



Proposed Saint-Elzéar karst biodiversity reserve

(provisional name)

Conservation plan



June 2005

1. Protection status and toponym

The legal status of the reserve described below is that of proposed biodiversity reserve under the *Natural Heritage Conservation Act* (R.S.Q., c. C-61.01).

The proposed reserve is to have the name "Réserve de biodiversité projetée du karst de Saint-Elzéar". The official toponym will be determined at the time of the assignment of permanent protection status to the land.

The proposed biodiversity reserve protects a scientifically unique and exceptional heritage, in particular from the perspective of its geology. The area is a mosaic of forest ecosystems of great ecological interest owing to the evolution of the vegetation cover that prevents degradation of underground karst formations. The reserve also is a landscape of great quality.

Biodiversity reserve status will allow the pursuit of the following conservation objectives:

- conservation of a portion of land having a physiography characteristic of the Appalachians natural province;
- preservation of an area of geological interest (recognized or potential);
- protection of the biodiversity of forest ecosystems;
- acquisition of additional knowledge about that natural heritage, in particular karst phenomena and the evolution of the vegetation cover.

2. Plan and description

2.1. Location, boundaries and dimensions

The boundaries and location of the proposed Saint-Elzéar karst biodiversity reserve are shown on the attached plan.

The proposed Saint-Elzéar karst biodiversity reserve is located between 48°13' and 48°19' north latitude and 65°17' and 65°25' west longitude, immediately north of Municipalité de Saint-Elzéar, in the unorganized territory of Municipalité régionale de comté de Bonaventure, in the Gaspésie—Îles-de-la-Madeleine administrative region.

The proposed biodiversity reserve covers an area of 44.5 km² and lies within the north-eastern portion of the Duval river watershed. It also includes bluffs to the north-west that border on the left shore of the Garin river. The proposed biodiversity reserve is accessible by public and forest roads from Municipalité de

Saint-Elzéar. The forest road, crossing the proposed reserve from the Garin escarpment in the south-west towards the north-east, having a 30-metre right-of-way as shown on the attached plan, is excluded from the proposed biodiversity reserve.

2.2. Geography

The protected area 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.

2.2.1. Representative elements

Climate: The proposed 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 proposed biodiversity reserve is part of 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 the formation of karsts. The strata are in anticlinal and synclinal folds so that the limestone units reappear in long north-east – south-west parallel bands, 200 to 300 metres wide. The surface area of the limestone outcrops is increased because the hinge lines of the folds are not always horizontal but undulate slightly, plunging alternately to the north-east and the south-west.

The extent of the rock outcrop, generally covered with vegetation, is approximately 25% of the area between the Garin escarpment and the Garin river to the north. Elsewhere, the rock is covered with a thin layer of sedimentary rock derived till or well-drained very stony sandy till. Sandy loams that are well or badly drained cover the valley floors. Very stony 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 proposed reserve. North of the escarpment, the surface rises gradually to an elevation of some 600 metres forming the Garin plateau.

Hydrography: The major part of the proposed biodiversity reserve is in the Duval river watershed, a tributary of the Bonaventure river. The Duval Est stream drains the northern half of the proposed biodiversity reserve. A small portion of the territory located to the north-west 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, a 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 proposed biodiversity reserve will ensure the conservation of a representative, relatively uneven physiographic unit that is distinct from the rest of the southern part of Gaspésie.

Vegetation: The forest consisting of mixed hardwoods and softwoods covers approximately 60% of the territory. The forest was nearly completely burned in 1924. Some 90% of the forest is between 20 and 80 years old. Forest areas dominated by hardwoods cover some 30% of the area. A few softwood forests, covering approximately 7% of the area, and some 3% of the hardwood forests are over 80 years old, and cover especially the valley floors; they probably escaped the fires. The youngest forests, less than 20 years old, are a product of logging and are found mostly in the north-western portion of the reserve that is drained by the Garin river.

White birch (*Betula papyrifera*) and trembling aspen (*Populus tremuloides*) dominate most of the area. Softwoods are represented mainly by balsam fir (*Abies balsamea*), white spruce (*Picea glauca*), red spruce (*Picea rubens*) and black spruce (*Picea mariana*). In well-drained soils, the herbaceous and arbustive flora of the forest floor consists of about twenty species that characterize boreal forests. The few tree clumps consisting of eastern white cedar (*Thuja occidentalis*), balsam fir and white spruce are confined to the north of the territory at the bottom of the valleys and along the Duval river. Yellow birch (*Betula alleghaniensis*) forms 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.

2.2.2. Outstanding elements

The Garin plateau is the only place in Québec and Eastern Canada where it is possible to observe active karst phenomena and other karst phenomena 200,000 years old dating back to the middle Pleistocene. Karst phenomena, the variety and the age difference of which are unique to Québec, are found in the area between the village of Saint-Elzéar and the Garin river. It is the only place where major karst phenomena active today coexist in the same limestone with surface and underground karst forms, either inactive or fossilized by deposits. The latest studies show that karst phenomena are identified throughout the proposed biodiversity reserve. The Saint-Elzéar cave and dolines near the cave, in the interior of the

proposed biodiversity reserve, and karst phenomena (swallow holes, resurgences) around the village of Saint-Elzéar are the local karst phenomena most studied over the last 20 years and the best known in the Gaspésie region.

The presence of hundreds of closed depressions and numerous dolines would indicate that the cave network is larger than the network currently known.

2.3. Occupation, rights and land uses

Nine land rights have been granted by the Ministère des Ressources naturelles et de la Faune within the perimeter of the proposed biodiversity reserve. They are apportioned as follows:

- 2 for the construction of a rough shelter in the forest;
- 2 for personal vacation resort purposes (cottages), situated near the north-west limit of the proposed reserve;
- 2 for a trail for hiking and observing the karst phenomena;
- 3 for recreational equipment (access to the Saint-Elzéar cave), the construction of a lookout and observation tower.

Part of the territory is served by forest roads and a road and hiking trail leading to the Saint-Elzéar cave. In the fall, the local population hunts moose in the area.

Saint-Elzéar cave was "officially" discovered by Saint-Elzéar residents in 1976, but local legend has it that the cave entrance was observed long before. Since then, a number of researchers from the Government of Québec, Québec universities and the Société québécoise de spéléologie have studied the cave and karst phenomena of the Saint-Elzéar region. Local organizations such as the Comité de promotion des ressources naturelles de Saint-Elzéar inc. and Habitafor are also involved in the understanding of karst phenomena in the area. The significance of the phenomena justified in 1977 the proposed assigning of conservation status (ecological reserve) to part of the area. The local population, however, under the Comité de promotion des ressources naturelles de Saint-Elzéar inc., sought to have the Saint-Elzéar cave developed for educational, recreational and tourism purposes. The descriptive work and management plans of the Saint-Elzéar cave were consequently carried out between 1983 and 1985 in close collaboration with the Ministère de l'Environnement. In 1980, the Comité de promotion des Ressources naturelles de Saint-Elzéar inc. established a cave museum in the village of Saint-Elzéar where educational and recreo-touristic activities centred on the discovery of the Saint-Elzéar cave and karst phenomena in the area have been carried on for approximately fifteen years.

3. Activities within the reserve

§1. Introduction

The activities carried on within the proposed reserve are governed for the most part by the provisions of the Natural Heritage Conservation Act.

This Division prohibits activities in addition to those prohibited under the Act and provides a framework for the carrying on of certain permitted activities so as to better ensure the protection of the natural environment. Accordingly, certain activities require the prior authorization of the Minister and compliance with the conditions determined by the Minister.

As provided in the Natural Heritage Conservation Act, the main activities prohibited in an area to which status as a proposed biodiversity or aquatic reserve has been assigned are

- mining, and gas or petroleum development;
- forest management 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.

§2. Prohibitions, prior authorizations and conditions on which certain activities may be carried on in the proposed reserve

§2.1. Protection of resources and the natural environment

3.1. No person may introduce non-native species of flora or fauna into the proposed reserve.

3.2. No person may stock a watercourse or body of water

- (1) for aquaculture, sports or commercial fishing or any other commercial purpose;
- (2) for any other purpose, if the fish stocked are not from a genetic strain originating from the proposed reserve.

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

Despite the first paragraph, no authorization need be obtained by an outfitting operation to use a disposal facility or site in compliance with the Environment Quality Act and its regulations if the

outfitting operation was already using the facility or site on the date on which the protection status as a proposed reserve takes effect.

3.4. 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) carry on any activity likely to severely degrade the banks or shores or to otherwise seriously affect the integrity of a watercourse, body of water or other wetland area, in particular by discharging or dumping waste or other pollutant into the watercourse, body of water or wetland area; or

(2) dig, fill, obstruct or divert a watercourse or body of water.

§2.2. Rules of conduct for users

3.5. Every person staying, carrying on an activity or travelling about within the proposed 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.

3.6. Every person who makes a campfire must

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

(2) see that there is always a person on the premises to attend the fire; and

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

3.7. In the proposed reserve, no person may

(1) cause any excessive noise; or

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

3.8. No person may destroy, remove, move or damage any poster, sign, notice or other type of signage posted by the Minister within the proposed reserve.

3.9. No person may enter, carry on an activity in or operate a vehicle in a given sector of the proposed reserve unless the person has been authorized by the Minister and complies with the conditions determined, 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.

§2.3. Activities requiring an authorization

3.10. No person may establish a campsite, a shelter or otherwise stay in the proposed reserve, or occupy a site by installing or leaving property, unless the person has been authorized by the Minister and complies with the conditions determined by the Minister. No authorization need be obtained by a person who,

- (1) on the date on which the protection status as a proposed reserve takes effect, was a party to a lease or had already obtained another form of permit or authorization allowing the person to 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;
- (2) in accordance with the applicable provisions of law, has entitlement under a sublease, an assignment of a lease or a transfer of an authorization, as referred to in paragraph 1, and whose right to occupy the land is renewed or extended;
- (3) avails himself or herself of the possibility of acquiring the land the person legally occupies on the date on which the protection status as a proposed reserve takes effect, pursuant to the Act respecting the lands in the domain of the State.

3.11. (1) 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 of that 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.

- (2) Despite subsection 1, the authorization of the Minister under this plan need not be obtained by a person staying or residing in the proposed reserve who collects wood to make a campfire.

No such authorization need be obtained by a person to collect wood to meet domestic needs

- (a) if the wood is collected within a sector reserved by the Minister of Natural Resources and Wildlife as a sector for which a permit for the harvest of firewood for domestic purposes under the Forest Act (R.S.Q., c. F-4.1) may be issued and which has already been reserved as such by the Minister on the date on which the protection status as a proposed reserve takes effect;
 - (b) if the wood is collected by a person who, on the date on which the protection status as a proposed reserve takes effect or in any of the three preceding years, held a permit for the harvest of firewood for domestic purposes allowing the person to harvest firewood within the proposed reserve; or
 - (c) if the wood is collected by a person in accordance with the conditions set out in the permit for the harvest of firewood for domestic purposes issued by the Minister of Natural Resources and Wildlife under the Forest Act.
- (3) Despite subsection 1, no authorization need be obtained by a person authorized by lease to occupy land within the proposed reserve, pursuant to this plan, to carry on a forest management activity for the purpose of
- (a) clearing permitted harvested areas, maintaining them or creating visual openings, and any other similar removal purposes permitted under the regulation that applies to the sale, lease and granting of immovable rights made under the Act respecting the lands in the domain of the State;
 - (b) creating and maintaining access roads, stairways or other trails permitted under that regulation; or
 - (c) clearing the necessary area for the installation, connection, maintenance and repair of power, water, sewer or telecommunication lines, facilities and mains.

When the work referred to in subparagraph c of subsection 3 is carried out for or under the responsibility of an enterprise providing any of those services, the work requires the prior authorization of the Minister, other than in the case of the exemptions provided for in sections 3.13 and 3.14.

- (4) Despite subsection 1, no authorization need be obtained by a person to carry on a forest management activity to maintain a sugar bush and harvest maple products for domestic purposes

- (a) if the activity is carried on by a person who, on the date on which the protection status as a proposed reserve takes effect or in any of the three preceding years, held a sugar bush management permit issued by the Minister of Natural Resources and Wildlife under the Forest Act allowing the person to carry on the activities of a sugar bush operator within the proposed reserve;
- (b) if the activity is carried on within a zone for which the permit obtained allowed the carrying on of sugar bush operations on the date on which the protection status as a proposed reserve takes effect or in any of the three preceding years; or
- (c) if the activity is carried on by a person in compliance with the conditions set out in the sugar bush management permit issued by the Minister of Natural Resources and Wildlife under the Forest Act.

3.12. 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) carry out soil development work, including any fill, burial, earthwork, removal or displacement of surface materials or vegetation cover, for any purpose including recreational and tourism purposes such as the development of trails;
- (2) install or construct a new structure, infrastructure or works;
- (3) reconstruct or demolish an existing structure, infrastructure or works;
- (4) use a pesticide, although no authorization is required for the use of insect repellent for personal purposes;
- (5) 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; or
- (6) carry on educational or research-related activities if the activities are likely to significantly damage or disturb the natural environment, in particular by the extent of the moving or removal of natural resources or by the use of explosives.

The conditions of the Minister's authorization for the work 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 the material taken from the site, 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 6 of the first paragraph refers.

Subject to the conditions determined in the authorization, work to repair or maintain trails authorized by the Minister or trails existing on the date on which the protection status as a proposed reserve takes effect may be carried on without an authorization under subparagraph 1 of the first paragraph.

Work to repair or maintain forest roads or roads authorized under the Act respecting the lands in the domain of the State (R.S.Q., c. T-8.1) carried on in accordance with the Forest Act and its regulations that concern standards of forest management may be carried on without an authorization under subparagraph 1 of the first paragraph.

§ 2.4. Authorization exemptions

- 3.13.** Despite the preceding provisions, no authorization need be obtained by a person to carry on an activity or for any other form of intervention within the proposed reserve if urgent action is required to prevent harm to the health or safety of persons, or to repair or prevent damage caused by a real or apprehended catastrophe. The person concerned must, however, immediately inform the Minister of the activity or intervention that has taken place.
- 3.14.** Despite the preceding provisions, the following activities and interventions involving the production, transmission and distribution 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 plan:
- (1) any activity or intervention required within the proposed reserve to complete a project which was previously expressly authorized by the Government and the Minister, or only by the latter, in accordance with the requirements of 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 it is carried out in accordance with the request;

- (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.

For the purposes of this section, the activities and interventions of the Société include pre-project studies, analysis work or field research, work required to study and monitor the impact of 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 necessary for the carrying on of such work.

§2.5. General provisions

- 3.15.** Every person who applies to the Minister for an individual authorization or for an authorization for a group or for a number of persons must provide any information or document requested by the Minister for the examination of the application.
- 3.16.** The Minister's authorization, which is general and can be used by more than one person, may be communicated to the persons concerned by any appropriate means including by a posted notice or appropriate signage at the reception centre or any other location within the proposed reserve that is readily accessible to the public. The Minister is to provide a copy to any person requesting a copy.

§3. Activities governed by other statutes

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

A special legal framework may govern permitted and prohibited activities within the proposed 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);
- Archaeological research: measures set out in particular in the Cultural Property Act (R.S.Q., c. B-4);
- Development 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, including the fishery regulations;

- Removal of species of fauna or flora that are threatened or vulnerable or are likely to be designated as such: measures prohibiting the removal of the species under the Act respecting threatened or vulnerable species (R.S.Q., c. E-12.01);
- Access and land rights: measures set out in particular in the Act respecting the lands in the domain of the State (R.S.Q., c. T-8.1);
- 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 (R.S.Q., c. Q-2).

4. Responsibilities of the Minister of Sustainable Development, Environment and Parks

The Minister of Sustainable Development, Environment and Parks is responsible for the management of the proposed Saint-Elzéar karst biodiversity reserve and is therefore responsible for the supervision and monitoring of the activities that may be carried on within the reserve. The Minister in the management of the reserve works collaboratively with other government representatives having specific responsibilities within the boundaries of the reserve or on adjoining land, such as the Minister of Natural Resources and Wildlife. In the exercise of their powers and functions, the Ministers will take into consideration the protection sought for these natural environments and the protection status that has been granted.

Schedule

Map of the proposed Saint-Elzéar karst biodiversity reserve (provisional name)

