Parks Canada Parcs Canada

La Mauricie

National Park of Canada

Management Plan 2010

Canada

La Mauricie National Park of Canada

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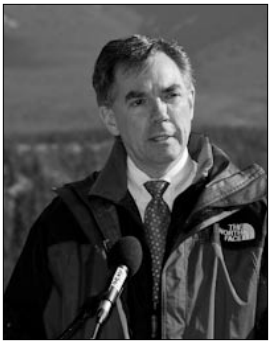
La Mauricie National Park of Canada

MANAGEMENT PLAN

June 2010

Foreword



Canada's national historic sites, national parks and national marine conservation areas offer Canadians from coast-to-coast-to-coast unique opportunities to experience and understand our wonderful country. They are places of learning, recreation and inspiration where Canadians can connect with our past and appreciate the natural, cultural and social forces that shaped Canada.

From our smallest national park to our most visited national historic site to our largest national marine conservation area, each of these places offers Canadians and visitors several experiential opportunities to enjoy Canada's historic and natural heritage. These places of beauty, wonder and learning are valued by Canadians - they are part of our past, our present and our future.

Our Government's goal is to ensure that Canadians form a lasting connection to this heritage and that our protected places are enjoyed in ways that leave them unimpaired for present and future generations.

We see a future in which these special places will further Canadians' appreciation, understanding and enjoyment of Canada, the economic well-being of communities, and the vitality of our society.

Our Government's vision is to build a culture of heritage conservation in Canada by offering Canadians exceptional opportunities to experience our natural and cultural heritage.

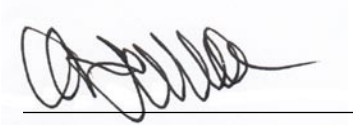
These values form the foundation of the new management plan for La Mauricie National Park. I offer my appreciation to the many thoughtful Canadians who helped to develop this plan, particularly to our dedicated team from Parks Canada, and to all those local organizations and individuals who have demonstrated their good will, hard work, spirit of co-operation and extraordinary sense of stewardship.

In this same spirit of partnership and responsibility, I am pleased to approve the La Mauricie National Park of Canada Management Plan.

Jim Prentice
Minister of the Environment

La Mauricie National Park of Canada
Management Plan

RECOMMENDED BY:



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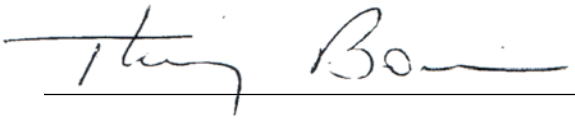

Thierry Bouin
Superintendent - La Mauricie Field Unit
Parks Canada Agency

Summary

The present document, the third management plan for La Mauricie National Park, presents the vision for the future and management priorities for the coming years. The aim of the plan is to protect and reinforce the park's ecological integrity and diversify the recreational and educational experiences offered to park visitors and the general public.

Four key strategies have been developed to address the main challenges faced by the park in the years ahead. Each strategy incorporates the three elements of Parks Canada's mandate – protection, visitor experience and public education. Objectives, actions and targets have been set for each key strategy.

1) **A Park to Rediscover**: promote the park among new clienteles and better fulfill the expectations of present visitors. The actions proposed are designed to strengthen the present market and attract new clienteles, make members of the public who do not visit the park aware of the park and its mandate, enhance the park's position in regional tourism and provide visitors with a wider variety of experiences.

2) **Honouring and Celebrating the Past**: preserve, understand and present the park's cultural resources. The actions proposed in this key strategy are aimed at increasing knowledge of the history of park land, protecting evidence of the various historical periods and promoting the discovery and appreciation of cultural heritage among park employees, visitors and members of the public who do not visit the park.

3) **The Rebirth of the Laurentian Forest**: protect, promote and present components of the park's forest ecosystem. Actions proposed consist of presenting visual elements of interest of the Laurentian forest landscape, restoring the forest mosaic and the white pine and red oak that once thrived here, promoting visitor discovery and appreciation of the Laurentian forest, and gaining the support and collaboration of managers of neighbouring land in protecting the forest ecosystem and species living there.

4) **The Freshwater World Resurfaces**: restore the aquatic ecosystem in order to improve the ecological integrity of the park and promote stimulating recreational and educational visitor experiences relating to the freshwater environment. Actions proposed are: having visitors learn about aquatic environments and their fragility; restoring the structure and natural functioning of aquatic ecosystems that have deteriorated; ensuring the viability and genetic diversity of populations of brook trout and Arctic char; preventing the introduction of new non-native species of fish; and recovering the population of wood turtles.

The management plan also includes other measures to improve park management, namely, creating a declared wilderness area over a large part of the park and setting up an advisory committee made up of regional stakeholders representing multiple points of view, which would ensure a continuous dialogue with them.

The energies invested over the coming years will lead to concrete results and improvements to a number of aspects of the park: its ecological integrity, the cultural aspect through presentation of its human history, the experiences of park visitors, and the state of species at risk. All these initiatives will create a synergy that will promote an emotional, intellectual and spiritual connection to La Mauricie National Park among residents in the region and the general population, thus ensuring the park's continued existence.

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1. Introduction

The management plan is the strategic tool that will guide Parks Canada in achieving its mandate at La Mauricie National Park in the years ahead. Management planning is based on that mandate:

> On behalf of the people of Canada, we protect and present nationally significant examples of Canada's natural and cultural heritage, and foster public understanding, appreciation and enjoyment in ways that ensure the ecological and commemorative integrity of these places for present and future generations. (Parks Canada Agency Act, 1998)

Planning at Parks Canada is based on a number of legislative measures: the *Parks Canada Agency Act* (1998), which made Parks Canada a separate agency; the *Canada National Parks Act* (2000), which states that "the national parks of Canada are hereby dedicated to the people of Canada for their benefit, education and enjoyment" and that "the parks shall be maintained and made use of so as to leave them unimpaired for the enjoyment of future generations" (Section 4); and the *Species at Risk Act* (2002), which is implemented by Parks Canada, Fisheries and Oceans Canada and Environment Canada. The Agency also operates under other federal legislation and regulations, in particular the *Canadian Environmental Assessment Act*.

Management planning is also based on the Parks Canada Guiding Principles and Operational Policies (1994). Policies set for national parks, federal heritage buildings and cultural resource management provide a fundamental strategic direction for managing a protected heritage place such as La Mauricie National Park.

1.1 Integrated management of the mandate's three elements

An important aspect of managing a protected place is integrating the three elements of Parks Canada's mandate – protecting heritage resources, providing visitors with a wide range of experiences, and offering educational programs to both visitors and the general population. The integrated management approach is designed to promote interdependence of the three elements and to create a synergy in their implementation in a way that effectively stimulates a sense of personal connection and thus develops the public's commitment to heritage places. The integrated approach is also a way of increasing the impact of investments.

Protecting resources

The first element involves the protection of natural resources and ecological processes, and the protection of cultural resources and values. Activities designed to protect while preserving the authenticity of a heritage place are essential to the visitor experience both now and in the future. They also enhance the visitors' understanding of the values and significance of resources and their sense of ownership of the place.

The visitor experience

The visitor experience is defined as the sum total of a visitor's personal interaction with a protected heritage place – an interaction that sparks the senses, brings out emotions, stimulates the mind

and leaves the visitor with a feeling of connection to these special places. The more the experience is unique and stimulating and the more it responds to the visitor's interests and needs, the greater the chance that it will be remembered by the visitor as a memorable experience.

Management planning will therefore focus on ways (resources, infrastructures, personnel and programs) to provide visitors with high-quality experiences that are interesting and safe. This encounter between visitors and the park will be memorable insofar as it fulfills their needs and expectations before, during and after the visit.

Public education

The third element of the mandate is implemented through interpretation activities offered at the park and through outreach programs where we come into contact with people in their homes, in schools, in the community and in their leisure activities. A public that has been made aware of the heritage value of a protected place and the challenges involved in maintaining its integrity will be more inclined to adopt environmentally friendly behaviours toward resources and to commit to protecting them.

1.2 The park and its surrounding region

La Mauricie National Park is located in the province of Quebec, north of the St. Lawrence Valley in the foothills of the Laurentians[1]. It is situated halfway (180 km) between Quebec City and Montreal, cities that are home to over half of the province's population. Regionally speaking, the park is 20 km from downtown Shawinigan and 60 km from Trois-Rivières, two urban centres with a combined population of around 180,200[2]. The park is bordered to the north by the Matawin river, the Chapeau-de-Paille controlled harvesting zone (ZEC) and the Saint Maurice wildlife reserve, to the west by the Mastigouche wildlife reserve, to the east by the Saint-Maurice river and to the south by the limits of the municipalities of Saint-Mathieu-du-Parc and Shawinigan. The park is located within the city limits of Shawinigan and is surrounded by the regional county municipalities of Mékinac and Maskinongé[3].

1. See Figure 1 for a map of the location of La Mauricie National Park.
2. According to the directory of municipalities, www.mamrot.gouv.qc.ca, consulted March 3, 2009.
3. See Figure 2 for a map of La Mauricie National Park and the surrounding region.

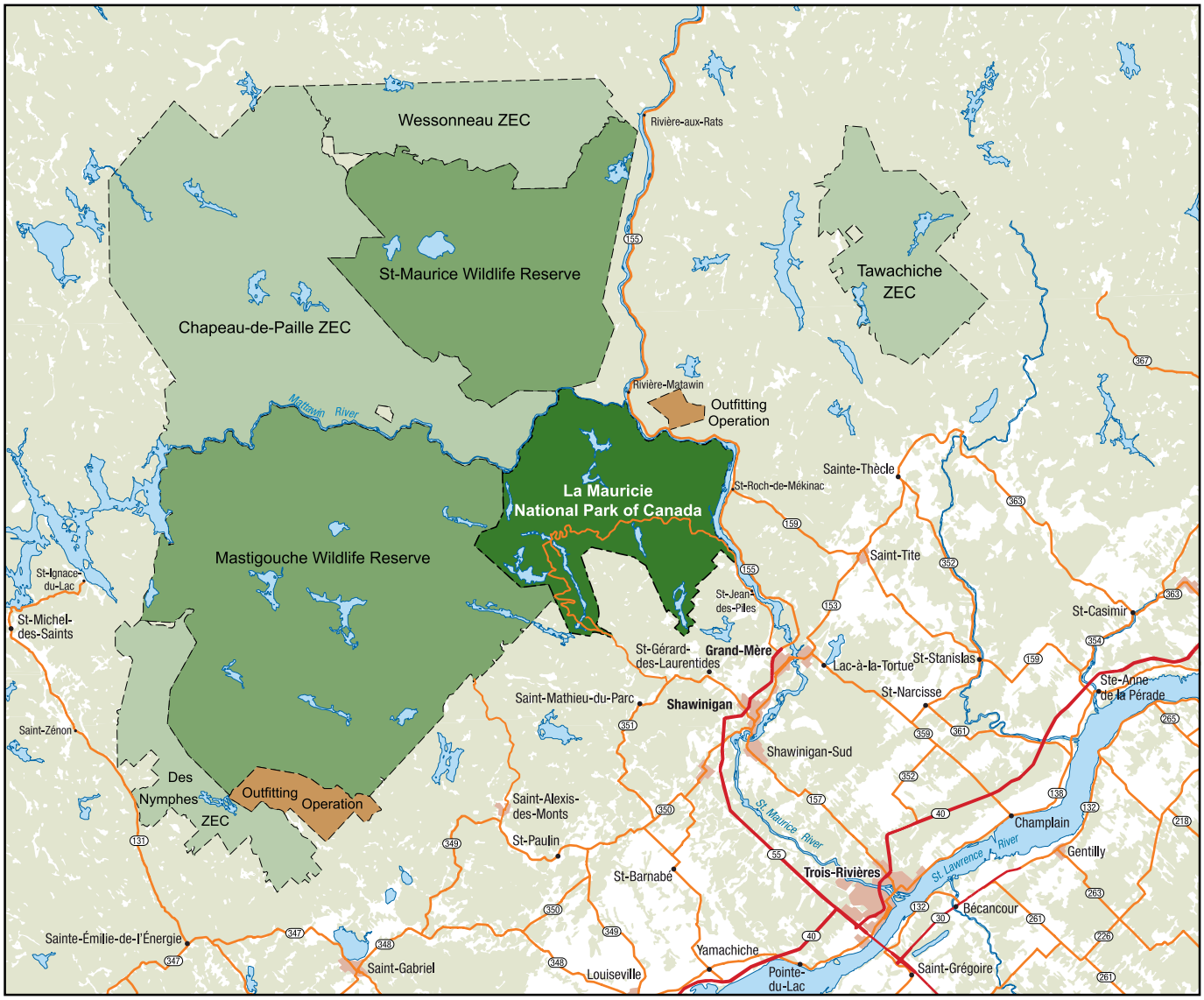
Figure 1

Location of La Mauricie National Park of Canada

Parks Canada Parcs Canada

Figure 2

La Mauricie National Park Area



- La Mauricie National Park of Canada
- Wildlife Reserve
- ZEC (controlled harvesting zone)
- Outfitting Operation
- Agglomeration
- Wooded area
- Hydrography
- Road Network

N

1 : 800 000

0 5 10 20 30 40 km

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1.3 Planning process

Every heritage place in the Parks Canada system is legally bound to have a management plan. Every five years it is reviewed and, if necessary, updated after a series of public hearings, and then tabled in Parliament by the Environment Minister. This process allows park officials to adapt their strategic direction and their methods to new realities, while taking into account public concerns.

National parks are legally required to hold public hearings on their management plans. In addition to this step in the planning process, Parks Canada would like to see an even greater involvement on the part of Canadians – from elected officials to park users, regional groups and Aboriginals – in the planning and management of protected places. Programs and new approaches, such as the creation of an advisory committee, encourage such continuous participation which, at the appropriate time, will provide input for the multidisciplinary teams in charge of drawing up management plans.

The strategic direction outlined in the management plan is concretely reflected in the actions and projects outlined in the business plan of the Field Unit administering it. A yearly report on implementation of the management plan informs the public of progress that has been made.

1.4 Contents of the management plan

After demonstrating the importance of La Mauricie National Park and presenting an overview of the present state of the park, the management plan reveals its vision for the heritage place and the key strategies developed to achieve this vision in terms of protection, visitor experience and public education. This is followed by a description of partnerships and public involvement, zoning and the wilderness area, the monitoring program, and a summary of the plan's strategic environmental assessment.

2. Importance of La Mauricie National Park

2.1 Importance of the park in the system of national parks of Canada

Canada has created 42 national parks since 1885. The mission of the parks is to preserve, in perpetuity, ecosystems representative of the 39 natural terrestrial regions in the country, while promoting awareness and appreciation of the parks by Canadians both now and in the future.

Created in 1970, La Mauricie National Park covers a 536.7 km² area. Its mission is to safeguard, in perpetuity, a natural area of interest that is representative of the Great Lakes-St. Lawrence Precambrian Region so that it can be enjoyed by present and future generations. Located at the southern edge of the Canadian Shield, this natural region still shows traces of the Ice Age and forms a transition zone where a number of plant and animal species are at their northern or southern limit. The region features rounded mountains covered by a mosaic of coniferous and deciduous forests, and a multitude of lakes, streams and rivers. The particular nature of the park makes it an ideal place for learning and discovery in the heart of the most populated part of Quebec.

The park is part of a larger group of protected places in the Mauricie region. There are two wildlife reserves, six nature reserves, eleven ZECs (controlled harvesting zones) and four nature reserves on private land[4]. In addition, the Government of Quebec is presently planning the Réserve de la biodiversité Grandes-Piles.

Several departments in the Canadian and Quebec governments have a role in achieving objectives in the park through the implementation of laws and regulations, including:

- the Fisheries Act – Fisheries and Oceans Canada;
- the Highway Safety Code – Transports Québec;
- Canada Shipping Act – Transport Canada, specifically its Small Vessel Regulations.

Parks Canada / J. Pleau

4. Wildlife reserves: Mastigouche and Saint-Maurice; Nature reserves: Bog-à-Lanières, Marcel-Léger, Irénée-Marie, Judith-De-Brésoles, Lac-à-la-Tortue, Marie-Jean-Eudes; ZECs: Wessonneau, La Croche, Borgia, Kiskissink, Ménokéosawin, Bessonne, Jeannotte, Tawachiche, Chapeau-de-Paille, Gros Brochet, Frémont; Nature reserves on private land: L'Envol, Portageur and the two Tortue-des-Bois-de-la-Shawinigan reserves.

2.2 Land claims

The majority of the population in the region surrounding La Mauricie National Park is of European descent, but the region also includes members of the First Nations. Nearly 85% of the 5,700 Atikamekw-Nehirowisiw[5] live in Manawan, Wemotaci or Opitciwan[6] ; others live off the reservations, mainly in La Tuque, in the Haute-Mauricie region and in Lac-Saint-Jean[7] .

Settlement of the Atikamekw-Nehirowisiw First Nation land claim is presently being negotiated between the Canadian and Quebec governments and the Conseil de la Nation Atikamekw-Nehirowisiw. The treaty that will result from these negotiations could have an impact on some activities that take place within the boundaries of the La Mauricie National Park. Once the treaty has been finalized, should there be any inconsistencies or conflicts between the National Parks Act and the treaty, the treaty will prevail. Nothing in the management plan shall be interpreted as a recognition of rights under Section 35 of The Constitution Act of 1982.

2.3 History of management planning at the park

The first management plan for La Mauricie National Park was approved by the Minister responsible for Parks Canada in 1979. In 1991, a second plan was tabled in Parliament, and subsequently amended to allow for an increase in the size of two campgrounds.

As part of the review of the management plan, public hearings were held in 2002 and the population voiced their views on management of the park. Over the course of the hearings, there was a broad consensus as to the future of this protected land. The vision and strategic direction contained in the management plan were presented again at validation meetings in the spring of 2009. All groups present again voiced their support to park managers.

The present management plan has brought to light new priorities for La Mauricie National Park, including improvements to the visitor experience and strengthening the public's connection to the park. The present strategic direction taken by Parks Canada, on which this management plan is based, has brought fresh ideas for administering La Mauricie National Park, focusing on efforts to protect ecosystems, species and cultural resources, and to improve the visitor experience and public education, all in order to fulfill its mandate.

5. The spelling of the word is in the Atikamekw language; in English, it is sometimes spelled Attikamek.
6. This reservation is also referred to as Obedjiwan.
7. Secrétariat aux affaires autochtones du Québec. www.autochtones.gouv.qc.ca/relations_autochtones/profils_nations/attikameks.htm, consulted March 3, 2009.

3. Presenting La Mauricie National Park

3.1 History of the park

The first signs of human presence on the land that is now La Mauricie National Park date back to the Archaic period[8]. The variety of artefacts uncovered at the 34 paleohistoric sites identified suggests the presence of small single-family groups of nomads. Living along the Wapizagonke and Anticagamac lakes, these Aboriginal populations were hunters, fishermen and gatherers. We cannot come to any definitive conclusions as to the reason for their presence here based on our present knowledge. The long watercourse formed by the Wapizagonke-Anticagamac lakes may have been a communications route linking the lowlands of the St. Lawrence Valley to the boreal forests of the mid-North, a waterway linking the lower and upper Mauricie regions or a region where the Aboriginals lived temporarily. Of note are the rock paintings discovered on a wall of Lac Wapizagonke, one of the rare indications presumably associated with the spirituality of Amerindian populations who were present in the area.

In the early 17th century, the Atikamekw and Algonquin Nations occupied, respectively, the upper and lower reaches of the St. Maurice river basin, where they survived by hunting and trapping. By the second half of the 19th century, the Abenakis of Odanak and Wôlinak were also using the land that is now La Mauricie National Park for subsistence activities and trading.

Trappers, *coureurs de bois* and fur traders from the Trois-Rivières trading post were the first Europeans to use the wealth of wildlife in the valley to their advantage. Then, during more recent historical times, fur trading companies operated in the area. Finally, with the increasing popularity of sport tourism and the advent of provincial hunting regulations came the first private fish and game clubs, including the prestigious Shawinigan and Laurentian clubs, founded in 1883 and 1886, respectively. Because of their skill and knowledge of the land, hunting clubs called on Amerindians, Abenakis in particular, to be their guides. In 1970, just before the park was created, no less than 16 clubs were operating on park land.

Canadian Forest Service

The human activity that had the greatest impact on the forest landscape of the region is without a doubt commercial timber cutting. Although sporadic cutting took place around the 1830s, the tumultuous drives and uneven river bed of the St. Maurice diminished the quality of the timber, mostly white pine, that was floated down the river to Trois-Rivières. Between 1851 and 1866, the government carried out work on the river (booms, flumes and dredging) to reduce the risk

8. Although the Archaic period lasted from 7000 BP to 3000 BP in the Mauricie region, the lack of dating for artefacts from the 34 paleohistoric sites makes it impossible to trace the presence of humans in La Mauricie National Park back to a specific millennium.

of damaging the wood. Before the work was even completed, companies had begun their logging operations. The vast Mauricie territory was then divided up into timber limits. Other companies came to the area, but in 1862 George Baptist reigned over the forest where the park is today. From 1830 to 1887, the lumber industry, and to a lesser extent the square-timber industry, dominated production in the Mauricie region. In the park, trees of superior size and quality were cut down so extensively that by 1870 the finest stands of white pine on park land had disappeared. In 1887, the Laurentide Pulp Company started operating in Grand-Mère and three years later George Baptist sold his cutting rights to them. According to information available, the pulp and paper mill apparently only began cutting in 1903-1904. Because the large population of conifers (fir and spruce) was used to supply its mill in Grand-Mère, around half of the forest canopy on future park land was systematically harvested by Laurentide and its subsequent companies until 1970, the year the park was created. In addition, in the 1930s there were two sawmills operating on present-day park land that supplied Eastern Soft Wood mills until the 1950s.

In 1908, the Laurentide company, with Elwood Wilson as chief forester, carried out its first tree planting operations, and then between 1930 and 1932 Consolidated Bathurst Limited proceeded with the reforestation of white spruce over 426 hectares of abandoned farmland. In the southeast part of the park there are still traces of these plantings.

Today, thousands of people come to La Mauricie National Park annually to take part in recreational and educational activities. The park has become the region's main tourism product. The economic impact of the park is estimated at $9.7 million annually and it contributes to maintaining or creating around 260 (full-time equivalent) jobs[9].

3.2 Ecological integrity

The ecological integrity of La Mauricie National Park is defined as follows:

> The park is in a state deemed to be characteristic of the natural area of the Great Lakes-St. Lawrence Precambrian Region of which it is a part and will presumably be maintained, particularly the abiotic elements, the composition and abundance of native species and biological communities, and the rate of change and ecological processes.

La Mauricie National Park has determined three ecological integrity indicators: the forest ecosystem, the aquatic ecosystem and the wetlands. A number of measures[10] are used to determine the condition and trend of the three indicators. The measures are the results of numerous research projects and ecological monitoring activities that have enabled us to assess the present state of ecological integrity. Results show that the indicators are deemed to be in fair condition, with a trend towards deterioration.

9. Estimates of the economic impact of Parks Canada in Quebec for the 2004-2005 fiscal year.
10. See the table in Appendix 2 that shows measures used to determine the state of and trend for ecological integrity indicators.

Designation of the condition of the ecosystems as "fair" is widely attributed to forestry operations that took place from 1830 to 1970, prior to creation of the park. Cutting and fire suppression have had a huge impact on the entire park area, altering the make-up, structure and natural processes of the forest ecosystem. Aquatic ecosystems and wetlands were also greatly affected by logging and log drives that began in the mid-19th century. Work was carried out on lakes, rivers and streams to facilitate log drives. Numerous dams built at the outlet of lakes altered their water flow patterns, resulting in changes to wetland and riparian habitats. Large accumulations of wood deteriorated aquatic habitats and in some places still affect natural processes and the free circulation of fish.

As for the trend towards deterioration, it is the result of 150 years of logging, the fragmentation and progressive decrease of wildlife habitats in the region, the presence of non-native species of fish in many of the lakes, colonization by invasive non-native species of plants and animals, suppression of large forest fires, air pollution, the hunting and trapping of certain species of wildlife on the periphery of the park, and the increasingly precarious state of a number of species of migratory birds.

In order to reverse the present trend and improve certain aspects of the park's ecological integrity, sustained restoration efforts have been made, including a controlled burning program that begun in 1990. In addition, in 2004, the park began "From Log to Canoe", an ambitious project to restore a dozen lakes. The project has included the demolition of old dams, the removal of thousands of logs accumulated at the bottom of lakes and along the littoral zone, and the recovery of genetically unique allopatric populations of brook trout. The program was also an opportunity to show visitors and the general public actual examples of restoration work and how it contributes to improving the ecological integrity of the park. Several universities have been working closely with the park, conducting research work for the project.

3.3 Species at risk

La Mauricie National Park is located in a region of relatively diverse plant and animal life. Studies and inventories carried out to date have counted numerous species (647 vascular plants, 116 mosses, 93 lichens, 47 mammals, 204 birds, 24 fish, including 19 non-native, 19 reptiles and more than 1037 arthropods).

At the time the park was created, four species of mammals, including the woodland caribou, had already disappeared from the area. A total of 19 species are considered at risk, their status designated as endangered, threatened or of special concern in Canada, according to COSEWIC[11], or on the list of species designated as threatened or vulnerable in Quebec. This list does not include 21 others that appear on the list of species likely to be designated as threatened or vulnerable in Quebec.

11. Committee on the Status of Endangered Wildlife in Canada (COSEWIC).

The wood turtle has been considered a threatened species since 2007. The wood turtle population in the Shawinigan river watershed has decreased by 50% since 1996 despite intensive conservation efforts to protect it against threats such as loss of habitat, road kill, illegal harvesting and excessive predation. Parks Canada is working with various groups on the drafting and implementation of a conservation plan to ensure the survival of one of the largest populations of wood turtles in Canada (Bourgeois and *al.*, 2009).

The Eastern wolf has been designated a species of special concern since 2001. It keeps the park's moose and white-tailed deer populations in check and protects changes in forest succession from an overabundance of large herbivores. The situation appears stable but remains of concern, given the hunting and trapping that takes place on the periphery of the park (Villemure and Masse, 2005). Efforts to raise awareness among the public and managers of adjacent land have been carried out to change their perception of wolves and to make them aware of this conservation issue [12] .

Parks Canada / J.Pleau

Parks Canada / J.Pleau

The isolated freshwater population of Arctic char in Lac Français is a unique component that needs to be protected. The Arctic char was recently added to the list of species likely to be designated as threatened or vulnerable in Quebec. Protective measures have been implemented since 1990, but the population remains vulnerable because its habitat has been altered by an old dam, by the presence of non-native species of fish and because the watershed is not completely included within the limits of the protected place.

The butternut was recently designed as endangered in Canada because of a non-native disease. One of the park's rare stands of butternut, located at the northern limit of its distribution, has been affected.

The park has put much effort into educating visitors and the public about species at risk through brochures, posters, Edukits, talks and conferences in schools.

12. Study of the attitudes, perceptions and knowledge of the Eastern wolf among hunters in the Mauricie region: final report.

3.4 Cultural resources

Although the presence of Amerindians, logging operations and the history of fish and game clubs are all-important to prepare the Cultural Resources Values Statement, our knowledge of these subjects is, with few exceptions, limited and even outdated. That being said, some evidence of human occupation is still present in the park. Rock paintings can be seen on a wall of Lac Wapizagonke and they are deteriorating over time. Only parts of the paintings are still visible, the rest having disappeared due to freezing and thawing or because of vandalism.

The Wabenaki and Andrew lodges are historic buildings recognized by the Federal Heritage Buildings Review Office and are used to house visitors. They are in poor condition and major work will have to be done in the coming years, particularly on the roofs, to preserve their integrity.

Little effort has been made in the past to protect and present vestiges of logging in the park and they are gradually disappearing. As a result, there is a risk that if nothing is done in the near future the only evidence to tell the story of that era will consist of several old logging roads that have become trails, or an old cottage dating back to the early 1900s that was used as a bush camp.

3.5 The visitor experience and recreational activities

Thanks to the facilities built in the park since its creation, visitors can enjoy unique experiences in exceptional natural surroundings[13]. Using the information available on the park website and in park pamphlets, visitors can prepare their visit and learn more about the park. Upon their arrival at one of two visitor centres, they are greeted by courteous staff members who make it their duty to suggest products and services based on the experience that the visitors would like to have[14]. Visitors can also purchase souvenirs there, sold by the cooperating association.

Parks Canada / J.Pleau

13. See Figure 3 for a map of the installations, activities and services in La Mauricie National Park.
14. Based on the notion of “explorer quotient” of the Canadian Tourism Commission. Visit: www.eqcaen.canada.travel/

La Mauricie National Park of Canada

Figure 3

FACILITIES, ACTIVITIES AND SERVICES

N

0 4 8 km

Rivière Mattawin
Rivière Saint-Maurice
Lac Grappin
Lac Dinel
Lac Cheureuil
Lac des Cinq
Lac la Pipe
Lac du Rapide
Lac Dauphinais
Lac Archange
Petit lac Archange
Lac Dubon
Lac Omand
Lac Houle
Lac Anticagamac
Lac Jodon
Lac Giron
Lac Reid
Lac en Coeur
Lac Avalon
Chutes Waber
Lac Waber
Lac Tessier
Lac Formont
Lac Soumire
Lac Étienne
Lac Écarté
Lac Rosoy
Lac Bouchard
Lac aux Chevaux
Baie des Onze Îles
Lac Maréchal
Lac Édouard
Lac du Pimbina
Baie Cobb
Lac du Caribou
Lac Benoit
Lac Bérubé
Lac Marie
Lac Isaïe
Lac Français
Lac Wapizagonke
Lac Parker
Lac à la Pêche
Lac du Fou
Lac de la Dam

LAC-DU-FOU
LAC-BOUCHARD
LAC-SOUMIRE
LAC ALPHONSE
LAC-ÉDOUARD
LE PASSAGE
LAC-ÉCARTÉ
LAC-GABET
LAC-DU-CARIBOU
WAPIZAGONKE
WAPIZAGONKE
VIDE-BOUTEILLE
ÎLE-AUX-PINS
LAC-MODÈNE
LAC-BOYER
RUISSEAU BRODEUR
ESKER
LA CLAIRIÈRE
SHEWENEGAN
MISTAGANCE
SAINT-MATHIEU
Shawinigan / 25 km
RIVIÈRE-À-LA-PÊCHE
MEKINAC
BAIE-DE-LA-PÊCHE
SAINT-JEAN-DES-PILES
Saint-Jean-des-Piles / 5 km
Grand-Mère / 16 km
WABENAKI ANDREW
SAINT-GÉRARD
Saint-Gérard-des-Laurentides / 8 km

Area
Shewenegan / Esker

Les Cascades
Les Falaises
SHEWENEGAN
Étang Shewenegan
MISTAGANCE
Ruisseau Brodeur
Vallerand
La Tourbière
Lac Wapizagonke
ESKER
LA CLAIRIÈRE
Loop 1.8
Loop 3.7
1.0
1.5
250 m
700 m
700 m

FACILITIES

- Parkway (63 km)
- Trail and portage (----- winter)
- Visitor Reception Centre
- Visitor Reception and Interpretation Centre
- Shelter
- Warden Station
- Warden's residence
- Lookout
- Launching ramp
- Lodge
- Boat tie-up

ACTIVITIES

- Camping
- Group camping
- Primitive camping with fireplace
- Primitive camping without fireplace
- Picnicking
- Swimming
- Hiking
- Back-packing
- Nature interpretation
- Cross-country skiing
- Mountain bike
- Playground
- Canoeing

SERVICES

- Snack-bar
- Convenience store
- Boat rental
- Gift shop
- Phone
- Accessibility for disabled people

Parks Canada Parcs Canada

The 63-km long Parkway winds its way through the park from east to west, providing access to picnic grounds and lookouts that offer amazing views over the Laurentian landscape. Visitors can stay at one of three serviced campgrounds or use the more rudimentary camping facilities at wilderness sites accessible by foot or canoe. They can also reserve a stay at the Wabenaki and Andrew lodges, heritage buildings located on the south shore of La Pêche Lake. On the extensive network of trails, hikers and skiers can discover the many faces of this magnificent park of lakes and forests throughout the seasons. The numerous lakes scattered throughout the park are a major attraction for swimming, canoeing and fishing enthusiasts. In fact, the vast majority of visitors – over 90% – spend time in or on the water at some point during their visit to the park.

The Mauricie region and surrounding regions have vastly improved their tourist offer over the last few years, making it a more popular destination. The volume of tourists in the Mauricie went from 1,165,000 regional visits in 2000 to 1,290,000 in 2007[15]. Yet, this increasing popularity is not reflected in the number of visitors to the park. Moreover, other regions of the province offer activities that compete directly with La Mauricie National Park.

The park records an average of close to 303,000 visit-days annually[16]. However, this number dropped by nearly 25% between 2001 and 2008, going from 345,521 to 260,170 visit-days. Based on the results of a survey conducted in 2004[17], the vast majority of park visitors are Quebecers (88%), of which nearly one third come from the region where the park is situated (Mauricie – Centre-du-Québec). The Montreal area alone provides 30% of the visitors. One aspect of park attendance statistics that stands out is definitely the high number of repeat visitors. The survey revealed that 72% of respondents had already visited the park previously.

According to a 2006 study[18] of the habits of park visitors during the high season, the areas of the park the most used were the north end of Wapizagonke lake, including the Wapizagonke campground and the Waber waterfalls (75,000 visit-days), the Édouard lake area, which includes Du Fou lake and Écarté lake (42,700 visit-days), the area around the Rivière-à-la-Pêche campground, including Bouchard lake and the Deux-Criques trail (41,800 visit-days), and the south end of Wapizagonke lake, which includes the Mistagance campground and the Shewenegan picnic area (53,000 visit-days). The most popular activities in the park[19], in decreasing order, were: camping, swimming, canoeing or kayaking, hiking, nature watching, picnicking and angling.

15. Tourisme Québec statistics.
16. Average visit-days from the years 2001 to 2008.
17. Parks Canada, 2004.
18 SOM, 2007.
19. In proportion to the total visit-days during the period studied.

Another visitor experience survey conducted in 2006[20] revealed that people come to the park mainly to get a break from their usual routine and day-to-day life, to get together with friends and family, and to view plant and animal life. The study also showed that 49% of people surveyed considered that their visit had been better than what they had expected, especially with regard to their appreciation of the ecological value of the park, their contact with nature and their increased knowledge of the park. For 45% of respondents, their visit had been satisfactory and corresponded to their expectations.

In 2008, a study[21] was carried out among winter visitors to determine the needs and profile of this clientele. Of the winter park users, 80% came from the Mauricie region and 96% had visited the park before. The main activity they participated in was cross-country skiing, but also snowshoeing and walking. Ninety-three per cent of visitors wanted to take part in activities that are physically demanding. The reasons they visited the park were its natural beauty and its proximity, and 82% stated that their experience had exceeded their expectations.

Comments left by visitors revealed, however, that their needs have evolved over the years. The park will now need to offer products and services that respond to new market trends, whether it be by offering new activities, providing easier access to internet or incorporating new technologies into activities. The park must also evolve based on potential clienteles that are developing in the region, for example the growing clientele of pleasure boaters that now use the Saint-Maurice river and would like access to the park from the river. Since the end of the floating of timber in 1995[22], the river has become an increasingly popular waterway in the region.

3.6 Public education

Through its educational activities, the park fosters the understanding of species at risk and the state of ecosystems and how they work, and raises awareness among visitors and the general public of the importance of protected places.

Interpretation activities provide visitors with enriching educational experiences. Over the last few years, the interpretation program was enjoyed by an average of 14,145 visitors annually[23]. Visitors can take part in daily activities with naturalists during the summer season. They can also visit the interpretation centre at Saint-Jean-des-Piles where there is an exhibition hall and a 3D slide show titled “Mystic Laurentians”. At a dozen or so places along the Parkway, there are interpretation panels – at the rest stops, in the picnic areas, at the lookouts and on certain trails.

Various activities take place yearly to convey messages outside of the park. An Edukit on wolves is available to schools. Every year, some thirty school classes learn about wolves using the kit. In addition, park employees meet with various clienteles to talk to them about the park: students, scouts, members of regional groups, etc. Approximately twenty such meetings are organized yearly.

20. Priskin, J. 2007.
21. Parks Canada, 2008.
22. wwww.hydroquebec.com/developpementdurable/cas_concrets/amen_stmaurice.html, consulted June 26, 2009.
23. Average of the years 2005 to 2008.

3.7 The park's unique characteristics

La Mauricie National Park is unique in the following ways:

- Its forest ecosystems typical of the lower and mid-Laurentians of the Mauricie region.
- Its network of lakes, ponds, rivers and streams that are home to a diversity of aquatic and riparian plant and animal life, some of them rare or unique.
- Allopatric populations of brook trout[24] and a unique population of Arctic char.
- The only national park in Canada that is home to packs of Eastern wolves[25].
- A park that boasts exceptional cultural resources that are a testimony to the history of the land, including an archaeological site with rock paintings on a wall of Wapizagonke lake, the Wabenaki and Andrew heritage lodges, remains of the Laurentian fish and game club and traces of the era of logging.
- A park that is easily accessible where wilderness areas are still in existence.
- A place that is exceptional and safe for families and friends to enjoy activities such as nature watching, hiking, swimming and canoeing.
- The absence of light pollution, making it possible to gaze at the sky and all its wonders.
- An extensive network of cross-country ski trails that lead to spectacular landscapes.
- A 75-km hiking trail (the Laurentian trail) where hikers can be in close contact with nature.

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24. Refers to species that live in conditions that are sufficiently isolated geographically that no exchange of genes occurs, and that are the only species of fish in the lake.
25. Species at risk of special concern to COSEWIC, a sub-species of the gray wolf, canis lupus lycaon.

3.8 Sense of ownership

No surveys have been conducted to determine the public's sense of ownership toward La Mauricie National Park. However, studies to evaluate visitor satisfaction and experiences reveal a strong sense of connection to the park, not only on the part of people in the region but visitors from elsewhere in Quebec; they are loyal to the park and come back. Furthermore, the park's reputation throughout the province is obvious – it is the region's main tourist attraction. This sense of connection is demonstrated in partnerships that have developed over the last few years, work done by the many volunteers, and the constant support and confidence of people in the region. Positive media coverage is another aspect where a sense of ownership is felt. Over the coming years, studies will be conducted to learn more about this aspect.

3.9 Summary of the main challenges

Below is a summary of the main challenges faced by La Mauricie National Park:

- A significant decrease in the number of park visitors since 2001.
- The rapid encroachment of vegetation at lookouts, on either side of the Parkway, along trails and around campsites that detracts from the visitor experience.
- Infrastructures in the park are showing signs of age and deterioration.
- The designation of the state of ecological integrity of the forest and aquatic ecosystems as "fair".
- Protection of species at risk, particularly the wood turtle, Eastern wolf and the butternut.
- Conservation of cultural resources, particularly the rock paintings and the Wabenaki and Andrew lodges.
- The ways in which adjacent land is used that has an impact on the visitor experience and on park ecosystems.

Climate change and air pollution are major challenges over which the park has no control. Adaptation is therefore key in management planning, especially when it comes to ensuring the safety of visitors and the protection of infrastructures.

4. A Vision for the Park: a Gentle Adventure in the Heart of the Laurentians

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The text below describes the desired state of La Mauricie National Park in 15 years. This vision is the basis for the strategies and actions recommended in the management plan. It supports park management by setting realistic and measurable objectives. It was developed by a multidisciplinary team at Parks Canada and has received the support of regional groups and park employees.

According to Aboriginal beliefs, the Earth was said to have been formed on the back of a giant turtle... called Makinak by the Atikamekws-Nehirowisiws.

Land of lakes and forests, La Mauricie National Park is the guardian of the Laurentian heritage. In this mosaic of deciduous and coniferous trees, home to the moose, the black bear and the beaver, tall white pines are gradually finding their way back. Campers sitting around a campfire at dusk hear the distant howling of wolves and the plaintive cry of the loon, sounds of a nature that is still wild.

The multitude of lakes have recovered their vitality and brook trout abound. These waterways, bordered here and there by sandy beaches and steep cliffs, give canoeing and fishing enthusiasts the opportunity for an experience imbued with authenticity, tranquillity and intimacy with this freshwater world.

This generous land is an eloquent testimony to thousands of years of occupation. Proof is in the rock paintings created by Aboriginal peoples, vestiges of more than a hundred years of logging, and the Wabenaki and Andrew lodges built during the heyday of fish and game clubs. Even today, hikers can follow trails of days gone by and discover, at a bend in the path, tangible signs of the history of this Laurentian land.

A landscape of rounded hills in the heart of populated Quebec, the park is now a place where you get back to nature, go on a gentle enjoyable adventure. In all seasons, the park welcomes a large number of visitors, here to rediscover it and have experiences that live up to their expectations. Canoeists breathe in the renewal of spring and families are brought together on warm summer afternoons. Come autumn, hikers are in awe of the splash of colour, while skiers glide in the whiteness and silence of winter.

La Mauricie National Park is a source of inspiration and connection for communities, First Nations, partners, the public and park employees. Together, but each in their own way, they make this protected place an exceptional site of inspiring discoveries, a place to learn and to be enriched. It is their turn to go down in history, honouring and celebrating the giant turtle that holds our future...

5. Key Strategies

Over the coming years, management of La Mauricie National Park will contribute to achieving Parks Canada's mandate through the key strategies described in the following pages. These strategies are directly based on the main challenges that the park must address to accomplish its mission and to promote the public's sense of connection.

Four key strategies are all-important for the coming years. They involve rediscovery of the park by visitors and the general population, cultural resources, the forest ecosystem and the aquatic ecosystem. Each strategy is described, followed by the objectives, actions and targets involved.

5.1 A Park to Rediscover

Background and points to consider

- The park is located in the heart of the most populated part of the province, less than 200 km from Quebec City and Montreal.
- The number of visit-days decreased by nearly 25% between 2001 and 2008. This trend is particularly true for local and regional clientele.
- The park is facing increasing competition from improved recreation and tourist attractions offered regionally and provincially.
- Activities and experiences that are varied, safe and accessible to all are offered in all seasons.
- The products and services available have not kept up with new market trends.
- Since the phasing out of the floating of timber, the Saint-Maurice river has become a popular waterway in the region and pleasure boaters represent a new market.
- The park shares its boundaries with two wildlife reserves and a controlled harvesting zone that represent potential partners.

This key strategy is designed to promote discovery of the park by new clienteles and to better fulfill visitor expectations, i.e. what they would like to experience in the Laurentian hills. With its majestic forest landscapes, clear lakes and rounded hills, the park evokes a feeling of familiarity and friendliness. Access to the park is easy and safe. Yet, over the last few years visitor traffic has dropped considerably. While visitors from the surrounding region still come, they have been partially replaced by tourists from the Montreal and Montérégie regions. A recent survey revealed that visitors come to the park mainly for a break from their usual routine and day-to-day life, to get together with family and friends, and to observe plant and animal life. These social, emotional and sensory dimensions of the visitor experience in a protected natural environment can guide the park in diversifying the experiences offered and encouraging new visitors to discover the park.

In order to succeed, sustained efforts will be made to raise the profile of this protected environment among the public in the surrounding region and in large urban centres, and among clienteles that don't typically visit La Mauricie National Park. Moreover, new packages will be developed with partners to reach emerging tourist markets in the region. Furthermore, once we know why people in the region are coming less often, we will be in a position to better meet their needs and thus plan their return to the park. Thanks to efforts to renew the Laurentian forest, revitalize freshwater environments and honour the park's human history, regular and new visitors will be able to enjoy the park from a new perspective. A wider range of activities that take into account visitor expectations will be offered in all seasons.

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In applying these measures, it is conceivable that visitation will begin to rise again. The public will be more aware of the unique character of this protected place. La Mauricie National Park will once again become a destination of choice that corresponds to new market trends and will be an important component of regional tourism. Visitors will enjoy their gentle adventure in the heart of the Laurentian hills with family and friends. As people relax, learn and enjoy their visit, they will develop a sense of ownership of the Mauricie landscapes and they too will become defenders of this environment.

OBJECTIVE 1

Understanding the present market and attracting new clientele.

Actions:

- Based on existing data, analyze changes in clientele in order to understand the reasons why visitor traffic has decreased.
- Review studies that have been conducted and target potential markets.
- Develop and apply a marketing plan.
- Develop and apply a promotional strategy.
- Develop new products.

OBJECTIVE 2

Raise the profile of La Mauricie National Park and its mandate among the public who do not visit the park.

Actions:

- Together with schools, develop teaching tools that focus on the brook trout and the black bear, and improve the "Teacher's Corner" section of the park website.
- Raise the profile of the park and its mandate in surrounding communities through regional media (newspaper articles, interviews, media coverage, etc.).
- Develop partnerships with organizations such as the Biodôme and the Botanical Garden in Montreal, and the Aquarium and the Parks Canada Discovery Centre in Quebec City to reach the citizens of those urban areas.
- Take part in events in urban centres, such as outdoor trade shows in Montreal and Quebec City, the Féria du vélo de Montreal, etc.

OBJECTIVE 3

Enhance the park's position among regional tourist attractions.

Actions:

- Develop a product aimed at cruise lines (an emerging market in Trois-Rivières).
- Develop other agreements, products and packages with regional tourist groups, for example, a cross-country ski "loppet[26]", and packages with artists' symposiums held in Shawinigan and Sainte-Flore.
- Explore the possibility of partnerships with neighbouring protected places, such as the Mastigouche and Saint-Maurice wildlife reserves.

26. A sporting event where a large number of skiers take part in a cross-country skiing race over a long distance within a certain time limit. The term *loppet* comes from the Swedish *Vasaloppet*.

Parks Canada / J.Pleau

OBJECTIVE 4

Facilitate a wider variety of experiences for visitors and better fulfill their expectations.

Actions:

- Develop two new short trails along the Parkway (2-3 km loops).
- Take a survey of campers to determine their needs in terms of services.
- Provide internet access in the Rivière-à-la-Pêche sector.
- Develop new activities designed to attract regional clientele.
- Develop a partnership with Collège Shawinigan to create a skywatching site.
- Offer alternative types of accommodation in partnership with private business.
- Strengthen the winter activities offered at Rivière-à-la-Pêche by developing snowshoe and nordic walking trails and improving the service building.
- Strengthen the dogsledding activity in partnership with private business in the west sector of the park (Saint-Mathieu-du-Parc gate).
- Explore the possibility of developing ice climbing.
- Offer a new geocaching activity every year.
- Take a survey of pleasure boaters on the Saint-Maurice river to determine their needs and explore the park's potential to meet those needs.
- Build an additional boat launch for easier access to Wapizagonke lake.
- Develop and improve the facilities for users of trails along the La Pêche-Isaïe-Édouard lakes corridor (rest areas, picnic areas, clean beaches, viewpoints, interpretation panels, etc.).
- Assess the possibility of bringing back (in partnership) the educational activity at the La Pêche lake sugar house.

Targets

1. Increase the number of visitors by 10% over a 5-year period.
2. By March 2014, 60% of Canadians appreciate the significance of heritage places administered by Parks Canada.
3. Increase the number of persons visiting the park website by 10%.
4. Have signed an outreach partnership agreement in Quebec City and one in Montreal.
5. The park is included in five new regional tourist packages.
6. 90% of visitors are satisfied and 50% are very satisfied with their visit.
7. 60% of visitors consider that they have learned something about the park's heritage.

8. By March 2014, increase the percentage of Canadians who understand that places administered by Parks Canada are protected and presented on their behalf.
9. By March 2014, increase the percentage of stakeholders and partners who believe they have the opportunity to influence Parks Canada activities and contribute to them.

Ongoing actions and activities

- Update regularly the contents of the website (texts and photos, section for tour operators, addition of a section devoted to preparing school groups for park visits) and adapt it to the visitor experience.
- Continue to hold events that give the park wider exposure, in partnership, for example, with Défi Vélo-Mag or the Défi nordique Géo Plein Air.
- Renew part of the non-personal interpretation assets on a yearly basis.
- Maintain the quality of facilities and services, including the Parkway, trails and campsites.

5.2 Honouring and Celebrating the Past

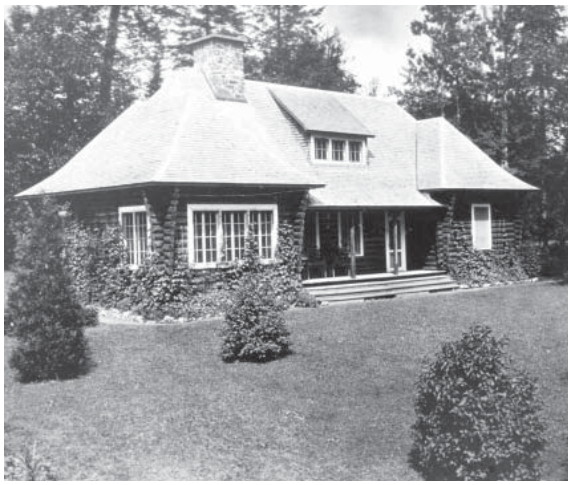
Background and points to consider

- The presence of Aboriginals thousands of years ago is seen in archaeological sites, some dating as far back as the Archaic period (7000 BP to 3000 BP) .
- The most recent research on the rock paintings has found that they most probably date back more than 2,000 years. They have deteriorated over time and only part of them remains.
- Logging and farming that took place during the 19th and 20th centuries have had a significant impact on the land. There are still remains of that period: old logging roads, dams, canalized streams, logs at the bottom of lakes.
- Heritage buildings (the Wabenaki and Andrew lodges) are testimony to the presence of fish and game clubs on park land beginning in the late 19th century. They are in poor condition and major work is needed.
- People are not fully aware of the park's cultural resources and there is very little documentation.

This key strategy consists of preserving, understanding and presenting the park's cultural resources in order to tell the human history of this land.

Various measures will be taken to protect and celebrate the past. We will gain more knowledge of the presence of Aboriginals and fish and game clubs on present-day park land. Evidence of the various periods of human occupation will be protected by ensuring that remains of logging operations are preserved, that the integrity and durability of the Wabenaki and Andrew lodges is maintained and that the best solution is found to protect the rock paintings. We will call upon First Nations to help us gain a better understanding of the Aboriginal culture and ensure that it is reflected in our future actions. New cultural events will be organized with the collaboration of senior citizens, historians, regional groups, and representatives of First Nations.

Within several years, protection of the most significant vestiges from each period of the human history of La Mauricie National Park will be improved. Visitors will benefit from interpretation programs, exhibits and facilities designed so they have an enriching experience and learn more about the history of First Nations and the close connection they have with the land. Visitors will understand, for example, how today's forest was modelled by 150 years of logging, or what life was like for a member of a fish and game club, as well as the impact of these human interventions on the park's forest, aquatic and wildlife resources. To sum up, visitors and the general public will have a greater understanding of how various episodes of human occupation have contributed to shaping the park's ecosystems into what they are today, thus promoting a greater appreciation of this natural and cultural heritage and new interest in its many facets.



Collection Pauline Lacerte

OBJECTIVE 1

Increase our knowledge and determine the messages to communicate regarding the human history of park land.

Actions:

- Develop our relations with representatives of the Atikamekw-Nehirowisiw First Nation and call upon their traditional knowledge and other sources to review the place names used in the park.
- Draft the park's Cultural Resources Values Statement.
- Gather all information available on the presence of Amerindians, logging, and fish and game clubs [27].
- Create reference documents relating to Aboriginal culture in the Mauricie region, logging operations and the era of fish and game clubs.

27. Bibliography, historiographic and archaeological material, identification of gaps in information, research proposals in order to create reference documents that will lead to the presentation and interpretation of these themes. If necessary, partnerships could be developed with universities.

OBJECTIVE 2

Protect evidence of the various periods of human presence in the park.

Actions:

- Do an archaeological characterization of logging-related structures when restoration work is being done on the aquatic ecosystems.
- Do an inventory and study of the park's cultural resources, both presumed and existing.
- Develop and implement a strategy to protect and present the rock paintings, working with the Atikamekw-Nehirowisiw First Nation.
- Seek the support of park visitors in protecting the rock paintings by making them aware of how valuable and fragile they are.
- Carry out the renovations needed at the Wabenaki and Andrew lodges, based on the Standards and Guidelines for the Conservation of Historic Places in Canada [28] (roofing and other work deemed a priority).

OBJECTIVE 3

Promote the discovery and appreciation of the park's cultural heritage among park employees and visitors, and members of the public who do not visit the park.

Actions:

- Incorporate new cultural heritage-related information into the employee training program.
- Make park employees aware of the history of Amerindian populations that occupied park land.
- In partnership with the Atikamekw-Nehirowisiw First Nation, offer visitors an opportunity of experience that focuses on Aboriginal culture.
- Assess the relevance of allowing a certain number of visitors to have a unique experience in a rabaska canoe, with the rock paintings as the highlight of the outing.
- Draft a plan for developing and presenting the Wabenaki and Andrew lodges.
- Offer visitors an activity that focuses on the history of the Laurentian Club, founded in 1886.
- Make it possible for visitors to see and appreciate the vestiges of logging.
- Enhance the cultural section of the park website.

Targets

1. No further deterioration of the rock paintings.
2. The Wabenaki and Andrew lodges are kept in good condition, in compliance with the Standards and Guidelines for the Conservation of Historic Places in Canada.
3. Two years from now, vestiges of interest of logging operations will be presented.
4. Three years from now, park staff will be more familiar with Aboriginal culture and the era of fish and game clubs.

28. Conservation in the context of these Standards refers to retaining the heritage value of historic places and extending their physical life. Retaining the heritage value of historic places is primarily ensured through *interventions*, i.e., any actions (or deliberate inactions) that have a physical effect on the tangible elements of a historic place that do not obscure, damage, or destroy character-defining elements. The latter consist of the materials, forms, location, spatial configurations, uses and cultural associations or meanings that contribute to the heritage value of the historic place.

5. 60% of visitors consider that they have learned something about the park's heritage.
6. 90% of visitors are satisfied and 50% are very satisfied with their visit.
7. By March 2014, increase the percentage of Canadians who understand that places administered by Parks Canada are protected and presented on their behalf.
8. By March 2014, increase the percentage of stakeholders and partners who believe that they have the opportunity to influence Parks Canada activities and contribute to them.

Ongoing actions and activities

- Apply the Cultural Resource Management Policy and Federal Heritage Buildings Policy.
- Consider the value of cultural resources when performing environmental assessments at the park.
- Keep in close contact with Appartenance Mauricie, a regional historical society.
- Continue research and the identification of vestiges not yet inventoried of the era of logging and fish and game clubs.
- Continue the partnership with the cooperating association Info-Nature Mauricie for management of the Wabenaki and Andrew lodges.

5.3 The Rebirth of the Laurentian Forest

Background and points to consider

- The forest ecosystem covers 87% of the park's area.
- The state of integrity of the forest ecosystem is "fair" with a trend towards deterioration.
- All the forest stands have been logged (1830-1969).
- Prior to 1990, the systematic suppression of forest fires caused modification of the composition and age structure of the forest.
- In 1990 the park began a controlled burning program.
- White pine and red oak are highly underrepresented.
- Two packs of Eastern wolves, a species of special concern in Canada, frequent park land and keep moose and white-tailed deer populations in check.
- Hunting and trapping and alteration of the forest on the periphery of the park affects certain animal species, such as the black bear and the Eastern wolf.
- Vegetation in some places obstructs the view of landscapes, diminishing the visitor experience.

This key strategy is aimed at preserving, promoting and presenting the components of the forest ecosystem of La Mauricie National Park that have given the park its reputation among visitors and the general public. A restored natural environment increases the opportunities for a satisfying and diverse visitor experience. The beauty of the landscapes is often mentioned by visitors as their reason for coming to the park. They are looking for a restful or adventurous experience in a natural environment typical of the Laurentian forest, a moment of serenity where they feel close to nature.

For more than a century park land was used extensively for logging. Large white pine trees were harvested over the entire area. All the forests were subject to some degree of cutting and forest fires were systematically fought. After the park was created, forest fire suppression continued and the forest was extensively altered. The situation of the white pine and red oak – species that are dependent on forest fires – deteriorated, and the composition of the forest in terms of age structure is not what would be expected.

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Over the coming years, La Mauricie National Park wants to intensify its ecological restoration efforts, including using fire to restore white pine and red oak to some stands. We also want to modify the age structure of the forest using controlled burns over large areas. These actions should improve the integrity of the forest ecosystem and reverse the trend towards deterioration.

Another of the park's challenges is to provide views of landscapes typical of the Laurentian forest to enhance the wilderness experience offered to visitors. The landscapes must be made more visible from circuits typically followed by visitors and from lookouts along the Parkway and trails. For visitors to have a safe high-quality experience at the park, the forest canopy in the campgrounds, on the trails and along the road must be actively managed. Maintaining the natural character of part of the landscapes visible from the park requires that we work more closely with the authorities and owners of neighbouring land.

In a number of years, visitors will be in contact with a Laurentian forest that is evolving naturally and where white pine will have been restored to its rightful place. Visitors will take part in interpretation activities designed to explain how controlled burning is used to achieve such a result. Thanks to active management of the forest canopy, campers, hikers and motorists driving on the Parkway will be able to enjoy magnificent viewpoints, observe wildlife and have completely safe park experiences. Furthermore, information on efforts made to protect the forest landscapes and ecosystem, and on species of interest and species at risk, will be conveyed to persons who do not visit the park.

Below are six objectives that relate to the above strategy, and the actions involved in each objective.

OBJECTIVE 1

Present visual elements of interest of landscapes of the Laurentian forest.

Actions:

- Draw up an inventory of distinctive landscapes that should be visible from the main circuits followed by visitors.
- Develop and implement a plan for presentation of the landscapes.
- Sign agreements with managers of adjacent land to maintain or enhance visual elements of interest of landscapes within the viewshed that is common to the park and adjacent land.

OBJECTIVE 2

Restore the mosaic of the Laurentian forest.

Action:

- Carry out controlled burns over large areas to renew and modify the composition of the forest canopy.

OBJECTIVE 3

Restore white pine and red oak that were once part of the forest landscape.

Actions:

- Carry out three controlled burns over the next five years.
- Proceed with silvicultural treatments to promote regeneration of the red oak.

OBJECTIVE 4

Promote knowledge and appreciation of the Laurentian forest among visitors.

Actions:

- Create a trail through a mature pine forest so visitors can discover a spectacular element of the Laurentians.
- Develop interpretation products that are designed to foster a better understanding of how fire is used in forest management.

OBJECTIVE 5

Raise awareness among the public that does not visit the park of the role of this protected area in preserving the Laurentian forest.

Actions:

- Improve the section of the website that deals with restoration of the Laurentian forest.
- Work together with various media to publicize the efforts being made to protect and restore the forest.
- In partnership with the Association forestière de la vallée du Saint-Maurice, design teaching material on the Laurentian forest for use in schools.
- Develop a teaching tool on the black bear, a species typical of the Laurentian forest.

OBJECTIVE 6

Obtain the support and cooperation of managers of neighbouring land in protecting the forest ecosystem.

Actions:

- Take part in regional consultation tables on land and natural resource management to promote management practices that comply with park conservation objectives and the visitor experience.
- Take part in the drafting and review of *Plans régionaux de développement des terres publiques* (regional plans for the development of public land), forest management programs, wildlife management plans, and regional county municipality development plans.

Targets

1. All observation points off the Parkway and the main trails are maintained on a regular basis to present the landscape.
2. Carry out controlled burns over 426 hectares to promote regeneration of the forest.
3. Carry out controlled burns over 275 hectares to promote growth of white pine.
4. A 30-hectare stand of red oak has been restored.
5. 60% of visitors consider that they have learned something about the park's heritage.
6. 90% of visitors are satisfied and 50% are very satisfied with their visit.
7. By March 2014, increase the percentage of Canadians who understand that the places administered by Parks Canada are protected and presented on their behalf.
8. By March 2014, increase the percentage of stakeholders and partners who believe that they have the opportunity to influence Parks Canada activities and contribute to them.

Ongoing actions and activities

- Participate in activities organized by the Association forestière de la vallée du Saint-Maurice, a regional forestry association.
- Pursue efforts for the transfer of knowledge with universities and other government organizations.
- Keep the trail network in good condition to promote discovery of the Laurentian forest.

5.4 The Freshwater World Resurfaces

Background and points to consider

- The aquatic ecosystem, including the wetlands, covers 13% of the park.
- The state of integrity of the aquatic ecosystem and the wetlands ecosystem is "fair" with a trend towards deterioration.
- The vast network of lakes, streams, rivers and wetlands are a vital habitat for brook trout and are home to other species of wildlife, including the common loon, great blue heron, several species of ducks, the beaver, the otter, the moose and the wood turtle.
- Over 90% of visitors spend time on or in the lakes during their time at the park.
- Angling has been a popular recreational activity since the opening of the park.
- Research has demonstrated the existence of eleven genetic lines of unique brook trout, some of which are in danger of disappearing.
- A population of freshwater Arctic char is found in Français lake. This species is likely to be designated as "endangered" or "vulnerable" in Quebec.
- One of the largest known populations of wood turtles, a species designated as "endangered" in Canada, is found in the Shawinigan river watershed. Since the 1990s, considerable recovery efforts have been made by the park and numerous partners to ensure the survival of the wood turtle.
- The La Pêche lake is used as a reservoir for drinking water by the city of Shawinigan.
- In 2004 the park began an extensive aquatic ecosystem restoration project called "From Log to Canoe".

This key strategy is aimed at restoring the aquatic ecosystem in order to improve the ecological integrity of the park and provide visitors with stimulating recreational and educational experiences that relate to the freshwater world. The strategy also aims at making the public aware of restoration work that is being done and its benefits for the ecosystem and for park visitors.

The key strategy consists of continuing restoration of aquatic ecosystems by the removal of dams and logs, increasing the wood turtle population, elimination of non-native fish and reintroduction of brook trout. We also intend to clean up the beaches so visitors can get to them more easily and develop interpretation and educational products relating to the above projects.

Aquatic ecosystems and wetlands have been greatly affected by logging and log drives that began in the mid-19th century. Work was done on lakes, rivers and streams to facilitate log floating. Numerous dams built at the outlet of lakes altered their water flow patterns, resulting in changes to wetland and riparian habitats. Large accumulations of wood deteriorated aquatic habitats and still affect natural processes.

Historically, the majority of lakes, rivers and streams only contained brook trout. However, between 1883 and 1970, fish and game clubs voluntarily introduced numerous non-native species in their efforts to enhance the angling potential on the land that they managed. Most of these

introductions proved to be disastrous for survival of the brook trout, causing a significant decrease or the complete disappearance of many populations.

Once the strategy has been put into place, the state of the park's aquatic ecosystem will improve significantly and the population of wood turtles will have a greater chance of surviving. The viability of populations of brook trout and Arctic char will no longer be in jeopardy. Visitors will be able to take part in their favourite activities in an environment that will have been restored to its natural authentic state. The park will be able to continue giving visitors the opportunity to fish, diversifying the angling possibilities and meeting the needs of various park clientele. A variety of learning opportunities will be available to visitors, which will contribute to enhancing their understanding and appreciation of the ecological value of the aquatic ecosystem and initiatives to restore the ecological integrity of the park. Information on the restoration and presentation of the aquatic ecosystem will also be available on the website so that the information can be shared with interested internet users.

Parks Canada / J. Pleau

OBJECTIVE 1

Promote discovery of the aquatic environment and raise awareness among visitors, local residents and the public who do not visit the park of how fragile the environment is and efforts to restore it.

Actions :

- Develop or strengthen interpretation products and activities on the initiatives to restore the aquatic environment and to preserve species at risk.
- Diversify the activities available to recreational fishermen.
- Clean up beaches of interest that have reappeared as a result of restoration work and make it possible to get to those beaches.

OBJECTIVE 2

Obtain the support and cooperation of managers of neighbouring land in protecting aquatic ecosystems and the species living in them.

Actions:

- Take part in regional consultation tables on land and natural resource management to promote management practices that comply with park conservation objectives and the visitor experience.
- Take part in the drafting and review of *Plans régionaux de développement des terres publiques* (regional plans for the development of public land), forest management programs, fisheries management plans, and regional county municipality development plans.

OBJECTIVE 3

Restore the structure and natural functioning of aquatic ecosystems that have deteriorated.

Actions:

- Restore water flow patterns by removing dams and reducing accumulations of wood.
- Restore habitats by removing logs from the shore and along the littoral zone.
- Eliminate or, where possible, control the species of fish introduced.
- Using existing populations, reintroduce brook trout in lakes where it has disappeared.
- Where possible, restore the free circulation of brook trout between lakes.
- Conduct a feasibility study of the restoration and presentation of Wapizagonke lake.

OBJECTIVE 4

Ensure the viability and genetic diversity of populations of brook trout and Arctic char.

Actions:

- Revise the angling management program.
- Apply additional protection and restoration measures for at least one population of each genetic line of brook trout.
- Monitor the state of health of populations of brook trout and the state of their habitat.
- Conduct a feasibility study of the conservation and restoration of the population of Arctic char in Français lake.

OBJECTIVE 5

Prevent the introduction of new non-native species of fish.

Actions:

- Monitor communities of fish most likely to be invaded by non-native species.
- Develop and implement a tactical plan for enforcing fishing regulations to prevent the use of baitfish for angling.

OBJECTIVE 6

Working with other partners, restore the population of wood turtles in the Wapizagonke lake and Shawinigan river watershed.

Actions:

- With the support of partners, implement a plan to restore the wood turtle to the Shawinigan river watershed.
- Take part in the program to protect nests and young turtles in the most important egg-laying site in Canada.
- Proceed with the addition of a certain number of young turtles to the park.
- Improve the habitat of the wood turtle around Wapizagonke lake.

Targets

1. There is a 20% decrease in the number of lakes or portions of streams and rivers affected by old dams, road structures or accumulations of wood.
2. Each new culvert meets Department of Fisheries and Oceans standards for the protection of fish habitats.

3. Populations of brook trout have been re-established in seven lakes.
4. No populations of brook trout that are being fished show signs of over-harvesting.
5. Non-harvested populations of brook trout and Arctic char show levels of abundance and growth that are typical of natural conditions.
6. There are no new introductions of non-native species of fish, particularly in lakes with allopatric populations of brook trout.
7. There is an increase in the number of observations of wood turtles and frequency of reproduction in the park.
8. 60% of visitors consider that they have learned something about the park's heritage.
9. By March 2014, increase the percentage of stakeholders and partners who believe they have the opportunity to influence Parks Canada activities and contribute to them.
10. 90% of visitors are satisfied and 50% are very satisfied with their visit.
11. By March 2014, increase the percentage of Canadians who understand that the places administered by Parks Canada are protected and presented on their behalf.

Ongoing actions and activities

- Implement the program to replace and maintain culverts, meeting standards for the protection of fish habitats and environmental compliance, while ensuring the safety of visitors and maintaining park operations.
- Continue working with the academic community and other research bodies in order to carry out fundamental and applied research projects that will increase our knowledge of the state and functioning of ecosystems.
- Using effective communication tools, pursue efforts to raise awareness among fishermen.
- Continue to register fishermen and record their catch to protect this resource and provide a high-quality activity.
- Apply the memorandum of understanding with respect to supplying drinking water to the city of Shawinigan from La Pêche lake.

6. Partnerships and Public Involvement

La Mauricie National Park intends to continue developing constructive long-term partnerships and public involvement in various aspects of park management. Important partnerships have been in place for many years in various areas. Below are some examples:

Cooperating association Info-Nature Mauricie: It manages the Wabenaki and Andrew lodges, sells firewood in the campgrounds and operates two souvenir counters in the visitor centres. It also supports the park's volunteer program. The association takes part in the public education program by distributing the Edukit on wolves to schools in the region.

Cyclo-Mauricie: Since 2007, it has organized Défi Vélo Mag, a major annual cycling event and, since 2009, the Défi nordique winter event.

Association touristique régionale de la Mauricie: This tourist association promotes the park and develops regional tourist products.

City of Shawinigan: It endorses the park's conservation, tourism and regional development objectives – the park is situated within Shawinigan's city limits.

Canadian Ski Patrol: It provides year-round prevention, first aid, and search and rescue services when needed.

Sûreté du Québec: The provincial police enforces the Highway Safety Code and the Criminal Code in the park and provides assistance in search and rescue operations.

Société de protection des forêts contre le feu: This organization fights forest fires throughout the province and assists the park when it carries out controlled burns.

Mouvement Vert Mauricie: This association performs stewardship actions for conservation of the wood turtle in the Shawinigan river watershed.

Environment Canada: This department carries out long-term monitoring projects, including benthos biomonitoring and assessment of the effects of acid rain. In addition, the Canadian Wildlife Service conducts assessments of mercury contamination of loons.

Fisheries and Oceans Canada: This department provides advice and guidance on fish habitats for the park's restoration of aquatic ecosystems and for the program to replace culverts in rivers and streams.

Ministère des Ressources naturelles et de la Faune Québec: This provincial department is involved in the program for conservation of the population of wood turtles in the Shawinigan river watershed. In its operations, it also addresses the park's concerns regarding the introduction of non-native species of fish in adjacent watersheds.

Commission scolaire de l'Énergie: This school board works with the park on developing teaching tools, for example, a contest relating to aquatic environments and a learning and evaluation situation based on the theme of the black bear.

Laval University: It works with the park on studies of natural processes and the dynamics of forest stands, the preindustrial forest landscape, the history of logging, the genetics of fish populations and large mammal ecology.

Université du Québec à Trois-Rivières: This university is a major partner in the study of the ecology of freshwater ecosystems and monitoring their integrity, as well as the dynamics of fish populations. It is also involved in research on the wood turtle.

Université du Québec en Outaouais and the Institut Québécois d'Aménagement de la Forêt Feuillue: These two institutions are involved in studies of the active management of hardwood forests.

Ducks Unlimited Canada: This organization is involved in developing protocols for monitoring the integrity of wetland ecosystems.

Université de Sherbrooke: This university is involved in the acquisition of knowledge of Eastern wolf ecology.

Université de Montréal: This university does work on the genetics of populations (wood turtle, Eastern wolf and brook trout) and applied research for the wood turtle recovery program.

Université du Québec à Montréal: This university is involved in designing and carrying out social surveys aimed at measuring the visitor experience in the park.

Natural Resources Canada, Canadian Forest Service: This department works with the park on the dynamics of insect populations, in particular for the program to restore ecosystems using fire.

Association forestière de la vallée du Saint-Maurice: This association raises awareness among the public, youth and local stakeholders as to the importance of the park and its resources.

6.1 Priorities for the coming years

With regard to partnerships and public involvement, the two priorities for the coming years are:

A) Setting up an advisory committee

The mandate of the advisory committee will be to promote dialogue between local and regional stakeholders and La Mauricie National Park management. It will ensure that local concerns and interests are harmoniously incorporated into park planning and management, while complying with Parks Canada's mandate and strategic direction. The committee will be a permanent issue table for discussion and exchange of ideas. It will be made up of representatives from various fields, for example: natural heritage and the environment; cultural heritage, both built and human; public education and awareness; municipalities, the region and citizens; local and regional development; sciences and research; Aboriginal communities; tourism and outdoor events; park users and Parks Canada.

B) Promoting the involvement of citizens

The park intends to start a volunteer program to support its mandate. The Parks Canada volunteer program oversees volunteer work by providing practice standards, determining risks, responsibilities and management practices, in addition to ensuring the safety of volunteers. For example, volunteers take part in activities involving research, ecological monitoring, trail maintenance, visitor reception and interpretation.

Parks Canada / J. Pleau

The program will comply with the objectives of Parks Canada volunteer programs, which are:

- To provide Canadians and international visitors opportunities to contribute to protecting ecological integrity and promoting the natural and cultural heritage of Canada.
- To involve local municipalities in presenting the park and improving relations with the public and communities.
- To complement and add to park services provided to the public.
- To contribute to enhancing the visitor experience.
- To contribute to engaging the interest of non-governmental organizations for Parks Canada projects.
- To give volunteers and employees a sense of personal satisfaction and a rewarding work experience.

Every year, park managers will publish a report on progress made in achieving the objectives of the management plan and on the effectiveness of partnerships and public involvement initiatives.

7. Public Utilities

There are no particular issues in terms of public utilities on La Mauricie National Park land.

The drinking water intake for the city of Shawinigan is located within park boundaries at La Pêche lake. The memorandum of understanding that governs the drinking water supply will have to be updated in about ten years. The memorandum of understanding states the responsibilities of the city and those of the park, which must take reasonable precautions to keep the lakes clean on the land under its jurisdiction.

Three power lines supply the park with electricity. A five-kilometre long 25-kV overhead line belonging to Hydro-Québec supplies the Saint-Jean-des-Piles sector of the park, from the visitor centre to the Rivière-à-la-Pêche campground. A second Hydro-Québec line, a three-kilometre long 7.2-kV underground cable, supplies the Saint-Mathieu visitor centre, the Mistagance campground and the Shewenegan picnic area. A three-kilometre long 7.2-kV overhead line owned by the park supplies the Wabenaki and Andrew lodges.

Parks Canada / Mark Mills

8. Zoning and Wilderness Area

8.1 Park zoning plan

Zoning is needed by park management for implementation of its key strategies and for other operational necessities. It is a management tool designed to ensure the protection of ecosystems, habitats and species, while at the same time providing visitors with safe high-quality experiences.

Zones

Initially proposed in the 1991 management plan, the park's zoning plan[29] included five separate zones. It has been modified slightly; the sector at the park entrance on the Saint-Jean-des-Piles side was initially Zone V and is now Zone IV.

Zone I: Special preservation (2%)

This zone includes special ecological areas or special features that merit preservation because they have species or components that are unique, threatened or endangered, or are among the best examples of a natural or cultural feature. Use of or access to these areas is strictly controlled or even forbidden. Motorized vehicles and facilities are not permitted.

At La Mauricie National Park, ten areas have been designated special preservation zones:

- Distributed throughout the park, eight of these areas are home to plant species or communities of scientific interest that are rare or unique in the park and in Quebec.
- The perimeter of Anticagamac lake, an area representative of the lacustrian and terrestrial environment, was designated Zone I because of its wealth of plant and animal life. This zone is a rich and complex transitional zone threatened by human interventions on the Matawin river system.
- The wall that features rock paintings located at the south end of Wapizagonke lake, rare vestiges of material Aboriginal culture in Quebec, has been designated Zone I.

Zone II: Wilderness (93%)

This zone corresponds to a vast area that is a good example of the park's natural components. It is kept in its natural state to offer visitors opportunities to enjoy the serenity and isolation. Only a few activities that require rudimentary facilities are permitted. Motorized access to these areas is not permitted.

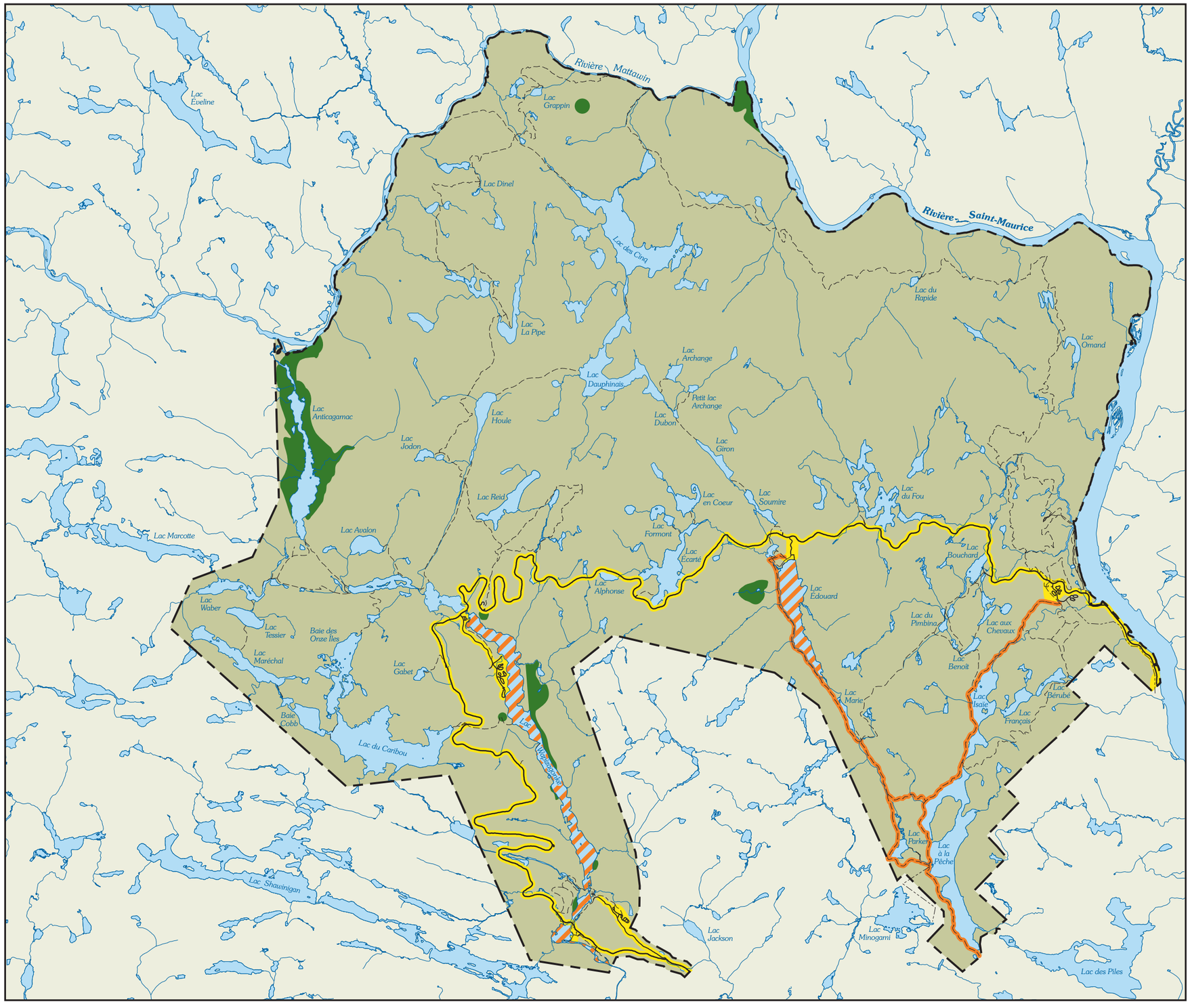
This is the zone that covers the largest area in La Mauricie National Park. Zone II is made up of areas that are good examples of the natural Great Lakes-St. Lawrence Precambrian Region and that offer opportunities for outdoor activities that are compatible with the protection objectives set for this zone.

29. See Figure 4 for details of La Mauricie National Park zoning.

La Mauricie National Park of Canada

Figure 4

Park Zoning Plan



1 Special preservation

2 Wilderness

3 Natural environment

4 Outdoor recreation

5 Park services

National Park Boundaries

Parkway

Other road, trail

Lake, river

N

0 4 8 km

Parks Canada Parcs Canada

Parks Canada / J. Pleau

Zone III: Natural environment (2%)

While keeping a natural atmosphere, minimal alterations are allowed in areas designated Zone III to provide for certain outdoor activities and related facilities. Only non-motorized vehicles used for park management purposes are permitted.

Zone III is essentially made up of Wapizagonke lake (the part situated to the south of the Parkway) and Édouard lake, because they are easy to get to, widely used by visitors, and because of the type of activities that are permitted there.

Zone III also includes the network of multi-use trails that link Édouard lake, the Wabenaki lodge and the south end of La Pêche lake to the Rivière-à-la-Pêche campground. The trails were designated Zone III because of the numerous installations required by such a network.

Zone IV: Outdoor recreation (3%)

Zone IV is a small area where a wide range of educational and outdoor activities are concentrated and where facilities related to those activities are found. More activities and installations are found in this zone, but they are compatible with the natural environment. Motorized vehicles are permitted in Zone IV.

At La Mauricie National Park, the outdoor recreation zones consist of the Parkway corridor and the main areas where extensive facilities are found, i.e. the Saint-Jean-des-Piles and Saint-Mathieu visitor centres, the Bouchard lake, Édouard lake, Wapizagonke, Shewenegan and L'Esker picnic grounds, and the Rivière-à-la-Pêche, Wapizagonke and Mistagance campgrounds.

8.2 Declared Wilderness area

Creating a wilderness area is a legislative tool designed to ensure Canadians that facilities and activities that are incompatible with the wilderness character of a park (Zone II) will be forbidden. Wilderness areas can only be changed through modification of the National Parks Wilderness Area Declaration Regulations.

The present management plan includes the creation of a wilderness area[30] that corresponds to the portion of the park located north of the Parkway (73% of the park's area, i.e. 392.2 km2). Excluded from the wilderness area are the land located south of the Parkway, the strip of land

30. See Figure 5 for details relating to the wilderness area.

extending up to 20 metres north of the road and the parking spaces along the road. In the southwest part of the park, to the south of the bridge that crosses Wapizagonke lake, the boundary of the wilderness area goes around the L'Esker facilities and the La Clairière group campground.

The facilities and activities that are needed to provide services that are vital to the protection of resources are permitted in a declared wilderness area. The public will continue to be able to use this space to enjoy their park experience and to take part in activities such as hiking, angling, wilderness camping, rustic shelters and canoeing. However, no commercial development is permitted in this area.

La Mauricie National Park of Canada

Figure 5

Wilderness Area

- Wilderness Area
- National Park Boundaries
- Parkway
- Other road, trail
- Lake, river
- Visitor Reception Centre
- Group camping
- Lookout
- Picnicking

N

0 4 8 km

Parks Canada Parcs Canada

9. Administration and Park Operations

Offices for park employees are found in various places in and around the park, with the administration office in Shawinigan and the operations centre in Saint-Mathieu-du-Parc. The majority of employees involved in park operations work at the visitor centres, the campgrounds, etc. There are numerous infrastructures in the park: 70 km of paved roads, 200 km of unpaved roads and trails, three campgrounds (581 campsites), three large picnic areas with boat rental services and a snack bar, a group campground area, 216 wilderness campsites, a network of cross-country skiing and snowshoeing trails over 100 kilometres long, and 81 contemporary infrastructures, including the two visitor centres.

La Mauricie National Park was created over 40 years ago. Its facilities are ageing and require financial investments for major recapitalization work, the Parkway in particular. A multi-year investment program determines which projects will be priorities for the coming years.

Five buildings in the park serve as accommodations for employees, four of which are single-family dwellings, providing a constant presence in the park and the ability to respond to emergencies. A log cabin built before the park was created and converted into a multiple-dwelling house is available for seasonal employees. It is also used by researchers working on short-term projects. Its condition has deteriorated over the years and will require major investments. Park management will evaluate the relevance of maintaining this residence for future use.

9.1 Environmental stewardship

Parks Canada contributes to the federal government's overall performance vis-à-vis environmental quality and sustainable development. Long-term objectives have been set and incorporated into Parks Canada's sustainable development strategy. This strategy is based on actions taken to reduce the environmental impact of operating La Mauricie National Park.

A review of the park's environmental stewardship enabled park officials to identify the main problems, determine priorities, develop an action plan and begin implementing that plan.

The main actions carried out involve the collection of recyclable materials and hazardous waste, the type of lighting used, and an innovation in the management of hydrocarbons, which includes fuel tanks, using an alternative type of fuel and vehicles used in the park. All these actions will contribute to reducing greenhouse gases. Considerable effort has been devoted to making employees and visitors aware of the objectives of the environmental stewardship program through messages promoting environmental citizenship, interpretation activities and publications. Over the next few years, the park will continue implementing its environmental stewardship action plan.

10. Monitoring

10.1 Monitoring ecological integrity

A monitoring program was put into place in March 2008 to observe long-term changes in the ecological integrity of the park. A series of measures have been taken to monitor the state of natural processes and species that play an important role in the functioning of the main ecosystems. The program is designed to assess the condition of ecosystems and the effectiveness of actions taken to maintain or improve the integrity of an ecosystem. The results obtained by the monitoring program will be presented to the public every five years in the State of La Mauricie National Park Report.

Applied research gives us a better understanding of how ecosystems work. Once conservation issues have been identified through monitoring, we will look at specific areas where monitoring could be a valuable tool. Research will also be an important asset in the park's management and restoration projects.

10.1.1 Monitoring the condition of the park

The forest ecosystem

A total of thirteen measures have been selected to reflect the main conservation issues involved in the loss and fragmentation of forest habitats, the impact of hunting and trapping on the periphery of the park, changes in the forest mosaic as a result of the suppression of forest fires, and climate change.

Parks Canada / J. Pleau

Description of measures of the integrity of the forest ecosystem

Dominance of the main species of trees

The dominance of forest stands is determined by succession, i.e. the changes that occur in communities as a result of a disturbance.

Growth rate of the main species of trees

The growth of trees is affected by climate change.

Ungulate browsing pressure

As they browse, ungulates (deer and moose) are liable to affect forest succession, particularly when their density is high.

Age structure of stands

The proportion of land covered with regenerating stands, immature stands and old stands is determined by the natural disturbance regime, particularly fires.

Pure or mixed stands of white pine

Because of logging and fire suppression in the past, white pine is under-represented in the park.

Stands of red oak

Red oak is rare. Its abundance has also been reduced by fire suppression and logging.

Stands of butternut

The park is home to numerous butternut trees, a species that is threatened by an exotic disease.

Old-growth forests in and around the park

Logging on the periphery of the park tends to reduce the abundance of old stands in the region. In the long term, there is a risk that species that are dependent on old-growth forests will become isolated in the park.

Community of forest birds

Birds are an important component of the biodiversity of forest ecosystems. The decline and rarity of some species is of considerable concern.

Moose and white-tailed deer

The abundance, productivity and age structure of the moose population in the park are stabilized by wolf predation, but are also affected by hunting on the periphery of the park. Climate change is also liable to increase the abundance of deer in the park.

Eastern wolf

Wolves keep the moose population in check and thus prevents it from having a significant impact on forest regeneration and succession. Two packs of wolves are generally present in the park, but they are affected by trapping on the periphery of the park.

Small and medium-sized carnivores

Lynx, fisher, American marten and river otter are important links in the food chain. Their abundance is determined by that of their prey, but also by trapping on the periphery of the park.

Black bear

Bears are affected by trapping, hunting and the control of noxious animals on the periphery of the park. Their reproductive success depends on the abundance of beechnuts found in old maple stands in and around the park. When food is rare, bears are attracted to human sources of food. Because of this, a number of bears have been killed or displaced.

The aquatic ecosystem

Eleven measures are used to monitor the aquatic ecosystem. These measures reflect the main conservation issues, i.e. air pollution, acidification and eutrophication, climate change, the introduction of non-native species, and old or recent infrastructures that affect the natural state of the lakes, rivers and streams.

Parks Canada / Michel Houde

Description of measures of the integrity of the aquatic ecosystem

Common loon

The population of loons is sensitive to the effects of air pollution and human disturbance.

Condition of fish populations

The condition of fish caught by anglers enables us to determine if fish populations are overharvested and to assess eventual changes in the quality of their habitat (acid rain, climate change and non-native fish).

Presence of invasive non-native fish

A number of watersheds go beyond park boundaries; this is liable to lead to the invasion of lakes by competitive species that have a major impact on native species.

Brook trout in lakes without invasive non-native fish

At the present time, there are only seven lakes with populations of brook trout that haven't been affected by non-native species of fish.

Brook trout and Arctic char in lakes with invasive non-native species of fish

The presence of non-native species affects the natural dynamics of native populations. One isolated freshwater population of Arctic char is being monitored.

Water quality

The quality of water in the lakes is a vital parameter of the habitat of salmonids, liable to be affected by acid rain and climate change.

Benthic communities

Communities of benthic invertebrates in the lakes, rivers and streams are vital components of the diversity of aquatic ecosystems, especially since they are at the base of the food chain. They are liable to be affected by acid rain and climate change and are being monitored as part of a national biomonitoring program.

Proportion of lakes affected by dams

A number of old dams still affect the water level and water flow patterns of lakes.

Proportion of bridges and culverts that allow the free circulation of fish

A number of bridges and culverts are liable to have an impact on fish habitats.

Land use in watersheds that flow into the park

Land use in watersheds that flow into the park's lakes is of great concern, because they are potential sources of pollution and non-native species of fish.

Wood turtle

The wood turtle is an endangered species that is presently part of a recovery program.

Wetlands

Changes that occur in wetlands are closely linked to changes in aquatic ecosystems and the conservation issues are similar. Several aquatic ecosystem measures are used to determine the condition of the park's wetlands.

Description of measures[31] of the integrity of wetlands

Proportion of wetlands affected by dams

A number of old dams still affect the water level and water flow pattern of wetlands.

Beaver

The dynamics of wetlands is highly affected by beavers building dams and then abandoning them.

Invasive non-native aquatic plants

Three species of non-native plants known to have a significant potential impact on wetlands are found in the park at the present time.

Communities of frogs

Amphibians are known to be declining all over their distribution range, particularly because of acid rain. The park is specifically monitoring the decline of pickerel frogs.

Rare wetland forest stands

The park is protecting a stand of silver maple known for its rarity, but it has been affected by changes in the water level of the Matawin river, caused by the dam on the Taureau reservoir.

31. Integrity of the wetlands will also be evaluated using measures taken to assess the state of the aquatic ecosystem, i.e. the community of benthic invertebrates, the wood turtle, land use of watersheds flowing into the park, and water quality. The measure of rare wetland forest stands will also be used to assess the state of the forest ecosystem.

10.1.2 Monitoring the effectiveness of management

Since the early 1980s the park has had both a bear management plan aimed at mitigating bear/human conflicts and an angling management plan. Thanks to monitoring conducted since implementation of the bear management plan, it has been shown that the number of incidents with bears has sharply decreased. Similarly, monitoring of catch statistics in the past has enabled the park to react quickly as soon as a lake showed signs of overfishing and to lower the level of harvesting to correct the situation. The bear and angling management plans have been incorporated into the monitoring program.

For nearly twenty years, the park has been working on projects aimed at restoring the forest ecosystem, such as a fire management program and a white pine and red oak restoration program. In addition, for the past ten years the park has been actively involved in efforts to recover the population of wood turtles in the Shawinigan river watershed, in collaboration with Quebec's Ministère des Ressources naturelles et de la Faune and various local groups. More recently, the park began major restoration work on ten lakes, a project called "From Log to Canoe". The main goal of the project is to improve the water flow pattern by restoring the level of lakes to their original level, eliminate non-native species and reintroduce local native populations of brook trout.

Lastly, for a number of years the park has been battling the invasion of non-native aquatic plants. For the time being, the number of wetlands colonized with exotic species is limited and a more formal vegetation management program needs to be developed. Nevertheless, measures to assess the effectiveness of eradication efforts have been included in the monitoring program until the vegetation management program has been finalized.

The table below shows the nine measures used to assess whether these projects are effective in improving the integrity of ecosystems in the park in the short term. Other management actions will also be evaluated, such as the effectiveness of the bridge and culvert replacement program, where we look at the free circulation of fish, sedimentation problems and the risks involved should these structures break. Dismantling of old dams is evaluated by examining the proportion of lakes and wetlands that are still being affected by old dams.

Description of measures used to assess the effectiveness of projects designed to maintain and improve the ecological integrity of the park

Ecosystem	Project	Measure	Description
Forest	Restoration of white pine and red oak	Regeneration	To ensure that stands of white pine and red oak are maintained and increased, the park must ensure that interventions are sufficiently stimulating regeneration.
		Representation of stands of white pine in the landscape	In the long term, the various interventions will increase the proportion of land covered with stands of white pine.
	Bear management	Number of bears displaced or killed	Park managers must ensure that the number of incidents involving bears does not increase over the years.
Aquatic	Angling management	Number of populations of brook trout showing signs of overfishing	Using angling statistics, the park determines if the rate of harvesting of a population is too high.
		Average catch weight	Once actions are in place to promote the return of an overharvested population, the average weight of fish caught gives an indication of the success of management measures.
	Program to replace bridges and culverts	Number of bridges and culverts replaced that allow the free circulation of fish	Each culvert replaced must comply with fish habitat protection standards of Fisheries and Oceans Canada.
	Restoration of aquatic environments	Water flow pattern	The dismantling of old dams is aimed at restoring the natural dynamics of the water level of lakes.
		Recovery of native populations of brook trout	In a number of lakes, there will be interventions to eradicate non-native fish and restore the size, state and abundance of brook trout.
Aquatic and wetland	Wood turtle recovery program	Protection of the Shawinigan river egg-laying site	It is important to maintain and, in the long term, increase the number of females that use this egg-laying site.
		Growth, survival and reproduction of turtles reintroduced into the park	In the short term, growth and mortality rates for turtles introduced into the park must be comparable to rates in their original environment. In the long term, the project is aimed at ensuring that wood turtles mate and lay their eggs in the park.

10.2 Monitoring the sense of connection to the park

Providing visitors with opportunities for enriching experiences increases the likelihood that they will feel personally connected to the park. Some visitors feel a personal bond because of the very nature of the park. Others will perhaps need to be guided in order to understand or discover a place and thus develop a more personal connection to it. Visitors who develop a personal bond will be more inclined to encourage and support the protection of that place.

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Indicators and measures of sense of connection to the park

Indicator	Target	Monitoring Measure	Results
Visitors feel a sense of personal connection to La Mauricie National Park.	By 2014, increase the percentage of visitors who consider the park meaningful.	No formal evaluation for the time being. Include an evaluation of connection to the park in future surveys.	No evaluation for the time being.
Visitors are satisfied with their visit to La Mauricie National Park.	85% of visitors are satisfied with their visit and 50% are very satisfied.	Survey conducted every 5 years as part of the visitor information program.	The survey conducted in 2004 indicated that 95% of visitors were satisfied and 62% were very satisfied with their overall visit. The services were rated as satisfactory, with two exceptions: the camping reservations and snack bars.
The number of visitors at La Mauricie National Park.	Over a period of 5 years, increase the number of visitors by 10%.	Continue monitoring the number of park visitors.	In 2008, 139,219 visitors came to the park. This number has been falling since 2001.
Visitors enjoyed their visit to La Mauricie National Park – they are satisfied with the service offer.	85% of visitors enjoyed their visit.	Survey conducted every 5 years as part of the visitor information program.	No evaluation for the time being.
Visitors are satisfied with the interpretation programs.	85% of visitors are satisfied and 50% are very satisfied with the interpretation programs.	Survey conducted every 5 years as part of the visitor information program.	The survey conducted in 2004 revealed that 96% of visitors were satisfied and 62% were very satisfied with the interpretation activities and services.

10.3 Monitoring public appreciation and understanding

It is important that visitors understand and appreciate the significance of heritage places administered by Parks Canada and, in this case, La Mauricie National Park. Such awareness is created during visitor/employee interactions and through interpretation exhibits. Outside of the park, awareness is raised through outreach and communication activities.

Indicators and measures of public appreciation and understanding

Indicator	Target	Monitoring Measure	Present situation/ result
Participation in and effectiveness of interpretation programs.	60% of visitors consider that they have learned something about the park's heritage.	Survey conducted every 5 years – add a question to follow up on the target.	In 2008, 14,276 visitors took part in interpretation activities, a 10% decrease from 2007.
Canadians appreciate the significance of heritage places administered by Parks Canada and understand the importance of protecting and presenting them.	By March 2014, increase the percentage of Canadians who appreciate the significance of heritage places administered by Parks Canada. By March 2014, increase the percentage of Canadians who understand the importance of protecting and presenting heritage places administered by Parks Canada.	No formal measure for the time being.	No evaluation for the time being.
Canadians learn about the heritage of places administered by Parks Canada and understand that they are protected and presented on their behalf.	By March 2014, increase the percentage of Canadians who consider that they have learned something about the heritage of places administered by Parks Canada. By March 2014, increase the percentage of Canadians who understand that the places of national importance administered by Parks Canada are protected and presented on their behalf.	No formal measure for the time being.	No evaluation for the time being.
Stakeholders and partners are engaged in the protection and presentation of places administered by Parks Canada.	By March 2014, increase the percentage of stakeholders and partners who support the protection and presentation of places administered by Parks Canada. By March 2014, increase the percentage of stakeholders and partners who believe they have the opportunity to influence Parks Canada activities and contribute to them.	No formal measure for the time being.	No evaluation for the time being.

11. Strategic Environmental Assessment Summary

For the federal government, strategic environmental assessments are an essential tool for achieving its sustainable development objectives. The management plan for La Mauricie National Park underwent a strategic environmental assessment to determine the main environmental issues associated with the plan. The assessment was carried out in the early stages of drafting the management plan so that mitigation measures could be incorporated into it.

The objectives of an environmental assessment are the following:

- To determine whether the strategic direction, objectives and proposals in the plan comply with the mandate and policies of Parks Canada and with the park's ecological integrity goals and objectives.
- To assess the impacts of proposals outlined in the management plan to ensure that they increase the positive effects on the environment and mitigate any potential negative effects.
- To assess the cumulative effects of actions proposed in the management plan on the park's ecosystems and cultural resources.
- To determine which projects will require implementation of the Canadian Environmental Assessment Act (CEAA).

The approach used for this assessment is based on the Cabinet Directive on the Environmental Assessment of Policy, Plan and Program Proposals. It complies with guidelines in Parks Canada Guiding Principles and Operational Policies (1994) and Parks Canada Management Directive 2.4.2 on Impact Studies (1998).

Compliance

The assessment found that the measures proposed in the management plan comply with the Parks Canada mandate.

Scope

The assessment includes a review of impacts on natural, cultural and archaeological resources within the boundaries of La Mauricie National Park. The assessment extends over the same 5-year period covered by the management plan.

Assessment of potential impacts

Analysis of mandate-related sources of stress determines impacts on natural and cultural resources. The positive impacts of some actions proposed in the management plan are moderate to major. These actions will improve the park's ecological integrity and protect its cultural resources. Other actions that will have low to moderate negative impacts are liable to affect the environment and merit special attention.

Measures aimed at modifying the impact of actions proposed in the management plan

Below are several strategies designed to minimize the environmental impact of actions proposed in the management plan on natural and cultural resources:

- Optimize projects by incorporating, from the outset, environmental considerations into the decision making process, looking at alternate solutions and comparing their environmental impact.
- When planning projects or activities stemming from the management plan, determine

mitigation measures to minimize the impacts on cultural and natural resources. These measures will be determined through the environmental assessment process contained in the Canadian Environmental Assessment Act.

- Apply the precautionary principle and adaptive management when managing the park's ecosystems and cultural resources.
- Draft a preventative climate change adaptation strategy for protecting natural resources, park infrastructures and the visitor experience.
- When implementing actions contained in the management plan, take into account the issues brought to light in the review of the park's state of ecological integrity and make these issues known to the local and regional population.
- Using the strategic environmental assessment process, review the environmental management plan and the landscape management plan before it is finalized in order to properly respond to growing visitor expectations.

Residual impacts

Overall, the actions identified in the management plan have positive impacts on both natural and cultural resources. The mitigation measures proposed will reduce any remaining negative environmental impacts.

Assessment of potential cumulative impacts

Cumulative impacts are residual negative impacts stemming from the management plan combined with the negative impacts of projects or activities taking place in the Mauricie region that affect or will affect natural or cultural components. Assessment of cumulative impacts is based on the principle that the combined impacts of various projects may give rise to impacts that are different from or greater than those caused individually by these projects.

Over the past few decades, various projects have taken place outside the boundaries of La Mauricie National Park. These projects may have slowly brought about changes to certain ecosystems[32]. Analysis of the park's ecological integrity shows that, with the additional impact of activities outside park boundaries, the harm to ecosystems can thus be even more extensive than what was originally anticipated.

Although projects in the surrounding region may have an impact on the park, the actions proposed in the management plan will lead to a negligible potential cumulative impact that should not be greater than if the actions were carried out individually over time.

Environmental assessments required

A total of 29 actions in the management plan should require an assessment under the Canadian Environmental Assessment Act[33]. Although other actions may require an assessment, this cannot be determined at the present time based on the information available in the plan.

32. Because of the creation of the Taureau reservoir, the presence of hydro-electric dams on the Saint Maurice and Matawin rivers and the management of forested land outside the park boundaries.
33. Complete information can be found in Section 5.8 of *Évaluation environnementale stratégique du plan directeur du parc de la Mauricie.*

Assessment of overall consequences

Harmonization, public awareness and coordination actions proposed in the management plan will promote a greater understanding of the park's mandate and a stronger public sense of connection to the park. Furthermore, implementation of key strategies will contribute to improving the integrity of the park's forest, aquatic and wetland ecosystems. Assessment of the overall consequences of the management plan shows that it proposes better communication with visitors, promotes greater openness toward surrounding communities and contributes appreciably to improving the state of park ecosystems.

Conclusion

The key strategies presented are in line with the mandate and policies of Parks Canada. This assessment demonstrates that the management plan will improve ecosystem integrity and protection of cultural resources, and will promote visitor experience opportunities, park visibility and the community's sense of connection to the park. The potential negative impacts of greatest concern can be mitigated by implementing known technical measures or other means that have proven effective in the past. In-depth environmental assessments will have to be carried out at a later stage when we have enough details about when and how projects will be put in place. Results of the present strategic assessment lead us to conclude that, based on the information available, the management plan for La Mauricie National Park is satisfactory if all the mitigation measures proposed are implemented.

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Annex 1: Summary of Actions

Key strategy 1	Year to be carried out				
Analyze the changes occurring in regional clientele.	1	2	3	4	5
Do a review of the studies conducted and target potential markets.	1	2			
Develop and implement a marketing plan.			3	4	5
Develop and implement a promotional strategy for the park.			3	4	5
Develop teaching material on the brook trout and black bear.	1	2			
Improve the “Teacher’s Corner” section of the website.	1	2	3	4	5
Raise the profile of the park and its mandate through regional media.	1	2	3	4	5
Develop partnerships to raise the profile of the park and its mandate in urban areas.		2	3		
Participate in events in urban areas.	1	2	3	4	5
Develop a product aimed at cruise ship patrons.		2	3		
Develop other agreements, products and packages with regional partners in the tourist trade.	1	2	3	4	5
Explore the possibilities of partnerships with neighbouring protected places.	1	2	3	4	5
Develop two new short trails along the Parkway.			3	4	5
Conduct a survey of campers to determine their needs in terms of services.	1	2			
Provide internet access to visitors in the Rivière-à-la-Pêche sector.	1	2			
Develop new activities aimed at regional clientele.	1	2	3	4	5
Develop a partnership with Collège Shawinigan to create a skywatching site.		2	3		
Offer alternative types of accommodation in partnership with private business.	1	2			
Strengthen the winter activities at Rivière-à-la-Pêche.	1	2	3		
Strengthen the dogsledding activity in partnership with private business.			3	4	5
Explore the possibility of developing ice climbing.			3	4	5
Provide a new geocaching activity every year.	1	2	3	4	5
Do a survey of the needs of pleasure boaters on the Saint-Maurice river and explore the park’s potential to meet those needs.			3	4	5
Build a boat launch at Wapizagonke lake.	1	2			
Develop and improve the facilities for users of the trails along the La Pêche-Isaïe-Édouard lakes corridor.			3	4	5
Assess the possibility of bringing back the educational sugar house activity at La Pêche lake.	1	2			

Key strategy 2					
Develop relations with representatives of the Atikamekw-Nehirowisiw First Nation and call upon their traditional knowledge.	1	2	3	4	5
Carry out an archaeological characterization of structures associated with logging.	1	2	3		
Draft the Cultural Resources Values Statement.		2	3		
Gather all the information available on the presence of Amerindians (years 1 and 2), logging (year 2) and fish and game clubs (year 1).	1	2			
Carry out an archaeological characterization of the structures associated with logging when aquatic system restoration work is being done.	1	2	3	4	5
Perform an inventory and review of cultural resources.	1	2	3	4	5
Produce reference documents on Aboriginal culture, logging, and fish and game clubs.			3	4	5
Develop and implement a strategy to protect and present the rock paintings.	1	2	3		
Seek the support of park users in protecting the rock paintings.	1	2	3	4	5
Carry out the renovations needed at the Wabenaki and Andrew lodges.	1	2			
Incorporate information on the park's cultural heritage into the employee training program.	1	2	3	4	5
Raise employee awareness of Aboriginal culture.	1	2	3	4	5
Offer a new visitor experience opportunity that focuses on Aboriginal culture.		2	3		
Assess the relevance of allowing a certain number of visitors to have a unique experience in a rabaska canoe, with the rock paintings as the highlight of the outing.		2	3		
Draft a plan to develop and present the Wabenaki and Andrew lodges.	1	2	3		
Offer visitors an activity based on the history of the Laurentian Club.	1	2			
Make it possible for visitors to see and appreciate the vestiges of logging.		2	3		
Enhance the cultural aspect of the website.	1	2	3	4	5
Key strategy 3					
Draft an inventory of typical landscapes.	1	2			
Develop and implement a plan to present park landscapes.	1	2	3		
Sign agreements with managers of adjacent land in order to maintain visual elements of interest of landscapes.	1	2			
Carry out three controlled burns over the next five years.		2	3	4	5
Proceed with silvicultural treatments to promote regeneration of the red oak.	1	2	3		

Create a trail in a mature pine forest.			3	4	5
Develop interpretation products designed to provide visitor experiences that foster a greater understanding of how fire is used in forest management.		2	3	4	5
Improve the part of the website that deals with restoration of the Laurentian forest.	1	2	3		
Work with the media to publicize the efforts being made to protect and restore the forest.	1	2	3	4	5
Create teaching material on the Laurentian forest for use in schools.		2	3	4	5
Develop teaching material on the black bear.	1	2			
Take part in regional consultation tables.	1	2	3	4	5
Take part in the drafting and review of regional plans.	1	2	3	4	5
Key strategy 4					
Develop or strengthen interpretation products and activities on the restoration of the aquatic environment and the preservation of species at risk.	1	2	3		
Diversify the experiences offered to recreational fishermen.			3	4	5
Clean up beaches of interest that have reappeared as a result of restoration work and make it easier to get to them.	1	2	3	4	5
Take part in regional consultation tables.	1	2	3	4	5
Take part in the drafting and review of regional plans.	1	2	3	4	5
Restore water flow patterns by removing dams and reducing accumulations of wood.	1	2			
Restore habitats by removing logs from the shore and the littoral zone.	1	2	3		
Eliminate or control introduced fish species.		2			
Using existing populations, reintroduce the brook trout to lakes where it has disappeared.		2	3		
Restore the free circulation of brook trout between lakes.	1	2	3	4	5
Conduct a feasibility study of the restoration and presentation of Wapizagonke lake.		2	3		
Revise the angling management program.			3	4	5
Apply additional protection and restoration measures for at least one population of each genetic line of brook trout.	1	2	3		
Monitor the state of health of populations of brook trout and the state of their habitat.	1	2	3	4	5
Conduct a feasibility study of the conservation and restoration of the population of Arctic char in Français lake.			3	4	5

Monitor the communities of fish most likely to be invaded by non-native species.	1	2	3	4	5
Develop and implement a tactical plan for enforcing fishing regulations to prevent the use of baitfish for angling.	1	2	3	4	5
Implement a plan for recovery of the wood turtle in the Shawinigan river watershed.	1	2	3	4	5
Work with other groups in the program to protect nests and young turtles.	1	2	3	4	5
Proceed with the addition of a certain number of young turtles to the park.		2	3		
Improve the habitat of the wood turtle in the area surrounding Wapizagonke lake.			3	4	5

Other actions

Create an advisory committee.	1	2			
Develop a volunteer program.		2	3		
Create a declared wilderness area through regulation mechanism.	1	2			
Implement an action plan for environmental stewardship.	1	2	3	4	5
Replace culverts.	1	2	3	4	5
Assess the condition of the Vallerand building used as living quarters for employees and the financial investments required to maintain it.	1	2			
Conduct an analysis of the accommodation needs of park employees.	1	2			
Carry out the ecological integrity monitoring program.	1	2	3	4	5

Annex 2: Ecological Integrity: State and Trend

The state and trend for the three indicators and the measures used to assess the state of ecological integrity of La Mauricie National Park, 2009.

Indicator	State and trend of the indicator	Measure	State and trend of the measure[1]	Relevants facts
Forest ecosystem (87%)[2]	→	Dominance of the main species of trees (red spruce, balsam fir, white pine, sugar maple, etc.)	←	• All forest stands were harvested before the park was created. For nearly 100 years, forest management practices eliminated fire, one of the main natural processes, resulting in a modification in the composition and structure of the forest.
		Growth rate of the main species of trees (forest productivity)	←	
		Ungulate browsing pressure	↕	
		Age structure of the stands	→	• White pine and red oak are highly under-represented.
		Pure or mixed stands of white pine	↕	
		Stands of red oak	→	• Hunting and trapping and the modification of forests outside park boundaries have affected certain species (Eastern wolf, black bear).
		Rare wetland forest stands (butternut and silver maple)	→	
		Connectivity, fragmentation and availability of old-growth forests (regional ecosystem)	→	• Four species of mammals have disappeared and others are endangered (1 mammal, 5 plants, 10 birds, 2 reptiles and 1 arthropod).
		Community of forest birds	→	
		Ungulates	↕	• Since 1990, the park has been carrying out controlled burns.
		Eastern wolf	→	• The white pine situation has stabilized and the age structure of the forest stands will be improved in the medium term.
		Small and medium-sized carnivores (lynx, fisher, marten, river otter)	↕	
		Black bear	→	
Freshwater aquatic ecosystem (8%)	→	Common loon	←	• All large lakes and rivers were altered by timber floating during the logging era.
		Condition of populations of fish caught by anglers	→	
		Invasive non-native fish	→	• Many populations of brook trout disappeared as a result of the introduction of numerous non-native species of fish.
		Brook trout in lakes without invasive non-native species of fish	→	
		Brook trout and Arctic char in lakes with invasive non-native species of fish	↕	• The park's aquatic ecosystems are affected by air pollution.
		Water quality (acidification, eutrophication, thermal regime, sedimentation)	→	• The population of wood turtles is now endangered.
		Community of benthic invertebrates	?	• The park began restoration work aimed at re-establishing the water flow pattern by restoring the water level of lakes to their original level, eliminating non-native species of fish and reintroducing local populations of native brook trout.
		Proportion of lakes affected by dams (water flow pattern)	←	
		Proportion of bridges and culverts that allow the free circulation of fish	→	• Work has been carried out on 10 lakes and to date it has been effective: 3 lakes with their original water flow pattern, 4 lakes with elimination of non-native species and 2 lakes with successful reintroduction. However, work must continue on other lakes to reverse the trend and improve the general situation for this ecosystem.
		Density of dwellings and roads in the watersheds of which the park is a part	→	
		Wood turtle	↕	
Wetlands (5%)	→	Area of wetlands affected by infrastructures (dams)	←	• Close to 45% of wetlands have been modified by the presence of infrastructures that have affected or still affect the natural water level.
		Beaver	↕	
		Invasive non-native aquatic plants	→	
		Community of frogs	→	• The removal of a number of small dams has restored some wetlands to their natural state. However, a large proportion of wetlands remain affected. They are also affected by air pollution and are sensitive to the introduction of invasive non-native species of plants.
		Rare wetland forest stands (butternut and silver maple)	→	
		Density of dwellings and roads in the watersheds of which the park is a part	→	
		Community of benthic invertebrates	?	
		Water quality (acidification, eutrophication, thermal regime)	→	
		Wood turtle	↕	

1. Three colours are used to describe the state: green (good), yellow (fair) and red (poor). Arrows indicate the trend: improving, stable, deteriorating, unknown.
2. % of park area.

Annex 3: Persons Involved in Drafting the Management Plan

From La Mauricie National Park:

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