Habitafor have played an active role in work to acquire knowledge about karst phenomena in the area.

The outstanding geological interest of the site led, in 1977, to a proposal to protect part of the area by granting the status of ecological reserve. In 1977, at the request of the Société québécoise de spéléologie, the government banned logging and staking on the site. In addition, it controlled access to the cave system to stop the ongoing pillaging of its paleontological resources, especially bone fragments. The community stakeholders wanted the Saint-Elzéar cave system to be developed for education, recreation and tourism, and so the Ministère de l'Environnement put its ecological reserve project on hold in the 1980s; however, it ensured that the area was marked as an ecological site on land use maps for public land.

In 1980 the CPRN set up a cave museum in the village of Saint-Elzéar, offering visitors a chance to examine bones discovered in the cave and photographs of the cave system. Working closely with the Ministère de l'Environnement, the Société québécoise de spéléologie undertook work from 1983 to 1985 to describe the site and prepare a layout plan. Since 1990, the cave system has been open to the public. Metal staircases and ramps have been installed to increase safety. For the last fifteen years, the CPRN has offered education, recreation and tourism activities to the general public, centring on the discovery of the cave system and the observation of active karst phenomena.

Following the passage of the *Natural Heritage Conservation Act* in 2002, the MDDEP organized several information sessions and workshops with community organizations to explain the reasons for creating a biodiversity reserve and to define the boundaries of the protected area, taking into account the concerns of the MDDEP and the community with regard to both conservation and development. During these meetings, the main conservation, management and development problems were defined and discussed with local and regional stakeholders with an interest in the future of the Saint-Elzéar karst.

Following these meetings, the MDDEP asked the Québec government to grant the status of proposed biodiversity reserve to the area identified, namely the sector of the Saint-Elzéar cave system and the surrounding sector where karst phenomena can be observed; this type of protection status was compatible with the recreation and tourism goals for the site. On June 20, 2005, the Québec government granted the status of proposed biodiversity reserve to the Saint-Elzéar karst, and the protection became effective on September 7, 2005.

The Saint-Elzéar cave system has also been recognized by the Ministère des Ressources naturelles et de la Faune (MRNF) for its potential for classification as an exceptional geological site. The MRNF considers that it is important to protect exceptional geological sites in order to:

- ensure the protection and conservation of geological diversity, in other words the range of geological elements found in Québec that may be threatened by human intervention;
- promote a better understanding of Québec's geology and geomorphology and its constituent elements.

1.2 Toponym

The toponym selected by the MDDEP for the biodiversity reserve following a favourable report by the Office de la langue française is “Réserve de biodiversité du Karst-de-Saint-Elzéar”. The word “karst” in the toponym is used to identify all the phenomena observed in the area and that constitute the primary reason for its conservation. A karst is a landscape resulting from the erosion of rocks, generally limestone, by freshwater, and from the action of the underground streams that gradually become established.

1.3 Geographic location

The location and boundaries of the Réserve de biodiversité du Karst-de-Saint-Elzéar are shown on the map in Schedule 1.

Location

The Réserve de biodiversité du Karst-de-Saint-Elzéar is located in the Appalachians natural province, which covers the Estrie, Bas-Saint-Laurent and Gaspésie—Îles-de-la-Madeleine administrative regions.

The biodiversity reserve lies within the unorganized territory of the Bonaventure regional county municipality, in the Gaspésie—Îles-de-la-Madeleine administrative region, fifteen kilometres north of the municipality of Saint-Elzéar, between 48°13’ and 48°19’ north latitude and 65°17’ and 65°25’ west longitude.

Area and boundaries

The biodiversity reserve covers an area of 44.27 km² and lies within the northeastern portion of the Duval river watershed. It also includes bluffs to the northwest that border on the left bank of the Garin river.

The boundaries of the biodiversity reserve were determined in order to include all known active or potentially active karst phenomena within the watershed of the Duval river. Another goal was to establish an area sufficiently large to be relevant in terms of biological diversity and the landscape, while minimizing the potential social and economic impacts of the conservation project. The boundaries of the biodiversity reserve ensure the conservation of a physiographic group that is outstanding in terms of the geological phenomena it displays, and also protect its setting in the landscape.

The exact boundaries of the reserve are based on natural elements that can be easily located in the field to avoid surveying difficulties and facilitate management of the area.

Access

The biodiversity reserve is accessible by public and forest roads from the municipality of Saint-Elzéar.

A forest road, crossing the biodiversity reserve from the Garin escarpment in the south-west towards the north-east, having a 30-metre right-of-way, is excluded from the protected area.

1.4 Ecological and social background

The Réserve de biodiversité du Karst-de-Saint-Elzéar is in the Appalachians natural province. The general topography is characterized by an undulating plateau sloping slightly towards the south, deeply scored by a lattice network of streams running along the fractures in the geological base, and bordered on the south by a steep escarpment referred to as the Garin escarpment. The elevation of the proposed reserve ranges between 135 and 605 metres.

Climate

The biodiversity reserve is characterized by a subpolar and subhumid continental climate, with an average growing season. It is located in an area that belongs to the

bioclimatic domain of fir stands with yellow birch.

GEOLOGY AND GEOMORPHOLOGY

The Réserve de biodiversité du Karst-de-Saint-Elzéar lies within the Appalachians geologic province, whose Paleozoic basement (545 to 250 million years) was severely deformed during successive orogenies. The bedrock consists of strata of Ordovician and Silurian sedimentary rock (450-420 million years) deformed during the Acadian orogeny (between 400 and 360 million years) and which contain relatively pure limestone of La Vieille Formation. The limestone is sensitive to chemical erosion (dissolution) and conducive to the formation of karsts.

There are relatively few rocky outcrops. The rock is covered with a thin layer of till derived from sedimentary rock, or sandy till. Sandy loams cover the valley floors. Sand and gravel and peat moss border the Duval river.

The Garin escarpment extending some 450 metres above the plateau of the Saint-Elzéar region, which is at an elevation of some 250 metres, delimits the southern portion of the biodiversity reserve. North of the escarpment, the surface rises gradually to an elevation of some 600 metres forming the Garin plateau.

An outstanding geological heritage

The Saint-Elzéar cave system is the oldest cave system so far discovered in Québec. It was partially sealed off by glacial deposits at least 200 000 years ago, which suggests that it formed even earlier, probably around 230 000 years ago. The last ice age caused part of the ceiling to collapse and formed the access shaft.

The underground environment has a specific microclimate. The deepest, most remote zones are characterized by total darkness, a temperature that remains stable year-round at about 4 °C, and a humidity level close to saturation point between 95% and 100%. Closer to the surface, this microclimate may be influenced by outside weather conditions. Variations in atmospheric pressure and the outside temperature may create strong drafts and changes in the humidity level within the karst system.

The access shaft, known as the “Puits des Motoneigistes”, measures three metres by four and has a vertical drop of twelve metres to two underground chambers. In all, the cave system is over 200 metres long and roughly 35 metres deep. The first chamber is forty metres long by fourteen metres side, and is called “Grande Salle”. The other chamber is called “Salle des Ours” because of the skulls discovered there. The ceiling of this chamber rises to ten metres, forming a dome that speleologists call “Le Clocher”. It extends to the “Gallerie des Gours”, which is a fragile environment and so closed to the public. Among the karst sites in Québec, the Saint-Elzéar cave system is outstanding because of the quantity and quality of its concretions. It contains old stalactites and stalagmites and impressive examples of flowstone, in a good state of overall conservation.

The Garin plateau, which extends northwards from the village of Saint-Elzéar and ends at the Garin river, is the only place in Québec, and in Eastern Canada, where it is possible to observe both active karst phenomena and traces of events that happened over 200 000 years ago. The most recent studies show that karst phenomena can be found throughout the biodiversity reserve. The presence of hundreds of closed depressions and numerous dolines tends to indicate that the cave network is larger than the network currently known.

The Saint-Elzéar karst is one Québec’s prime geological sites. It is generally well preserved. The area was recently closed to commercial forestry and mining operations and certain other human activities.

HYDROGRAPHY

The major part of the biodiversity reserve is in the Duval river watershed, a tributary of the Bonaventure river. The Duval Est stream

drains the northern half of the reserve.

A small portion of the territory located to the northwest is drained by the Garin river. The Garin escarpment is drained to the west by the Duval river and to the east by the Hall Ouest river, another tributary of the Bonaventure river.

A lattice hydrographic network sometimes highly entrenched along the geological strata (generally limestone) cuts into the land or uses the nearly perpendicular fractures. The creation of the biodiversity reserve will ensure the conservation of a representative, relatively undulating physiographic unit that is distinct from the rest of the southern part of the Gaspé peninsula.

FLORA

The area of the biodiversity reserve is covered by forest, mostly comprising mixed stands and, on slopes, stands of shade-intolerant hardwoods. White birch and trembling aspen dominate most of the area. Softwoods are represented mainly by balsam fir and white spruce, along with some red spruce and black spruce. Yellow birch form up to 5% of the mixed stands, growing on slopes in the western and north-western portions. The sugar maple-yellow birch stand covers only 0.2% of the area, in a valley lying across the Duval river, at low elevation. The forest was nearly completely burned in 1924, and as a result only a few stands are over 80 years old.

The oldest forests are established on a well-drained clay substrate in the valley bottoms, especially the valley of the Duval Est stream and the valley to the east of the Duval lakes. The same areas are home to softwood stands, which cover roughly 7% of the reserve. The youngest forests, less than 20 years old, result from logging operations in the past and are found mostly in the northwestern portion of the reserve that is drained by the Garin river.

In well-drained soils, the herbaceous and arbustive flora of the forest floor consists of about twenty species that characterize boreal forests. A few isolated stands of eastern white cedar, balsam fir and white spruce are confined to the north of the territory in valley bottoms and along the Duval river.

FAUNA

Black bear, moose and white-tailed deer are all found in the area. In the case of white-tailed deer, the northwest extremity of the reserve overlaps part of a white-tailed deer yard legally recognized under the Regulation respecting wildlife habitats *(*R.S.Q., c. C-61.1, r.0.1.5). Several other mammal species occupy or use the area; these include the red fox, American marten, fisher, lynx, American porcupine, raccoon, striped skunk, beaver and muskrat.

Most of the data on threatened or vulnerable species of wildlife results from the archaeological excavations conducted in the cave system in 1977-1978 by the Ministère de l'Énergie et des Ressources. Since the Saint-Elzéar cave system is connected to the outside world by a twelve-metre shaft, it has acted as a trap into which many different animals have fallen over the years. In the pile found below the entry shaft, the remains of over 5 000 small animals have been identified, constituting a historical record. Among the species identified from these bones are the wolverine, rock vole, least weasel, smoky shrew, pigmy shrew, Gaspé shrew and the southern bog lemming. Some of the species identified are no longer found on the Gaspé peninsula but are common in colder climates, such as the wolverine, Arctic hare and Ungava collared lemming.

According to a survey by Envirotel Inc. conducted in 1995, the underground network of caves and passages offers strong potential for bats. Although no inventory has so far been made, the Saint-Elzéar karst offers favourable conditions for the various species of cave-dwelling bats found on the Gaspé peninsula. Up to seven or eight individuals use the main cave during the winter, but their species is currently unknown. Other individuals doubtless use the less accessible chambers, and the entire

cave system is likely to be used during the winter by several species, including the little brown bat, a species that, in winter, establishes itself in caves where the temperature is stable at around 4.5 °C and the relative humidity is around 80%. Some colonies may have as many as several hundred individuals. They enter a lethargic state, during which their metabolism slows down until spring. During this period, the species is particularly vulnerable to disturbance.

Discovering underground wildlife

Except for the paleontological studies conducted on the bones found in the Saint-Elzéar cave system, no inventory of the underground wildlife of the Saint-Elzéar karst has been completed. It is probable, however, that certain species inhabit or use the underground ecosystem.

A number of scientific studies conducted in various karst environments around the world have shown that several species have been able to adapt to the highly specific environmental conditions of the underground (darkness, high humidity, lack of vegetation, scarcity of food, etc.).

Overall, scientists distinguish between four categories of underground species of fauna:

- troglophiles: animals that occasionally live underground;
- trogloxenes: animals that seek shelter in caves but feed in the outside world (bats, for example);
- troglobies: animals that live only in underground cavities;
- stygobies: animals that live only in underground water.

The acquisition of more knowledge about the underground wildlife of the Saint-Elzéar karst could constitute one of the primary aims of the biodiversity reserve, since the organisms involved have exceptional heritage value and are excellent indicators of the state of the ecosystem.

1.5 Other land uses

Seven land rights have been granted by the Ministère des Ressources naturelles et de la Faune within the perimeter of the biodiversity reserve. They are located as follows (see the map in Schedule 1):

- 2 leases for the construction of a rough shelter in the forest;
- 2 leases for personal vacation resort purposes (cottages), situated near the north-west limit of the proposed reserve;
- 3 leases for the installation of recreational facilities (access to the Saint-Elzéar cave), and the construction of a lookout point and observation tower.

Part of the territory is served by forest roads. One authorization to use a right of way has also been issued by the Ministère des Ressources naturelles et de la Faune to allow the creation of over eight kilometres of hiking trails for the observation of karst phenomena.

In the fall, the local population hunts moose in the area.

2. Conservation and development

The primary objective of a biodiversity reserve is the preservation of aquatic and terrestrial ecosystems, the conservation of the biological processes that depend on it, and the protection of its biotic and abiotic components. The Réserve de biodiversité du Karst-de-Saint-Elzéar will be managed in such as way as to meet two main ecological objectives: to maintain the integrity of the karst phenomena, and to develop knowledge about the karst phenomena.

Another goal of protected areas is to preserve land for the benefit of all. Local communities should be the first to benefit, and therefore should be closely involved in managing the areas. Similarly, ecotourism activities that are compatible with the conservation status of the area should be allowed to continue.

2.1 Ensuring the integrity of the karst phenomena

The Saint-Elzéar karst is a fragile environment. Some of the activities that take place in the biodiversity reserve could have a negative impact on biological diversity in the area or could, if not strictly controlled, contribute to the deterioration of the karst phenomena.

The general objectives are to

- prohibit the activities that are incompatible with the status of biodiversity reserve as defined in the *Natural Heritage Conservation Act*;
- supervise the activities that are permitted in the biodiversity reserve to ensure that they take place in a way that is consistent with the support capacity of each environment and its natural character.

In managing the reserve, it will be necessary to supervise the activities that may have a significant impact on the karst phenomena. Special attention will be paid to activities that lead to changes in the vegetative cover or disturbances in the flow of surface or underground water.

It would also be advisable to establish a framework for speleological activities.

2.2 Acquiring knowledge about karst phenomena and biodiversity in the reserve

The Saint-Elzéar karst is of great interest for scientific research and teaching, in the sense that it opens a window onto geological events that are both impressive and rare in Québec. Ecological knowledge of the area, whether with regard to karst phenomena or to wildlife species living in an underground environment, is currently fragmentary and should be developed.

The MDDEP wishes to

- promote the dissemination of existing knowledge;
- encourage teaching activities focusing on geological phenomena in the Réserve de biodiversité du Karst-de-Saint-Elzéar;
- promote scientific research to acquire a better understanding of the karst ecosystem (structure, functions, fauna, flora, etc.).

For this purpose, the MDDEP intends to

- establish partnerships with teaching institutions and research groups to conduct studies of karst phenomena in the area, in particular to define the characteristics, interest and vulnerability of the underground environment;
- establish partnerships with local or regional nature associations to draw up an inventory and ensure regular monitoring of biodiversity in the biodiversity reserve;
- raise awareness among users of the area about the potential impact of their actions on biodiversity.

2.3 Involving stakeholders

The MDDEP supports the involvement of local and regional stakeholders in the conservation and development of protected areas.

This is why the MDDEP intends to draft an action plan, in partnership with community organizations, to guide the management of the biodiversity reserve towards the protection and development of the land and its resources.

The Comité de promotion des ressources naturelles de Saint-Elzéar, because of the important role it has played in the past in improving knowledge about, conserving and management the karst phenomena in the area, has agreed to be the MDDEP's key partner in drafting the action plan and planning the management of the biodiversity reserve. It has also agreed to review its mission and the composition of its board of directors to ensure that it is more representative of all stakeholders in the area and better adapted to its new role.

2.4 Maintaining use of the reserve for education, recreation and tourism

The area contains an extremely important natural heritage, and also has enormous potential for recreational activities. These uses are, generally speaking, compatible with the status of a biodiversity reserve. However, they must be developed and managed in a way that takes into account the fragility of certain environments and obstacles to the construction of recreational facilities. Some current activities, such as speleology, are likely to have a negative impact on biodiversity in the biodiversity reserve or to alter its natural aspect.

For these reasons, the MDDEP intends to:

- maintain the use of the Saint-Elzéar karst for ecotourism;
- ensure that activities in the biodiversity reserve, new activities and the construction of new infrastructures do not have a negative impact on biological diversity in the area, and on the karst heritage.

The MDDEP suggests that the plan of action should, among other things:

- plan for the development of ecotourism and recreational activities that are consistent with the conservation objectives for the reserve;
- establish a program to monitor activities in and around the biodiversity reserve to assess their possible impact on biodiversity in the area;
- establish a framework for speleological activities, working with specialists in the field and in particular with geologists from the Ministère des Ressources naturelles et de la Faune and the Société québécoise de spéléologie;
- raise public awareness about the fragility of the karst heritage.

3. Activities in the biodiversity reserve

3.1 Legislative framework under the *Natural Heritage Conservation Act*

Activities in a biodiversity reserve are generally governed by the provisions of the *Natural Heritage Conservation Act*.

A biodiversity reserve is intended to protect a natural environment. For this reason, activities that may have a major impact on ecosystems and biodiversity are prohibited, especially those of an industrial nature. In this type of protected area, however, less harmful activities and modes of land occupation are permitted, such as recreational, wildlife-related and educational activities. Within the protected area, human beings are considered to form part of the ecosystem and can continue to circulate, and a certain level of development is possible.

The biodiversity reserve must be considered as an area devoted to the protection of the natural environment, the enjoyment of nature and recreation.

Under the *Natural Heritage Conservation Act*, the main activities prohibited in an area with biodiversity reserve status are:

- mining, gas and petroleum exploration and development;
- forest management activities within the meaning of section 3 of the Forest Act (R.S.Q., c. F-4.1);
- the development of hydraulic resources and any production of energy on a commercial or industrial basis.

Although these prohibitions are essential for the long-term protection of the land and its ecosystems, they do not introduce all the standards required for the proper management of the biodiversity reserve and the conservation of the environment. Under the Act, the government may specify, in the

conservation plan, the legal framework that will apply in the territory of a reserve.

Provisions in Schedule 2 prohibits activities in addition to those prohibited under the Act and provides the framework for the various activities permitted so as to better protect the natural environment in keeping with the conservation principles and other management objectives established for the biodiversity reserve. Accordingly, certain activities require the prior authorization of the Minister and compliance with the conditions determined by the Minister.

Several of the provisions in Schedule 2 provide for authorization from the Minister, an approach that allows for the introduction of appropriate conditions in specific circumstances.

For example, the construction of some types of buildings (such as a reception centre or shelter) and trails may fall within the management and conservation objectives of the reserve, while other types of construction may have a negative impact on the environment and biodiversity and will not be considered appropriate – and will not be authorized.

Many of the standards in Schedule 2 have been designed to allow the Minister to exercise an appropriate level of supervision, taking the context into account and with the flexibility needed when the circumstances and the characteristics of the target environment allow, so as to provide adequate guidance for various activities.

It is important to note that the measures in the Schedule target new interventions in particular within the reserve, and do not generally affect existing facilities or current activities, preserving many compatible existing land uses.

Since the terms of the framework set out in Schedule 2 cannot indicate whether an application for authorization will be accepted or refused, the MDDEP will make public the criteria it will use in its management to analyze the applications made. Guides, instructions or directives will be drawn up and made public. For example, the MDDEP will establish a list of activities mentioned in Schedule 2 that will only be authorized in exceptional circumstances, or only in a few cases, because they are considered *a priori* to have a negative impact.

In contrast, despite the introduction of control mechanisms, many other activities may be seen as compatible with the objectives of the protection status. For these cases, the authorization process will be used to ensure that the MDDEP is aware of the activities, and is able where necessary to impose improvements to the approach proposed by the applicant.

Last, to avoid the imposition of control measures of little use because of the low risk of a negative impact, or because they duplicate other control measures under other legislation, Schedule 2 also lists exemptions to the requirement of obtaining authorization for certain activities: routine maintenance work, for example, on existing facilities.

3.2 Activities governed by other statutes

Certain activities likely to be carried on within the reserve are also governed by other legislative and regulatory provisions, including provisions that require the issue of a permit or authorization or the payment of fees. Certain activities may also be prohibited or limited by other Acts or regulations that are applicable within the reserve.

A special legal framework may govern permitted activities within the reserve in connection with the following matters:

- Environmental protection: measures set out in particular in the Environment Quality Act (R.S.Q., c. Q-2) and its regulations.

- Removal of species of flora designated as threatened or vulnerable: measures set out in the Act respecting

threatened or vulnerable species (R.S.Q., c. E 12.01) prohibiting the removal of such species;

- Development and conservation of wildlife resources: measures set out in particular in the Act respecting the conservation and development of wildlife (R.S.Q., c. C 61.1), including the provisions pertaining to outfitting operations and beaver reserves and the measures contained in applicable federal legislation, in particular the fishery regulations.

- Archaeological research: measures set out in particular in the Cultural Property Act (R.S.Q., c. B-4).

- Access and land rights related to the domain of the State: measures set out in particular in the Act respecting the lands in the domain of the State (R.S.Q., c. T 8.1) and in the Watercourses Act (R.S.Q., c. R 13).

- Operation of vehicles: measures set out in particular in the Act respecting the lands in the domain of the State (R.S.Q., c. T 8.1) and in the regulation on motor vehicle traffic in certain fragile environments made under the Environment Quality Act.

- Construction and layout standards: regulatory measures adopted by regional and local municipal authorities under the Acts applicable to them.

4. Management

The MDDEP is responsible for the application of the *Natural Heritage Conservation Act*, which governs the biodiversity reserve. Some activities will continue to be regulated by other government authorities under other Acts, in collaboration with the MDDEP.

The operational management of the biodiversity reserve will be under the responsibility of the MDDEP regional office for analysis and expertise in the Bas-Saint-Laurent and Gaspésie—Îles-de-la-Madeleine region, which will be required to ensure that conservation objectives are met in the biodiversity reserve. The MDDEP ecological heritage and parks division will provide the scientific and technical support needed.

The MDDEP regional office for analysis and expertise in the Bas-Saint-Laurent and Gaspésie—Îles-de-la-Madeleine region will establish the procedure for participation by local and regional stakeholders interested in the management of the biodiversity reserve.

The MDDEP hopes that the local and regional population will become a key partner in the drafting of an action plan, which will establish priorities for conservation and development actions over the short, medium and long term, and in the management of the reserve. The action plan could, if necessary, be revised periodically at the same time as the conservation plan, as provided for in the *Natural Heritage Conservation Act*.

The Comité de promotion des ressources naturelles de Saint-Elzéar (CPRN) has agreed to play an important role; its mission and the composition of its board of directors have been reviewed to ensure that it is more representative of all stakeholders in the area and better adapted to play its new role.

A mechanism will be established to monitor the conservation objectives and, if necessary, adjust the strategies implemented to achieve those objectives. The biodiversity reserve will be managed in keeping with the following conservation principles:

- maintain natural ecosystem dynamics;
- restore damaged ecosystems, as required and over the medium term;
- respect the ecosystem support capacity;
- maintain non-industrial harvesting activities, without encouraging their development;
- gather and disseminate knowledge about the natural and cultural heritage;
- participate in the management of adjacent areas to ensure harmonization with the conservation objectives pursued within the biodiversity reserve.

The MDDEP has not proposed a zoning plan to guide the management of Réserve de biodiversité du Karst-de-Saint-Elzéar, because

- the entire area has karst potential;
- knowledge about the karst phenomena remains fragmentary.

If needed, the MDDEP will review the advisability of zoning the biodiversity reserve with community stakeholders when drawing up the action plan, to create a framework for the possible development of activities and their pursuit in the protected area.

Conclusion

The Réserve de biodiversité du Karst-de-Saint-Elzéar will protect one of Québec's most outstanding geological sites. The Saint-Elzéar cave system is clearly the most remarkable element because of its age, dimensions and paleontological interest. However, the entire area has exceptional interest for the understanding of karst phenomena and the associated biodiversity. It was important to ensure the ongoing protection of this geological feature, while permitting its development for the benefit of all.

It is important here to underline the energetic work performed by community stakeholders, and in particular the Comité de promotion des ressources naturelles de Saint-Elzéar Inc. since 1976 and the municipality of Saint-Elzéar, in order to preserve this heritage and make it better known.

The protection status granted to the site has rewarded their work. The Réserve de biodiversité du Karst-de-Saint-Elzéar will benefit, first, the local and regional communities, that will be able to enjoy and take full advantage of its attractions. For this reason, the MDDEP has proposed a type of management based on partnerships with organizations solidly grounded in the community, and the Comité de promotion des ressources naturelles de Saint-Elzéar has agreed to become the MDDEP's key partner in all matters concerning the drafting of an action plan and the planning of management approaches for the Réserve de biodiversité du Karst-de-Saint-Elzéar.

The conservation of this natural environment, which will be used for light recreation, the discovery of the natural and cultural heritage, teaching and scientific research, should help consolidate the local tourist industry. The reserve – because of its natural state, unity and accessibility – offers an ideal location for the development of highly popular recreational and tourism-related activities, including ecotourism, nature observation and hiking.

The management methods applied in the Réserve de biodiversité du Karst-de-Saint-Elzéar will promote closer ties between various interest groups, by encouraging them to pool their efforts, their abilities and their skills to further a conservation and development project that is in harmony with and respectful of the concept of biodiversity.

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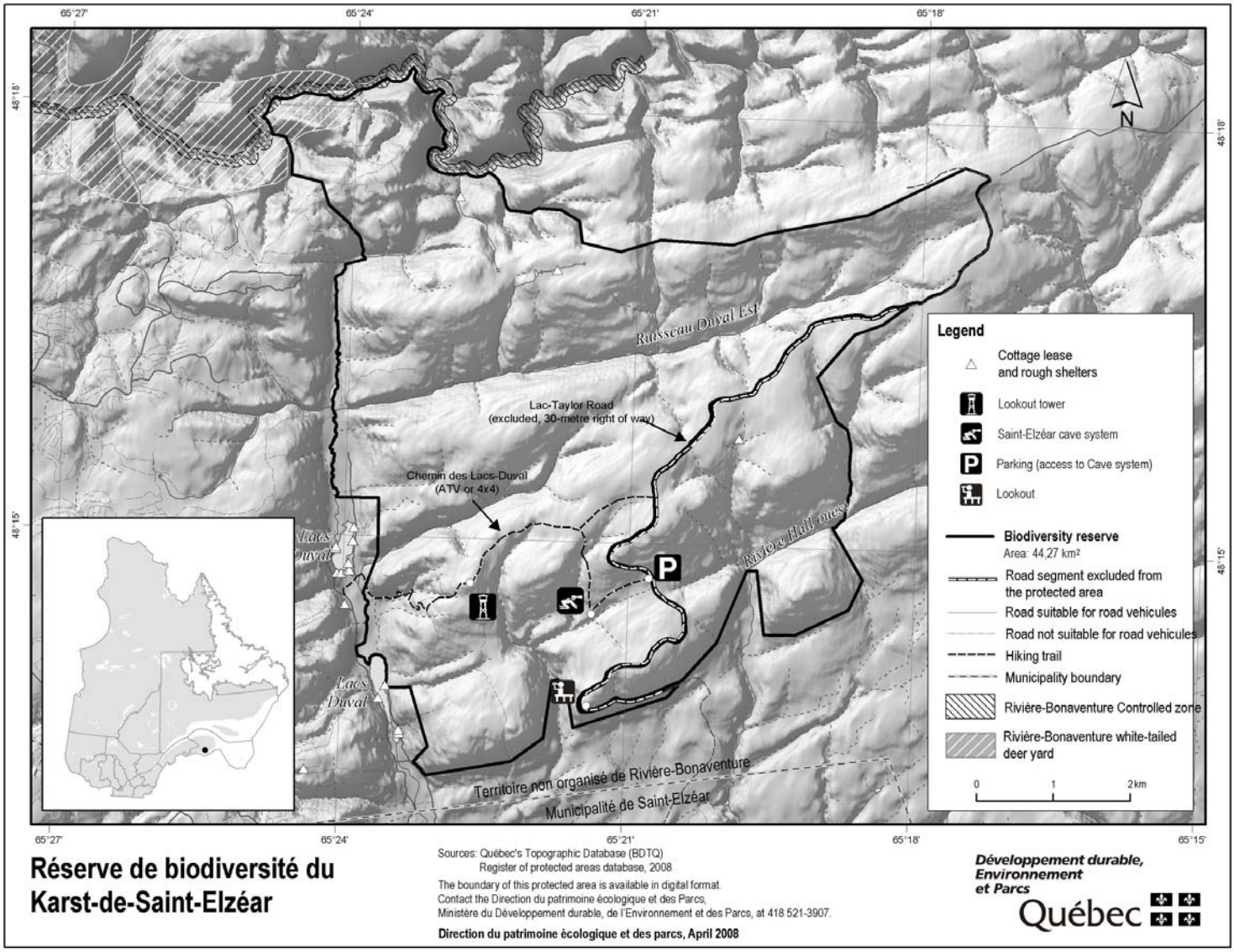
Schedule 1: Réserve de biodiversité du Karst-de-Saint-Elzéar: Location, boundaries and land uses



Schedule 2
(S 3.1)

ACTIVITIES FRAMEWORK FOR THE RÉSERVE DE BIODIVERSITÉ DU KARST-DE-SAINT-ELZÉAR
— STANDARDS ADDITIONAL TO THOSE IN THE ACT

PROHIBITIONS, PRIOR AUTHORIZATIONS AND OTHER CONDITIONS GOVERNING ACTIVITIES IN THE BIODIVERSITY RESERVE

Natural Heritage Conservation Act
(R.S.Q., c. C-61.01, ss. 46 and 49)

DIVISION I
PROTECTION OF RESOURCES AND THE NATURAL ENVIRONMENT

1. Subject to the prohibition in the second paragraph, no person may establish in the biodiversity reserve any specimens or individuals of a native or non-native species of fauna, including by stocking, unless the person has been authorized by the Minister and complies with the conditions the Minister determines.

No person may stock a watercourse or body of water for aquaculture, commercial fishing or any other commercial purpose.

No person may establish in the biodiversity reserve a non-native species of flora, unless the person has been authorized by the Minister and complies with the conditions the Minister determines.

Before issuing an authorization under this section, the Minister is to take into consideration, in addition to the characteristics and the number of species involved, the risk of biodiversity imbalance, the importance of conserving the various ecosystems, the needs of the species in the ecosystems, the needs of rehabilitating degraded environments or habitats within the biodiversity reserve, and the interest in reintroducing certain species that have disappeared.

2. No person may use fertilizer or fertilizing material in the biodiversity reserve. Compost for domestic purposes is permitted if used at least 20 metres from a watercourse or body of water measured from the high-water mark.

The high-water mark means the high-water mark defined in the Protection Policy for Lakeshores, Riverbanks, Littoral Zones and Floodplains, adopted by Order in Council 468-2005 dated 18 May 2005.

3. No person may, unless the person has been authorized by the Minister and carries on the activity in compliance with the conditions the Minister determines,

(1) intervene in a wetland area, including a marsh, swamp or bog;

(2) modify the reserve's natural drainage or water regime, including by creating or developing watercourses or bodies of water;

(3) dig, fill, obstruct or divert a watercourse or body of water;

(4) install or erect any structure, infrastructure or new works in or on the bed, banks, shores or floodplain of a watercourse or body of water, although no authorization is required for minor works such as a wharf, platform or boathouse erected for private purposes and free of charge under section 2 of the Regulation respecting the water property in the domain of the State made by Order in Council 81-2003 dated 29 January 2003;

(5) carry on any activity other than those referred to in the preceding subparagraphs that is likely to degrade the bed, banks or shores of a body of water or watercourse or directly and substantially affect the quality of the biochemical characteristics of aquatic or riparian environments or wetland areas in the biodiversity reserve, including by discharging or dumping waste or pollutants into those areas;

(6) carry out soil development work, including any burial, earthwork, removal or displacement of surface materials or vegetation cover, for any purpose including recreational and tourism purposes such as trail development;

(7) install or erect any structure, infrastructure or new works;

(8) reconstruct or demolish an existing structure, infrastructure or works,

(9) carry on an activity that is likely to severely degrade the soil or a geological formation or damage the vegetation cover, such as stripping, the digging of trenches or excavation work;

(10) use a pesticide, although no authorization is required for the use of personal insect repellent;

(11) carry on educational or research-related activities if the activities are likely to significantly damage or disturb the natural environment, in particular because of the nature or size of the samples taken or the invasive character of the method or process used; or

(12) hold a sports event, tournament, rally or similar event if more than 15 persons are likely to participate in the activity and have access to the biodiversity reserve at the same time; no authorization may be issued by the Minister if the activity involves motor vehicle traffic, unless it has been shown to the Minister that it is impossible to organize the activity elsewhere or that bypassing the biodiversity reserve is highly unfeasible.

The conditions determined by the Minister for the authorization may pertain to the location of the authorized activity, the methods used, the areas that may be cleared or deforested, the types of material that may be used including on-site materials, and the presence of ancillary works or facilities. The conditions may also include a requirement to ensure periodic follow-up or to report to the Minister, in particular as regards the results obtained from the research to which subparagraph 11 of the first paragraph refers.

4. Despite subparagraphs 6, 7, 8 and 9 of the first paragraph of section 3, no authorization is required to carry out work referred to in subparagraph 1 of this section when the requirements of subparagraph 2 are met.

(1) The work involves

(*a*) work to maintain, repair or upgrade an existing structure, infrastructure or works such as a camp, cottage, road or trail, including ancillary facilities such as lookouts or stairs;

(*b*) the construction or erection of

i. an appurtenance or ancillary facility of a trapping camp, rough shelter, shelter or cottage such as a shed, well, water intake or sanitary facilities; or

ii. a trapping camp, rough shelter, shelter or cottage if such a building was permitted under the right to use or occupy the land but had not been constructed or installed on the effective date of the status as a biodiversity reserve; or

(*c*) the demolition or reconstruction of a trapping camp, rough shelter, shelter or cottage, including an appurtenance or ancillary facility such as a shed, well, water intake or sanitary facilities.

(2) The work is carried out in compliance with the following requirements:

(*a*) the work involves a structure, infrastructure or works permitted within the biodiversity reserve;

(*b*) the work is carried out within the area of land or right-of-way subject to the right to use or occupy the land in the biodiversity reserve, whether the right results from a lease, servitude or other form of title, permit or authorization;

(*c*) the nature of the work or elements erected by the work will not operate to increase the area of land that may remain deforested beyond the limits permitted under the provisions applicable to the sale, lease and granting of immovable rights under the Act respecting the lands in the domain of the State (R.S.Q., c. T-8.1) and, if applicable, the limits allowed under an authorization for the structure, works or infrastructure; and

(*d*) the work is carried out in compliance with the conditions of a permit or authorization issued for the work or in connection with the structure, infrastructure or works involved, and in accordance with the laws and regulations that apply.

For the purposes of this section, repair and upgrading work includes work to replace or erect works or facilities to comply with the requirements of an environmental regulation.

5. No person may bury, abandon or dispose of waste, snow or other residual materials elsewhere than in waste disposal containers, facilities or sites determined by the Minister or in another place with the authorization of the Minister and in compliance with the conditions the Minister determines.

DIVISION II
RULES OF CONDUCT FOR USERS

6. Every person staying, carrying on an activity or travelling in the biodiversity reserve is required to maintain the premises in a satisfactory state and before leaving, return the premises to their natural state to the extent possible.

7. Every person who makes a campfire must

(1) first clear an area around the fire site sufficient to prevent the fire from spreading by removing all branches, scrub, dry leaves and other combustible material;

(2) ensure that the fire is at all times under the immediate supervision of a person on the premises; and

(3) ensure that the fire is completely extinguished before leaving the premises.

8. In the biodiversity reserve, no person may

(1) cause any excessive noise;

(2) behave in a manner that unduly disturbs other persons or interferes with their enjoyment of the biodiversity reserve; or

(3) harass wildlife.

For the purposes of subparagraphs 1 and 2 of the first paragraph, behaviour that significantly disturbs other persons and constitutes unusual or abnormal conditions for the carrying on of an activity or for the permitted use of property, a device or an instrument within the biodiversity reserve is considered excessive or undue.

9. No person may enter, carry on an activity or travel in a vehicle in a given sector of the biodiversity reserve if the signage erected by the Minister restricts access, traffic or certain activities in order to protect the public from a danger or to avoid placing the fauna, flora or other components of the natural environment at risk, unless the person has been authorized by the Minister and complies with the conditions the Minister determines.

10. No person may destroy, remove, move or damage any poster, sign, notice or other types of signage posted by the Minister within the biodiversity reserve.

DIVISION III
ACTIVITIES REQUIRING AN AUTHORIZATION

11. No person may occupy or use a site in the biodiversity reserve, unless the person has been authorized by the Minister and complies with the conditions the Minister determines.

For the purposes of this section, the occupation or use of a site includes staying or settling in the biodiversity reserve, including for vacation purposes, installing a camp or shelter in the biodiversity reserve or leaving, burying or installing equipment, any device or a vehicle.

An authorization is not required if a person,

(1) on the effective date of the protection status as a biodiversity reserve, was a party to a lease or had already obtained another form of right or authorization allowing the person to legally occupy the land under the Act respecting the lands in the domain of the State (R.S.Q., c. T-8.1) or, if applicable, the Act respecting the conservation and development of wildlife (R.S.Q., c. C 61.1), and whose right to occupy the land is renewed or extended on the same conditions, subject to possible changes in fees;

(2) in accordance with the applicable provisions of law, has entitlement under a sublease, an assignment of a lease or a transfer of a right or authorization referred to in paragraph 1, and whose right to occupy the land is renewed or extended on the same conditions, subject to possible changes in fees; or

(3) elects to acquire land the person legally occupies on the effective date of the protection status as a biodiversity reserve, pursuant to the Act respecting the lands in the domain of the State.

12. No person may carry on forest management activities to meet domestic needs or for the purpose of maintaining biodiversity, unless the person has been authorized by the Minister and

carries on the activities in compliance with the conditions the Minister determines.

The conditions determined by the Minister for the authorization may pertain, among other things, to species of trees or shrubs, the size of the stems that may be cut, the quantities authorized and the places where the activities may be carried on.

Despite the first paragraph, an authorization is not required if a person staying or residing in the biodiversity reserve collects wood to make a campfire.

DIVISION IV
AUTHORIZATION EXEMPTIONS

13. Despite the preceding provisions, an authorization is not required for an activity or other form of intervention within the biodiversity reserve if urgent action is necessary to prevent harm to the health or safety of persons, or to repair or prevent damage caused by a real or apprehended disaster. The person concerned must, however, immediately inform the Minister of the activity or intervention that has taken place.

14. The members of a Native community who, for food, ritual or social purposes, carry on an intervention or an activity within the biodiversity reserve are exempted from obtaining an authorization.

15. Despite the preceding provisions, the following activities and interventions involving the transmission, distribution or production of electricity carried out by Hydro-Québec (Société) or by any other person for Hydro-Québec do not require the prior authorization of the Minister under this conservation plan:

(1) any activity or intervention required within the biodiversity reserve to complete a project for which express authorization had previously been given by the Government and the Minister, or only by the Minister, in accordance with the Environment Quality Act (R.S.Q., c. Q-2), if the activity or intervention is carried out in compliance with the authorizations issued;

(2) any activity or intervention necessary for the preparation and presentation of a pre-project report for a project requiring an authorization under the Environment Quality Act;

(3) any activity or intervention relating to a project requiring the prior authorization of the Minister under the Environment Quality Act if the activity or intervention is in response to a request for a clarification or for additional information made by the Minister to the Société, and the activity or intervention is carried out in conformity with the request; and

(4) any activity or intervention by the Société, if the conditions for the carrying out of the activity or intervention have been determined in an agreement between the Minister and the Société and the activity or intervention is carried out in compliance with those conditions.

The Société is to keep the Minister informed of the various activities or interventions referred to in this section it proposes to carry out before the work is begun in the reserve.

For the purposes of this section, the activities and interventions of the Société include but are not restricted to pre-project studies, analysis work or field research, work required to study and ascertain the impact of electric power transmission and distribution line corridors and rights-of-way, geological or geophysical surveys and survey lines, and the opening and maintenance of roads required for the purpose of access, construction or equipment movement incidental to the work.

DIVISION V
GENERAL PROVISIONS

16. Every person who applies to the Minister for an individual authorization or an authorization for a group or a number of persons must provide all information or documents requested by the Minister for the examination of the application.

17. The Minister's authorization, which is general or for a group, may be communicated for the benefit of the persons concerned by any appropriate means including a posted notice or appropriate signage at the reception centre or any other location within the biodiversity reserve that is readily accessible to the public. The Minister may also provide a copy to any person concerned.