

QUÉBEC STRATEGY FOR PROTECTED AREAS



**Réserve de
biodiversité
projetée
Michael-Dunn**

Conservation plan



September 2013

1. Protection status and Toponym

The protection status of the area described below is that of "proposed biodiversity reserve", a status governed by the *Natural Heritage Conservation Act* (chapter C-61.01).

The anticipated permanent protection status is that of "biodiversity reserve", a status also governed by the *Natural Heritage Conservation Act*.

The provisional toponym is "Réserve de biodiversité projetée Michael-Dunn". The official toponym will be determined when the territory is given permanent protection status.

2. Plan and description

2.1. Geographic location, boundaries, and dimensions

The boundaries and location of Réserve de biodiversité projetée Michael-Dunn are shown on the plan in Appendix I.

Réserve de biodiversité projetée Michael-Dunn, which covers an area of 1,176 km² (117.6 ha), is located between 45°0'19" and 45°0'48" north latitude and 72°11'8" and 72°12'46" west longitude. The southern boundary of the biodiversity reserve is adjacent to the Canada-U.S. border and the western boundary is the eastern shore of Lac Memphrémagog opposite Île de la Province. The reserve is located approximately 3 km west of Bebee and roughly 860 meters south of Cedarville in the municipality of Ogden within the Memphrémagog RCM and the Estrie administrative region.

2.2. Ecological overview

Réserve de biodiversité projetée Michael-Dunn is located in the Plateau d'Estrie-Beauce natural region in the Appalachian natural province. More specifically, it is part of the Lac Memphrémagog Basin ecological district and the Appalachian Uplands physiographic unit. This proposed biodiversity reserve contributes to the conservation of ecosystems representative of the Lac Memphrémagog Basin ecological district.

2.2.1. Representative elements

Climate: The area is characterized by a continental climate with a moderate average temperature (4.5 to 6.6°C), subhumid annual rainfall (800 to 1,359 mm), and a long growing season (180 to 209 days). The area belongs to the maple-linden bioclimatic domain.

Geology and geomorphology: Réserve de biodiversité projetée Michael-Dunn belongs to the Appalachian geologic province, consisting of Paleozoic intrusive rock. The geologic foundation in the

proposed reserve is composed mainly of mudrock, sandstone, limestone, and conglomerate. As regards geomorphology, the Lac Memphrémagog Basin ecological district consists of hummocks. In the proposed biodiversity reserve, surface deposits are glacial drift along the lake's edge (ground moraines without morphology) and glaciolacustrine deposits (silty clay and sandy) inland. Organic deposits are also observed around a small unnamed lake. The altitude varies from 208 m to 261 m.

Hydrography: The protected area is part of the Rivière Magog sub-watershed, which is part of the Rivière Saint-François watershed. The biodiversity reserve protects slightly more than one kilometer of Lac Memphrémagog shoreline. A runnel flows through the area from northwest to southeast over a distance of 825 meters, emptying into a small unnamed lake. This lake located on either side of the Canada-U.S. border covers 975 m² of the proposed reserve and is surrounded by wetlands. A small, intermittent watercourse also flows through the area.

Flora: Close to 100.5 ha of Réserve de biodiversité projetée Michael-Dunn is forest environment while 17.5 ha is pastureland.

Eco-forest map data indicates that sugar maple–tolerant hardwood stands comprise the dominant tree species community, covering almost 40% of the area, or 47.5 ha. An inventory carried out in August 2010 shows however that while sugar maple (*Acer saccharum*) is generally dominant in the area, it grows alongside highly diverse hardwood species including several intolerant species: American white ash (*Fraxinus americana*), large-toothed and quaking aspen (*Populus grandidentata*, *P. tremuloides*), white birch (*Betula papyrifera*), American beech (*Fagus grandifolia*), red maple (*Acer rubrum*), and less commonly yellow birch (*Betula alleghaniensis*), American linden (*Tilia americana*), and black cherry (*Prunus serotina*). Certain softwood species are also present including Eastern hemlock (*Tsuga canadensis*) and Eastern white cedar (*Thuja occidentalis*), which can become predominant locally, especially in riparian areas of Lac Memphrémagog. Balsam fir (*Abies balsamea*), white pine (*Pinus strobus*), and red spruce (*Picea rubens*), although less abundant, have also been recorded within this tree species community. The presence of red pine (*Pinus resinosa*), silver maple (*Acer saccharinum*), and speckled alder (*Alnus incana* subsp. *rugosa*) along the shoreline is worth noting.

Red maple–softwood stands are the second leading community, covering 26 ha. Red maple is dominant in this stand, which also includes white birch, American white ash, American black ash (*Fraxinus nigra*), sugar maple, yellow birch, aspen, hemlock, and white pine.

Lastly, tolerant hardwood–softwood stands and white pine–aspen stands occupy 13 and 8 ha respectively. Forest species present within the tolerant hardwood stands are similar to those within the maple–tolerant hardwood stands. Sugar maple is however less abundant in these stands, and intolerant

hardwoods generally seem more numerous. Red pine and silver maple are virtually absent. In white pine stands a fair number of hemlock can be observed.

Striped maple (*Acer pensylvanicum*) dominates the shrub stratum. The herbaceous stratum is dominated primarily by various fern species including New York fern (*Thelypteris noveboracensis*), evergreen wood fern (*Dryopteris intermedia*; syn.: *D. spinulosa* var. *intermedia*), and lady fern (*Athyrium filix-femina*). These ferns are found mainly with wild sasparilla (*Aralia nudicaulis*), wild lily of the valley (*Maianthemum canadense*), and rosy twistedstalk (*Streptopus lanceolatus*). Riparian flora is distinguished by an abundance of plants from the heath family including black huckleberry (*Gaylussacia baccata*), highbush blueberry (*Vaccinium corymbosum*), velvetleaf huckleberry (*Vaccinium myrtilloides*), and wintergreen (*Gaultheria procumbens*). Some basins are home to a diverse flora comprising numerous species associated with wetlands or nutrient-enriched environments.

Fauna:

While no wildlife inventory has been carried out on the Dunn property, the fauna is probably typical of the region, and the presence of large mammals (deer, moose) is likely.

2.3. Land occupation and uses

The land for Réserve de biodiversité projetée Michael-Dunn was left to the Government of Québec by Michael Dunn on his death in 2007. Dunn owned 400 ha of farmland on either side of the border. In the deed creating the trust tasked with disposing of his property, Dunn asked that his land be given to the Canadian and U.S. governments. Canada did not accept this gift, so the Canadian portion was offered to the Québec government. The latter accepted the land on April 9, 2010, and took possession of the 117.6 ha north of the border on December 14, 2010. In his will Dunn indicated his desire that the land remain in an open state, with hiking and camping permitted. Authority over the land was transferred to Ministère du Développement durable, de l'Environnement et des Parcs by Ministère des Ressources naturelles et de la Faune under a notice of transfer of authority published in the Register of the Domain of the State under No. 51.

The impact of treading on the undergrowth flora has already been recorded in certain parts of the area. Signage and appropriate amenities must therefore be installed to limit the impact of recreation and education activities on biodiversity. New trails and marked campsites would help in this regard.

The proposed biodiversity reserve is accessible by land from Chemin Arnold, which meets Cedarville at Glines Corner. The reserve can also be reached by water via Lac Memphrémagog. Two farm roads provide access to the pastureland from Dunn Farm in the United States.

Historically speaking, the proposed biodiversity reserve lies in an archaeological zone with topographical characteristics that could have been favourable to the establishment of ancient populations. Additionally, lac Memphrémagog includes numerous archaeological sites, which increases the probability of chance discoveries or of updating such sites within the sector. Prehistoric, colonisation era and pre-industrial era local development vestiges may also be found on these lands.

3. Activities within the Réserve

§1. Introduction

Activities carried on within the proposed reserve are governed mainly by the provisions of the Natural Heritage Conservation Act.

This Division describe prohibited activities in addition to those already forbidden by the above-mentioned 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 proposed biodiversity reserve. The permitted and prohibited activities considered for the period that follows the assignment of permanent status by the Government are the same with the necessary adjustments to take into account the application of section 46 of the Act.

Under the Natural Heritage Conservation Act, the main activities prohibited in an area to which a status of proposed biodiversity reserve has been assigned are:

- mining, and gas or petroleum development;
- forest development activity within the meaning of section 4 of the Sustainable Forest Development Act (chapter A-18.1); and
- the development of hydraulic resources and any production of energy on a commercial or industrial basis.

§2 Prohibitions, prior authorizations and other conditions governing certain activities in the proposed reserve

§2.1. Protection of resources and the natural environment

3.1. Subject to the prohibition in the second paragraph, no person may establish in the proposed reserve any specimens or individuals of a native or non-native species of fauna into the reserve, including by stocking, unless the person has been authorized by the Minister.

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 proposed reserve a non-native species of flora, unless the person has been authorized by the Minister.

3.2. No person may use fertilizer or fertilizing material in the proposed reserve.

3.3. No person may carry on hunting, fishing or trapping activities in the proposed reserve, unless the person has been authorized by the Minister.

3.4. No person may carry on activities relating to mining, gas and petroleum exploration, including brine and underground reservoir exploration, prospecting, and digging or boring in the proposed reserve.

3.5. No person may, unless the person has been authorized by the Minister:

- (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 modifying 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;
- (5) carry on any activity other than those referred to in the preceding paragraphs that is likely to degrade the bed, banks or shores of a body of water or watercourse or directly and substantially affect the biochemical characteristics or quality of aquatic or riparian environments or wetland areas in the proposed reserve, including by discharging or dumping waste or pollutants into the watercourse or body of water;
- (6) carry out soil development work, including any burial, earthwork, removal or displacement of surface materials or any cutting, harvesting or destruction of the vegetation cover, for any purpose including the development of recreational and tourist infrastructures;
- (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;
- (12) carry on recreational and educational activities outside the trails, roads and areas laid out and provided for that purpose;
- (13) travel in a motorized or mechanical vehicle on land of the reserve; or

(14) 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 proposed reserve at the same time.

3.6. Despite subparagraphs 6, 7, 8 and 9 of the first paragraph of section 3.5, 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) the maintenance or repair of an existing structure, infrastructure or works including ancillary facilities;

(b) the demolition or reconstruction of an existing structure, infrastructure or works, including an appurtenance or ancillary facility to such structure.

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

(a) the work involves a structure, infrastructure or works authorized within the proposed 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 proposed reserve, whether the right results from a lease, servitude or other form of title, permit or authorization;

(c) 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 work includes work to replace or erect works or facilities to comply with the requirements of an environmental regulation.

3.7. 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.

§2.2. Rules of conduct for users

3.8. Any person staying, carrying on an activity or travelling within the proposed reserve is required to have paid, if need be, the rights of access required as indicated by signage. The rights of access can be collected by a delegate where such power has been delegated to the authorities by the Minister.

3.9. Any person staying, carrying on an activity or travelling 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.

3.10. Any person who makes a campfire must ensure that:

- (1) the place where the fire is lit is provided for and laid out for that purpose as indicated by signage;
- (2) the fire is at all times under the immediate supervision of a person on the premises; and
- (3) the fire is completely extinguished before leaving the premises.

3.11. In the proposed reserve, no person may:

- (1) cause any excessive noise;
- (2) behave in a manner that unduly disturbs other users or interferes with their enjoyment of the premises;
- (3) harass wildlife;
- (4) circulate or travel with a domestic animal that is not kept on a leash.

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 proposed reserve is considered excessive or undue.

3.12. No person may enter, carry on an activity or travel in a given sector of the proposed reserve if the signage erected by the Minister restricts access, circulation 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.

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

§2.3. Activities requiring an authorization

3.14. No person may carry on camping activities within the proposed reserve, except at the places provided and laid out for that purpose as clearly indicated by signage, unless the person has been so authorized by the Minister.

3.15. No person may carry on camping activities within the proposed reserve for a period of more than 14 days in the same year, unless the person has been so authorized by the Minister.

3.16. No person may carry on forest management activities for the purpose of maintaining biodiversity, unless the person has been authorized by the Minister.

§ 2.4 Authorization exemptions

3.17. Despite the preceding provisions, an authorization is not required for an activity or other form of intervention within the proposed 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.

3.18. Despite the preceding provisions, the following activities and interventions 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 proposed 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 (chapter 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; and
- (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.

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.

4. Activities governed by other laws

Certain activities likely to be carried out in the proposed reserve are also governed by other applicable legislative and regulatory provisions, including those that require issuance of a permit or authorization or the payment of fees. Some activities may also be prohibited or restricted under other laws or regulations applicable in the proposed reserve.

In proposed reserves, a special legal framework may govern permitted activities, particularly in the following spheres:

- Environmental protection: measures set out in particular in the *Environment Quality Act* (chapter Q-2) and its regulations;
- Plant species designated as threatened or vulnerable: measures prohibiting notably the removal of these species under *Act respecting threatened or vulnerable species* (chapter E-12.01);
- Development and conservation of wildlife resources: measures set out in the *Act respecting the conservation and development of wildlife* (chapter C-61.1);
- Archeological research and chance discoveries: measures set out in particular in the *Cultural Heritage Act* (chapter P-9.002);
- Access and land rights related to the domain of the State: measures set out in the *Act respecting the lands in the domain of the State* (chapter T-8.1) and the *Watercourses Act* (chapter R-13);
- The regulation respecting motor vehicle traffic in certain fragile environments made under the *Environment Quality Act*;
- Building and development standards: regulatory measures adopted by regional and local municipal authorities under applicable legislation.

5. Responsibilities of the Minister of Sustainable Development, Environment, Wildlife and Parks

The Minister of Sustainable Development, Environment, Wildlife and Parks is responsible for the conservation and management of Réserve de biodiversité projetée Michael-Dunn. He supervises and monitors the activities that may be carried out within the reserve. In carrying out these duties, the Minister can count on the cooperation and participation of other stakeholders with special responsibilities for this land or areas nearby, such as the Minister of Natural Resources, the Memphrémagog RCM, and any organization(s) with an interest in the conservation and management of this land. MDDEFP could also delegate certain management responsibilities to regional partners under a delegation agreement drawn up for this purpose. The partners' duties would take into account the type of protection desired for this natural environment and its current protection status. No additional conservation measures are anticipated at this time. With respect to zoning, as the conservation objectives for the temporary protection period are the same throughout the area, the proposed reserve comprises a single conservation zone.

Appendix 1

Plan of Réserve de biodiversité projetée Michael-Dunn

