



Protected areas
in Québec:

A Lifelong Heritage

Réserve écologique de la Matamec

CONSERVATION PLAN

Québec 



Editing Team

Direction du patrimoine écologique et des parcs

Writing: Réal Carpentier

Proofing: Dominic Boisjoly, Guy Paré

Maps: Yves Lachance

Photo credits

Réal Carpentier

Translation

Studio 9

Bibliographical Reference:

Government of Québec, ministère du Développement durable, de l'Environnement et des Parcs, Direction du patrimoine écologique et des parcs. Réserve écologique de la Matamec, Conservation Plan, 2011, 14 pages.

TABLE OF CONTENTS

1. Official Toponym	1
2. Site History	1
3. Plan and description	3
3.1. Geographic location, boundaries and dimensions	3
3.2. Ecological profile	4
3.2.1. Representative features	4
3.2.2. Remarkable features	9
4. Protected Status	9
5. Prohibited and permitted activities	13
6. Role of the Minister	13
7. Bibliography	14

1. Official Toponym

Official toponym: Réserve écologique de la Matamec. This name refers to the rivière Matamec and the fact that part of its watershed is protected by the ecological reserve.

2. Site History

In 1916, the American naturalist Walter Amory built the Matamec Research Station near the mouth of the river. Because of his interest in the ecology of the Côte-Nord and under the auspices of his son, Copley Amory, the first international congress on biological periodicity was held in 1931. Several years later, the research station and adjacent property were sold to W. Gallienne, who used the area for recreational purposes. In 1966, this individual sold the research station to a Mr. J. Seward Johnson, who donated it to the Woods Hole Oceanographic Institute for use as a research station on the ecology of Atlantic salmon.

Research continued for 18 years, from 1966 to 1984. Six universities¹ worked in collaboration on research that mainly concerned limnology and ichthyology, but also sedimentology, hydrology and physical geography. During this time, the Government of Québec granted the status of hunting and fishing reserve for scientific purposes to the entire 700 km² rivière Matamec watershed, as recommended by the ministère du Tourisme, de la Chasse et de la Pêche in April 1970.

Hunting and fishing was prohibited except for scientific purposes, including on the land leased to Mr. O. Gallienne and for holders and occupants of hunting grounds as well. It was during these years of research activity that the ministère du Loisir, de la Chasse et de la Pêche du Québec (MLCP) built a salmon-pass on the rivière Matamec.

¹ University of Waterloo, l'Université d'Ottawa, l'Université Laval, l'Université de Sherbrooke, l'Université du Québec à Chicoutimi (UQUAC) and the Institut national de recherche scientifique-INRS-eau.



Salmon-pass on the rivière Matamec

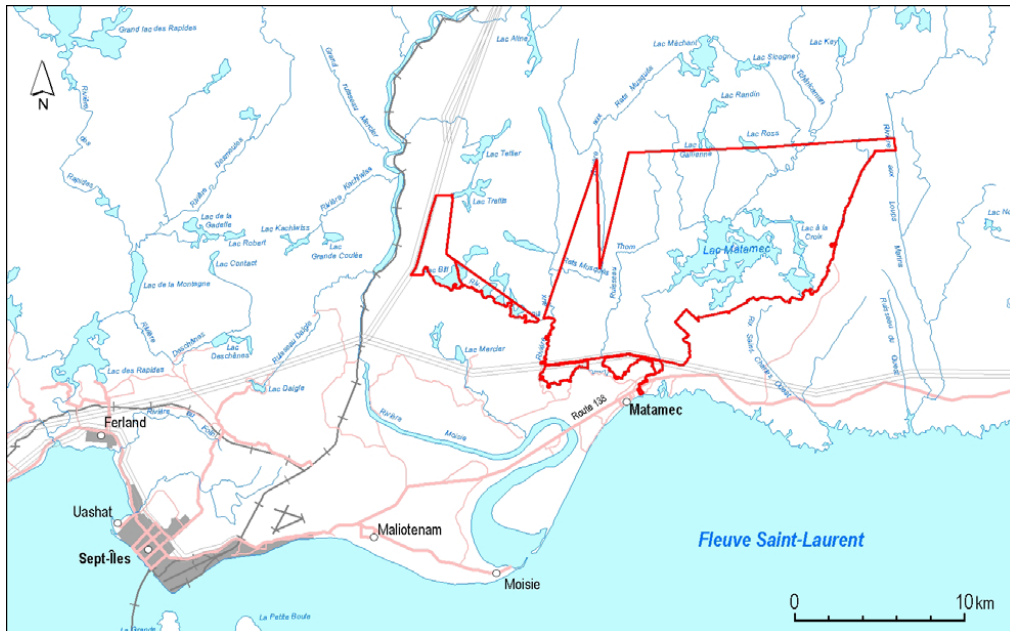
The research institute ceased operations in 1984 due to a lack of funding. Nonetheless, some activities continued, including a monitoring program that had been set up in 1981 to measure the quality of water in Côte-Nord rivers, and a biological monitoring program dating from 1987 on how biological communities react to acid rain. Both of these programs were managed by Fisheries and Oceans Canada, and were closed down in 1996.

The first steps towards creating an ecological reserve began in 1975, following a joint proposal made by the Woods Hole Oceanographic Institute in Massachusetts and INRS-eau. Twenty years later, the southern part of the rivière Matamec watershed now becomes Québec's fiftieth ecological reserve.

3. Plan and description

3.1. Geographic location, boundaries and dimensions

The Réserve écologique de la Matamec is located in the municipality of Sept-Îles and falls within the Sept-Rivières Regional County Municipality in the Côte-Nord administrative region. It is situated between the Moisie and Loups Marins rivers and includes the southern part of the rivière Matamec watershed. The mouth of the Matamec is located some thirty km to the east of Sept-Îles.



Location of the Réserve écologique de la Matamec

The Réserve écologique de la Matamec 18,486 hectares make it the second largest in area in the network. This status ensures the protection of representative ecosystems of black spruce fir and black spruce and moss stands. It is also the only ecological reserve that aims to protect the habitat of Atlantic salmon by protecting the rivière Matamec, a natural salmon river that is typical of rivers of the Côte-Nord. The rivière Matamec rises to the North in the low hills near lac Cacaoni. It empties into the baie de Moisie slightly more than five kilometres east of the mouth of the rivière Moisie.

One important feature of this territory is that it remains for all intents and purposes in its complete natural state, except for some minor areas damaged long ago by fire. This natural

characteristic of the rivière Matamec watershed is of great conservation value. The Réserve écologique projetée de la Matamec abuts the Northern boundary of the ecological reserve and ensures the residual protection of the watershed.

3.2. Ecological profile

The Réserve écologique de la Matamec lies mainly in the Massif du lac Magpie natural region and falls within the Plateau de la basse Côte-Nord natural province. To the West however, a small portion of the ecological reserve lies in the Plateau de la Sainte-Marguerite natural region and falls within the Central Laurentides natural province. The ecological reserve protects representative ecosystems of the Basses collines du Lac des Eudistes physiographic unit. This region is characterized by low hills, interspersed with steep-faced valleys.

3.2.1. Representative features

Climate: The climate is continental, cold and humid, and associated with the Boreal zone. Near the coast, the climate turns slightly milder due to the influence of the waters of the Gulf of St. Lawrence. Average annual temperature varies between -1.5°C and -1.9°C . The growing season is between 150 and 179 days. Average annual precipitation is around 111 cm and snowfall reaches 4.3 metres between October and May. Rainfall in the interior is one-and-a-half times that near the coast. Average annual humidity is 75%. During the cold season, dominant winds are from the West and the Northwest. During summer, Southeast and Southwest winds are more common. Average annual wind speed is around 20 km/h, but winds are stronger in winter than in summer.

Geology and geomorphology: The bedrock of the ecological reserve belongs to the Grenville geological province and the substrate is Precambrian. The oldest rock is found in the Southern part of the reserve. The metamorphic rock is composed of gneiss, granitic gneiss and paragneiss. Elsewhere, igneous rock is composed of anorthosite, gabronite and granite. It is estimated that the Matamec watershed that covers the ecological reserve became completely ice-free some 9,000 years BP. The last ice age shaped the Côte-Nord landscape and deeply influenced the nature and distribution of various types of deposits, including those of the Réserve écologique de la Matamec. Tills of varying thickness originated from glacial, proglacial delta, fluvio-glacial outwash plain and dead-ice moraine contact associated with the morainal complex. These soils are slightly acidic and low in nutrients. Organic deposits are concentrated in areas where the relief is undulating.

The retreat of the glacier was followed by the invasion of the Goldthwait Sea and can be divided into three major phases that began 14,000 years ago and continues to this day. The first phase corresponds to the clearing of the coastal area, the second to the development of deltas and the third to heavy erosion of sediment accumulated during the preceding phase. The Goldthwait Sea drowned the entire land of the ecological reserve watershed to a maximum height of 130 metres. Deposits of sea clay left by the Goldthwait Sea are generally found in the lowlands and sometimes between rocky outcroppings. These deposits are often covered by ombrotrophic peat bogs. Finally, along valleys and major rivers, the deposits are of fluvial, fluvio-glacial and eolian origin.

Archaeology: The computerized data base inventory of archaeological sites in Québec lists a prehistoric Amerindian site (12,000-450 BP) within the Réserve écologique de la Matamec, bordering the river near its mouth.

Hydrography: The Matamec watershed covers 685 km². The ecological reserve protects slightly more than one-fourth of this area (184 km²). With a total length of 66.5 km, the rivière Matamec traverses the ecological reserve for some 25 km. The river is fed by two major tributaries, the more northerly rivière Tchinicanam, and the rivière-aux-Rats-Musqués that forms the natural Western boundary of the ecological reserve.

The largest lakes by size are the Matamec and the la Croix. The course of the rivers and orientation of a multitude of lakes follow the fracture zones, fault lines and breaks in the bedrock. As a rule, the lakes and rivers are surrounded by rocky, mostly steep hillsides. Lac Matamec, created by fracturing of the bedrock, reaches a depth of 105 m.



Lac Matamec



Lac La Croix

The greater part of the rivière Matamec flows over a rocky bed. Five major waterfalls characterize the upstream part of the river, where the vertical drop reaches 120 m approximately 6 km from the shoreline. The rivière-aux-Rats-Musqués empties into the Matamec at approximately 2 km from its mouth. The waters of the Matamec can be described as cold, soft freshwater, well oxygenated and low in minerals, and are typical of oligotrophic environments. The low level of mineralization means that these waters have a very limited buffering capacity.



Waterfall 1



Waterfall 2



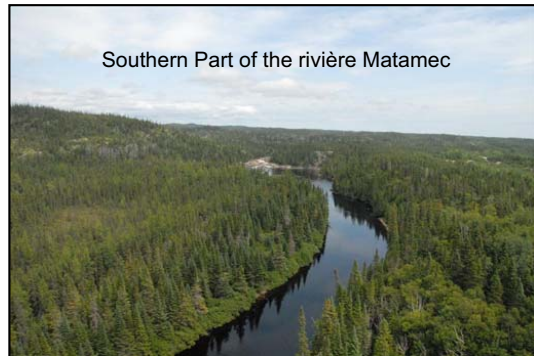
Waterfall 3



Waterfall 4



Waterfall 5



Southern Part of the rivière Matamec

Plant cover: This region is comprised of large expanses of coniferous forest. Typical plant communities are composed of pure fir, black spruce and black spruce/fir stands. Stunted black spruce or fir forests colonize areas that are exposed to wind. Near the coast, forest cover is discontinuous and peat bogs are abundant. Heath and lichen shrub or open black spruce forests form the plant cover of the ombrotrophic peat bogs. The richer, minerotrophic peat bogs support clusters of larch, alder, sweet gale and sedge.



Unusual domed ombrotrophic peat bog located in the Southern part of the reserve.

Wildlife: All typical species of the Boreal environment are likely to be found in the ecological reserve, including otter, fox, muskrat, American black bear, moose and beaver. Woodland caribou, which is an ecotype that has been designated as vulnerable in Québec, is also found here, although sporadically. Atlantic salmon and brook trout are the two typical Côte-Nord river species found in the rivière Matamec. In addition, several lakes within the ecological reserve are home to brook trout. Several other, less abundant species, such as threespine- and ninespine stickleback, rainbow smelt and Arctic char are also found in lac Matamec or its tributaries.

3.2.2. Remarkable features

In summer, Atlantic salmon (*Salmo salar*) frequent the waters of the rivière Matamec. The Réserve écologique de la Matamec is the only ecological reserve that has among its objectives the constitution and protection of a habitat for Atlantic salmon.

Moreover, the flora of the Matamec watershed include some 325 vascular plant species of Boreal affinity and more than 100 species of moss and lichen. Among these, at least 25 species are found at the northern edge of their distribution range. A few relatively rare or sparse species are potentially present in the ecological reserve, including bog aster (*Aster nemoralis*), harebell (*Campanula rotundifolia*), bush honeysuckle (*Diervilla lonicera*), purple crowberry (*Empetrum atropurpureum*), pinesap (*Monotropa hypopithys*) and green-flowered wintergreen (*Pyrola chlorantha*).

4. Protected Status

This area is an exceptional ecosystem worth protecting due to, in particular, its little-disturbed natural character. The ecological reserve enables the full conservation of a major part of the rivière Matamec watershed. This protected status is governed by the Natural Heritage Conservation Act. Figure 1 shows the map of the Réserve écologique de la Matamec prepared by surveyor Bertrand Bussi res (minute 1812).

Since the protection status assigned is comprehensive, no other conservation measure is planned for this protected area. As the conservation objectives are the same as for the entire area, the ecological reserve constitutes a single zone.

5. Prohibited and permitted activities

The following activities are prohibited in the ecological reserve:

- forest management within the meaning of section 3 of the *Forest Act* (R.S.Q., c. F-4.1);
- mining, and gas or petroleum development;
- mining, gas or petroleum exploration and development, brine and underground reservoir exploration activities, prospecting, digging or boring;
- the development of hydraulic resources and any production of energy on a commercial or industrial basis; and
- hunting, trapping, fishing, earthwork and construction activities, agricultural, industrial or commercial activities and, generally, any activity likely to alter the state or nature of ecosystems.

In addition, no person may be in an ecological reserve, except for an inspection or for the carrying on of an activity authorized under the Act.

The Natural Heritage Conservation Act prescribes that the Minister of Sustainable Development, Environment and Parks may authorize, in writing, and on the conditions the Minister determines, any activity consistent with the purposes of an ecological reserve or with its management.

6. Role of the Minister

The Minister of Sustainable Development, Environment and Parks is mandated to apply the Natural Heritage Conservation Act. As such, he is responsible for managing the ecological reserves created under this act and ensures the monitoring and control of measures authorized by this law with respect to permitted activities within these protected areas. In addition, the Minister has full authority over these lands in the Domain of the State.

7. Bibliography

Boudreau, F. 1987. Le projet de réserve écologique de la Matamec. Direction du patrimoine écologique, ministère de l'Environnement, R.E.-73, Sainte-Foy, Québec, 95 pages + 11 appendices and maps.

Bussi res, B. 2011. Description technique et plan, minute 1812.

Ducruc, J.P. 1985. L'analyse  cologique du territoire au Qu bec: L'inventaire du Capital-Nature de la Moyenne-et-Basse-C te-Nord. Division des inventaires  cologiques. S rie de l'inventaire du Capital-Nature, Number 6, 192 pages.

Gouvernement du Qu bec. 1995. Minist re de l'Environnement et de la Faune, Direction de la conservation et du patrimoine  cologique, Plan de gestion de la r serve  cologique de la Matamec, 35 pages.

Gerardin V. and P. Grondin. 1984. Distribution et description des tourbi res de la Moyenne-et-Basse-C te-Nord. Environnement Qu bec, Environment Canada and Hydro-Qu bec, S rie de l'inventaire du Capital-Nature, number 4, 155 pages, maps.

Lavoie, G. 1992. Classification et r partition de la v g tation des sols min raux de la Moyenne-et-Basse-C te-Nord, Qu bec/Labrador. Planification  cologique. S rie de l'inventaire du Capital-Nature, number 11, 283 pages.

PROVINCE OF QUÉBEC
REGISTRATION DIVISION OF SEPT-ÎLES

TECHNICAL DESCRIPTION
RÉSERVE ÉCOLOGIQUE DE LA MATAMEC

A territory formed of two parts and situated in the territory of Municipalité régionale de comté de Sept-Rivières, municipality of Ville de Sept-Îles in the administrative region of Côte-Nord.

In this technical description, the coordinates referred to between parentheses are expressed in metres (international system) and were determined graphically from the squaring used on the map at a scale of 1:50 000 produced by the Department of Energy, Mines and Resources Canada (sheets 22I/05 and 22J/08), in reference to Zone 5 of the Universal Transverse Mercator projection system (U.T.M., central meridian 63 00'00" West, N.A.D. 1927). They were transformed in the NAD 83 system (Zone 5).

"Shore" and "bank" mean the natural high water mark of lakes and watercourses. The right and left banks are the right and left sides of a watercourse when looking in the direction of the current.

Given the above, the territory may be explicitly described as follows:

PART "1"

The part of the territory identified by "1" is of irregular shape and situated, in reference to the original survey, in an undivided part of the township of Blanche, the township of Moisie and Bassin-de-la-Rivière-au-Bouleau (bed of rivière Matamec).

The perimeter of that part of territory may be described as follows:

Starting from point "A" situated at the intersection of the left bank of rivière Matamec with the extension of the northwest line of block E of the township of Moisie;

Thence, southwesterly along the said extension then the northwest line of the said block E to its intersection with the northeast line of block F of the township of Moisie, that is point "B";

Thence, northwesterly along the northeast line of the said block F and its extension to the southeastern limit of the right of way of route 138, that is point "C";

Thence, northeasterly along the southeastern limit of the right of way of route 138 to its intersection with the right bank of rivière Matamec, that is point "D";

Thence, in a general northeasterly direction along the right bank of rivière Matamec to its intersection with the right bank of rivière aux Rats Musqués, that is point "E";

Thence, in a general westerly direction along the right bank of rivière aux Rats Musqués to ruisseau Thom, that is point "F";

Thence, in a general northwesterly direction across rivière aux Rats Musqués then along the right bank of ruisseau Thom to its intersection with the southern limit of the right of way of the power transmission line of 57.76 metres wide, that is point "G";

Thence, westerly along the southern limit of the right of way of the said power transmission line over a distance of 1,000 metres, that is point "H";

Thence, along a straight line having an astronomic azimuth of 180°00'00 with reference to the meridian passing by point "H" to the right bank of rivière aux Rats Musqués, that is point "I";

Thence, in a general northwesterly direction along the right bank of rivière aux Rats Musqués to its intersection with the right bank of rivière Bill, that is point "J";

Thence, in a general westerly direction along the right bank of rivière Bill to the limit of the zone described in subparagraph B of paragraph II of Schedule I to the Regulation respecting lands in the domain of the State delimited for development of wildlife resources (Order in Council 1281-93, 8 September 1993), that is point "K";

Thence, northeasterly, southerly, northeasterly then easterly along the limit of the said zone to the right bank of rivière aux Loups Marins, that is point "L";

Thence, in a general southerly direction along the right bank of rivière aux Loups Marins to its intersection with a straight line having an

astronomic azimuth of 90°00'00" from point "N", that is point "M" (5 586 482 North, 215 975 East);

From point "M", westerly along the said straight line over an approximate distance of 1,275 metres to the north end of a lake, that is point "N" (5 586 506 North, 214 700 East);

Thence, in a general southwesterly direction successively along the shore of the latter lake by skirting it to the southeast and the left bank of its effluent, then the shore of several lakes by skirting them to the east and southeast and by passing on the left bank of the watercourses connecting them, to the south shore of lac à la Croix, that is point "O" (5 578 537 North, 210 470 East);

Thence, in a general southwesterly direction successively along the south shore of lac à la Croix, the right bank of the watercourse situated at the south end of the said lake, then the shore of another lake by skirting it to the south to its west end, that is point "P" (5 578 127 North, 209 397 East);

Thence, along a straight line having an astronomic azimuth of 225°00'00" in reference to the meridian passing by point "P" over an approximate distance of 225 metres to the shore of a lake, that is point "Q" (5 577 964 North, 209 215 East);

Thence, along the shore of the latter lake by skirting it to the south to its west end, that is point "R" (5 577 930 North, 208 927 East);

Thence, along a straight line having an astronomic azimuth of 315°00'00" in reference to the meridian passing by point "R" over an approximate distance of 325 metres to the south shore of a lake, that is point "S" (5 578 164 North, 208 708 East);

Thence, in a general westerly direction successively along the south shore of the latter lake, the left shore of its effluent, then the shore of another lake by skirting it to the south to the end of its south point, that is point "T"(5 577 980 North, 206 697 East);

Thence, along a straight line having an astronomic azimuth of $245^{\circ}00'00''$ in reference to the meridian passing by point "T" over an approximate distance of 1,175 metres to the shore of a small lake, that is point "U" (5 577 503 North, 205 621 East);

Thence, along the shore of that small lake by skirting it to the south to the left shore of its effluent, that is point "V" (5 577 520 North, 205 559 East);

Thence, along a straight line having an astronomic azimuth of $260^{\circ}00'00''$ in reference to the meridian passing by point "V" over an approximate distance of 1,725 metres to the east shore of a lake, that is point "W" (5 577 236 North, 203 862 East);

Thence, along the shore of the latter lake by skirting it to the north to the right shore of its effluent, that is point "X" (5 577 032 North, 203 789 East);

Thence, along a straight line having an astronomic azimuth of $315^{\circ}00'00''$ in reference to the meridian passing by point "X" over a distance of 1,000 metres, that is point "Y" (5 577 744 North, 203 073 East);

Thence, along a straight line having an astronomic azimuth of $225^{\circ}00'00''$ in reference to the meridian passing by point "X" over a

distance of 1,000 metres, that is point "Z" (5 577 030 North, 202 362 East);

Thence, along a straight line having an astronomic azimuth of 135°00'00" in reference to the meridian passing by point "X" over an approximate distance of 1,150 metres to the right bank of a watercourse, that is point "AA" (5 576 230 North, 203 166 East);

Thence, in a general southerly direction along the right bank of the latter watercourse to its intersection with the western limit of the right of way of a forest road considered as being 35 metres wide, that is point "BB" (5 575 796 North, 203 162 East);

Thence, in a general southerly direction along the western limit of the right of way of the said road to its intersection with the northern limit of the right of way of the power transmission line 57.76 metres wide, that is point "CC" (5 574 449 North, 202 737 East);

Thence, westerly along the northern limit of the right of way of the said power transmission line to its intersection with the left bank of rivière Matamec, that is point "DD";

Thence, in a general southwesterly direction along the left bank of rivière Matamec to its intersection with the extension of the northwest line of block E of the township of Moisie, that is starting point "A".

In reference to subparagraph B of paragraph II of Schedule I to the Regulation respecting lands in the domain of the State delimited for development of wildlife resources (Order in Council 1281-93, 8 September 1993), the limit of the abovementioned zone between points K and L is described as follows:

"... thence, southeasterly then northeasterly, a broken line whose apex coordinates are: 5 586 870 m N and 198 268 m E (Zone 5); thence, southerly then northeasterly, a broken line whose apex coordinates are: 5 580 470 m N and 198 080 m E (Zone 5), 5 587 212 m N and 200 181 m E (Zone 5), 5 587 068 m N and 207 776 m E (Zone 5), 5 587 232 m N and 215 985 m E (Zone 5), the latter point is situated on rivière aux Loups Marins; ...".

The coordinates of the limit of the abovementioned zone are expressed in metres and have been graphically traced from the squaring using a scale of 1:50 000 produced by the Department of Energy, Mines and Resources Canada, in reference to Zone 5 of the Universal Transverse Mercator projection system. They were transformed in the NAD 83 system (Zone 5).

The following eight parcels are to be excepted and withdrawn from part "1" of the territory:

- P1-1- The section of route 138, on the width of its right of way, extending from the right bank to the left bank of rivière Matamec.
That parcel contains an area of approximately 0.36 hectare.
- P1-2 The section of the Sept-Îles/Havre-Saint-Pierre power transmission line being a strip of irregular shape of a standard width of 57.76 metres, extending in the township of Moisie from the right bank of rivière aux Rats Musqués (5 574 925 North, 194 561 East) to the right bank of rivière Matamec (5 574 797 North, 201 443 East).

That parcel contains an area of approximately 40 hectares.

- P1-3 The section of the planned R02-St-Arnaud power transmission line being a strip of irregular shape of a width between 104.48 metres and 162.10 metres, extending in the township of Moisie from the right bank of rivière aux Rats Musqués (5 574 867 North, 194 553 East) over a length of approximately 2.5 km and running along the southern right of way of the section referred to in P1-2.

That parcel contains an area of approximately 29.42 hectares.

- P1-4 The section of the planned R02-St-Arnaud power transmission line being a strip of irregular shape of a width between 166.61 metres and 208.34 metres, extending in the township of Moisie from the left bank of ruisseau Thom (5 575 123 North, 198 067 East) over a length of approximately 1.9 km and running along the southern right of way of the section referred to in P1-2.

That parcel contains an area of approximately 35.30 hectares.

- P1-5 The section of the planned R02-St-Arnaud power transmission line being a strip of irregular shape of a width between 150.00 metres and 259.85 metres, extending in the township of Moisie from the northern right of way of the section referred to in P1-2 (5 575 212 North, 199 901 East) to the western limit of the right of way of a forest road in the township of Blanche, over a length of approximately 3.0 km.

That parcel contains an area of approximately 49.30 hectares.

- P1-6 In reference to the original survey, block 1 of Bassin-de-la-Rivière-au-Bouleau (block 2 of the official cadastre of the township of Moisie), being a submerged shore lot extending from the right bank to the left bank of rivière Matamec, at the

intersection of the said river with the said power transmission line (5 574 787 North, 201 415 East).

That parcel contains an area of 2,146.06 square metres.

P1-7 The section of a trail, of irregular shape, having a right of way 10 metres wide, crossing rivière Matamec (5 573 885 North, 200 508 East) at a distance of approximately 350 metres north of route 138 and extending from the right bank to the left bank of the said river.

That parcel contains an area of approximately 500 square metres.

P1-8 A parcel of land of irregular shape situated in an undivided part of the township of Moisie, bounded to the northeast by rivière Matamec, to the southeast by block E, to the southwest by block F and to the northwest by an undivided part of the township of Moisie.

The perimeter of that parcel of land may be particularly described as follows:

Starting from the intersection of the northwest line of block E with the northeast line of block F of the township of Moisie;

Thence, northwesterly along the northeast line of the said block F, an astronomic azimuth of $336^{\circ}15'16''$ over a distance of 9.15 metres;

Thence, along a straight line having an astronomic azimuth of $59^{\circ}43'26''$ to the right bank of rivière Matamec, over a distance of 104.3 metres;

Thence, in a general southeasterly direction along the right bank of rivière Matamec to its intersection with the northwest line of block E of the township of Moisie;

Thence, southwesterly along the northwest line of the said block E to the starting point, an astronomic azimuth of $246^{\circ}15'27''$ over a distance of 106.3 metres.

That parcel of land contains an area of approximately 1,600 square metres and it is shown on the staking and land survey plan of a (changed) boundary of the Réserve écologique de la Matamec prepared by Omer Roussy, land surveyor, on 3 September 1998 under number 4787 of his minutes and filed in the survey records of the Service de l'arpentage du ministère des Ressources naturelles du Québec on 18 December 1998 under classification Can.M.50/27.

Part "1" of that territory contains an area of approximately 17,300 hectares (173 km²).

PART "2"

The part of that territory identified by "2" is of irregular shape and is situated, in reference to the original survey, in an undivided part of the township of Moisie.

The perimeter of that part of territory may be described as follows:

Starting from point "EE" situated at the intersection of the right bank of rivière Bill with the shore of lac Bill;

Thence, in a general westerly direction successively along the shore of lac Bill by skirting it to the south, the right bank of the

watercourse situated at the west end of the said lake, the shore of another lake by skirting it to the west, the right bank of a watercourse, the shore of another lake by skirting it to the east, the right bank of a watercourse then the shore of another lake by skirting it to the east to its south end, that is point "FF" (5 580 658 North, 187 613 East);

Thence, along a straight line having an astronomic azimuth of 270°00'00" in reference to the meridian passing by point "FF" to the southeastern limit of the right of way of the power transmission line 225.55 metres wide, that is point "GG" (5 580 667 North, 186 838 East);

Thence, northeasterly then northerly respectively along the southeastern and eastern limits of the right of way of the said power transmission line over a total distance of 5,050 metres, that is point "HH" (5 585 327 North, 188 569 East);

Thence, along a straight line having an astronomic azimuth of 90°00'00" in reference to the meridian passing by point "HH" to the west shore of lac Trellis, that is point "II" (5 585 300 North, 189 627 East);

Thence, in a general southerly direction along the shore of lac Trellis to the limit of the zone described in subparagraph B of paragraph II of Schedule I to the Regulation respecting lands in the domain of the State delimited for development of wildlife resources (Order in Council 1281-93, 8 September 1993), that is point "JJ";

Thence, southerly then southeasterly along the limit of the said zone to the right bank of rivière Bill, that is point "KK";

Thence, in a general northwesterly direction along the right bank of rivière Bill, by skirting to the south the two lakes met, to the starting point "EE".

In reference to subparagraph B of paragraph II of Schedule I to the Regulation respecting lands in the domain of the State delimited for development of wildlife resources (Order in Council 1281-93, 8 September 1993), the limit of the abovementioned zone between points "JJ" and "KK" is described as follows:

"... thence, northeasterly, a broken line whose apex coordinates are: 5 585 119 m N and 189 689 m E; thence, southerly, southeasterly then a broken line whose apex coordinates are: 5 581 819 m N and 189 047 m E, 5 577 613 m N and 194 329 m E, ...".

The coordinates of the limit of the abovementioned zone are expressed in metres and were determined graphically from the squaring used on the map at a scale of 1:50 000 produced by the Department of Energy, Mines and Resources Canada, in reference to Zone 5 of the Universal Transverse Mercator projection system (U.T.M., central meridian 69°00'00" west, sheet 22J/08, N.A.D. 1927). They were transformed in the NAD 83 system (Zone 5).

The following parcel is to be excepted and withdrawn from part "2" of the territory:

The section of a trail, of irregular shape, having a right of way 10 metres wide, starting from the shore of lac Bill close to the intersection of that shore with the right bank of rivière Bill, crossing lac

Bill northerly, then along the east side of an affluent north of the said lake (5 579 927 North, 189 974 East) to the northeastern limit of the ecological reserve, the limit of the zone described in subparagraph B of paragraph II of Schedule I to the abovementioned Regulation.

That parcel contains an area of approximately 20,000 square metres (2 hectares).

Part "2" of that territory contains an area of approximately 1,300 hectares (13 km²).

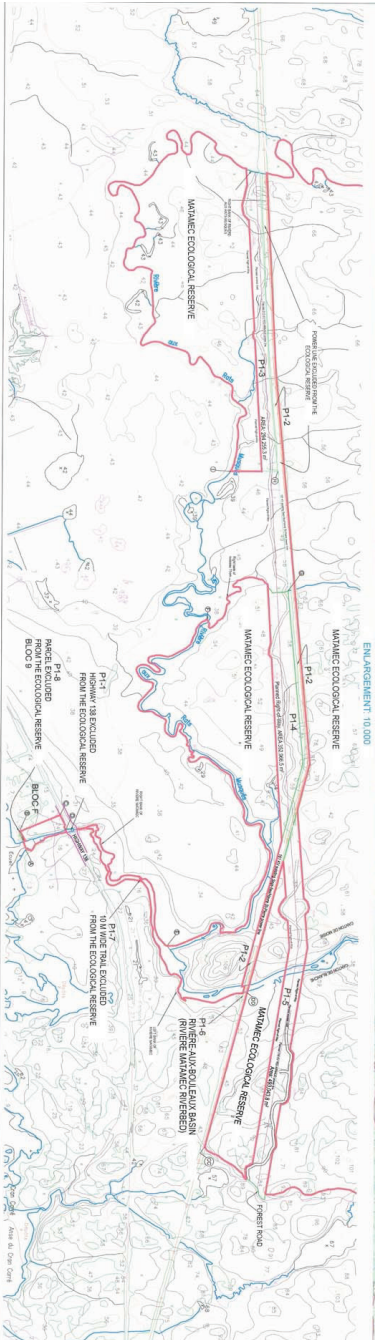
The territory described above, formed of parts "1" and "2", has an entire area of approximately 18,486 hectares (184.86 km²) and it is shown on the plan to a scale of 1:50 000, traced on an extract of the topographical map produced by the Department of Energy, Mines and Resources Canada (sheets 22I/05 and 22J/08).

NOTE: The survey of the limits of that territory will specify the perimeter of the ecological reserve.

Prepared at Québec on 16 December 2010, under number 1812 of my minutes.

By: _____
BERTRAND BUSSIÈRE
Land surveyor

Gouvernement du Québec
Service des immobilisations, de la cartographie et de l'expertise contractuelle
Division des données foncières et de la cartographie
MDDEP file: 5141-03-09 [9.6]



ACCOMPANYING MAP
TECHNICAL DESCRIPTION OF THE
MATAVEC ECOLOGICAL RESERVE

Area of the ecological reserve
18,486 ha (184.86 km²)

LEONORI
Boundaries of the ecological systems
Boundary established per the area of
inhabiting with it, the system's limits
of the biological organisms within
of the system of the State distributed by
of wildlife resources (Article 1281 of
September 1, 1951)

NOTE

Manufacturers' requests for this copy are in handwritten form only.

1-20-2002-0402
The copy shown is the original copy as submitted from client to
205-070-20-01, 22005-205-01, 22005-200-205, 22-200-05
and 22-005-200-0102 (NACSI, 2005-01)

1-20-2002-0402
The copy shown is the copy copy as submitted from client to
22-005-200-0102 (NACSI, 2005-01) and 22-005-200-0102
by National Archives Canada and submitted to 22-005-200-0102.

10000 0 1000 2000 3000 4000

Québec

Environnement et Forêts

Développement durable

Received in Dallas City on December 18, 2013

by Richard H. Brown
Richard H. Brown, Governor

Wrote: 1972

Accepted for State Capital (5/6)

Signature County Municipality SEPT 2013
Administrative Region
Municipality
Region Division
City of State Seat
State Seat

Original retained in the records of Howard Business Solutions.
Certified copy of the original.