



**MEMPHRÉMAGOG
CONSERVATION INC.**

**REVISED DEVELOPMENT AND PLAN PROJECT OF THE
MEMPHRÉMAGOG MRC**

Brief
MEMPHRÉMAGOG CONSERVATION INC.

Written by
Gisèle Lacasse Benoit, president
Francine Hone, biologist

In collaboration with
Claude Bernier, vice-president of MCI
Madeleine Saint-Pierre, secretary of MCI
Johanne Lavoie, general director of MCI

Magog, August 31st 2009

“Anything can be distorted, including sustainable development. But in the concept of sustainable development, there is the crucial area of the protection of the environment. No one can reasonably use this concept without requiring strict protection of the environment. To pretend otherwise is to distort the concept. For Mrs. Bruntland, sustainable development is to not development the economy beyond basic needs, with the sprinkling of a few environmental concerns to the left and to the right. She says that sustainable development respects the environment and ends at the capacity of ecosystems to survive without being compromised by human activities.

Gro Harlem Bruntland, Le Devoir, 30 May 2007

TABLE OF CONTENTS

TABLE OF CONTENTS	3
MEMPHREMAGOG CONSERVATION INC.....	4
INTRODUCTION.....	5
1. PRIORITY APPROACHES	7
1.1 Watershed Management Approach	7
1.2 Ecosystemic Approach.....	7
2. ZONES OF CONSERVATION AND OF ECOLOGICAL INTEREST.....	8
2.1 Conservation Zones (protected and to be protected)	8
2.1.1 Mont Orford National Park	8
2.1.2 THE ECOLOGICAL RESERVES	9
2.1.3 PRIVATE PROTECTED LANDS	9
2.1.4 TERRITORIES TO BE PROTECTED IN THE WATERSHED	10
2.2 TERRITORIES AND ZONES OF ECOLOGICAL INTEREST TO BE PRESERVED.....	11
2.2.1 LAKES	11
2.2.1.1 LAKE MEMPHREMAGOG	12
2.2.1.2 OTHER LAKES IN THE LAKE MEMPHREMAGOG WATERSHED	12
2.2.1.3 SUPPORT CAPACITY OF LAKE MEMPHREMAGOG	13
2.2.1.4 CONSERVATION AND PLANNING IN THE LAKE MEMPHREMAGOG WATERSHED	14
HOUSING DEVELOPMENT.....	15
ROUTES	15
PRIORITY DEVELOPMENT MODELS	16
2.2.2 LAKE, RIVERS, OTHER BODIES OF WATER.....	16
2.2.3 SHORELINES OF LAKES AND RIVERS	17
2.2.4 WETLANDS	20
2.2.5 PROTECTION OF FORESTS	21
2.2.6 NON FRAGMENTED FORESTS	22
2.2.7 MOUNTAINS AND STEEP SLOPES.....	23
2.2.7.1 Mountains.....	23
2.2.7.2 Steep Slopes (> 30%)	24
2.2.8 EXCEPTIONAL FOREST ECOSYSTEMS (EFE).....	24
2.2.9 FAUNA HABITATS OF SPECIAL INTEREST	24
3. MANAGEMENT OF LAKE MEMPHREMAGOG	25
3.1 COMITÉ LOCAL DE BASSIN VERSANT (Local Watershed Committee)	25
3.2 CONFLICTS OF USES AND NUISANCES	25
4. AGRICULTURAL LANDS	27
CONCLUSION	30
APPENDIX 1	32
REFERENCES CONSULTED	33

MEMPHRÉMAGOG CONSERVATION INC.

Memphrémagog Conservation inc. (MCI) is a non-profit organization working since 1967 for the protection of the environmental health and natural beauty of Lake Memphremagog and its watershed. With strong support from its members, it is devoted to ensuring that all residents of the region, permanent or seasonal, lakefront or not, can continue to enjoy a healthy lake.

Thus, MCI :

- Encourages an awareness among all those who use and enjoy the lake, in any way whatsoever;
- Actively participates in the surveillance of water quality of the lake and its tributaries, in the renaturalization of its shorelines, as well as protection of the lake's flora and fauna
- Lobbies municipal, provincial, and federal authorities for laws and regulations that will protect the lake and the quality of life surrounding it;
- Informs the public of debates concerning the environmental health and natural beauty of the lake and its surroundings;

The following signifies MCI's concrete commitment to its engagements.

- Distributes trees and plants
- Undertakes well-defined projects for renaturalizing shorelines : Weir Beach in 2006 to 2008; participates in the renaturalization projects of other groups: Audet Beach, Prouty Beach (Vermont) in 2009;
- Trains and finances a team of biologists, who patrol the lake to **flag any environmental problem** and to **inform** lakefront residents and lake users of best practices;
- Conducts water analyses for the MDDEP;
- Has implemented, since 2006, a watchdog network to locate and index cyanobacteria blooms;
- Offers **free** consultations with experts on shoreline renaturalization, to combat soil erosion and to filter phosphorous loads
- Provides a DVD **on good environmental practices** to residents of the watershed, and a **code of ethics**, inviting users of the lake to be respectful of the environment;
- Works in close collaboration with the *Memphremagog Watershed Association* and the *Lake Memphremagog, Tomifobia, Coaticook Rivers Watershed Council of Vermont*;
- Studies methods of fighting noise pollution, excessive speeding, and wastewater dumping of boats;
- **Participates in audiences and consultations** and local, regional, national, and international **committees** concerning the environmental health of Lake Memphremagog;

INTRODUCTION

MCI would like to thank the Memphremagog MRC for inviting comments and suggestions from citizens and organizations at this phase of the elaboration of the revised land use and development project (*Projet de Schéma d'aménagement et de développement*), henceforth referred to as SAD.

The economy of the MRC is largely based on the exceptional riches that are our natural environment, our “natural” landscapes, our lakes and our rivers. This economy cannot exist without strict protection of this natural environment upon which it is based. The new plan offers the MRC an opportunity to be a visionary leader in centering its economy “around” its exceptional natural environment, including Lake Memphremagog, Mont Orford National Parks, its forests and mountains.

The protection of the MRC’s environment is a gauge of the success of its ability to maintain a healthy and sustainable economy, and the quality of life of its citizens.

Lake Memphremagog is foremost a reservoir of drinking water for the region and Sherbrooke. It is also an important economic driving force for our region. Lake Memphremagog’s health is degrading. The water quality is diminishing. The proliferation of aquatic plants and cyanobacteria are clear signs of its deterioration, with phosphorous coming from human activity as its root cause. It is crucial to undertake all means possible to ensure that human activities do not continue to harm this important source of drinking water. Other than agriculture, deforestation and urbanization are the principal causes of the lake’s deterioration.

75% of the lake’s watershed is situated in Vermont, with the large majority of the phosphorous load coming from this sector. However, the residents of the Quebec portion of the watershed contribute entirely to the phosphorous load in our territory. It is our responsibility to act to reduce the phosphorous in the Quebec portion of the lake.

This critical situation makes it necessary to take all necessary measures to ensure that human activities within the watershed of Lake Memphremagog do not continue to deteriorate this important source of drinking water.

Drinking water is a major issue of the 21st century. The Quebec government has declared water as a “collective heritage”. The MRC therefore has the responsibility to ensure that it preserves and improves this precious resource.

As excellent ecological solutions exist elsewhere, we will attach a research project conducted by MCI in May 2009 to this document, by Alexandre Hébert, Eng., MBA, entitled: “*Portrait of the environmental legislation, best practices, and good ideas coming from the Canadian West related to the protection of the waters of a lake such as Lake Memphremagog*”. We also have attached a copy of “*Green Bylaws Toolkit for Conserving Sensitive Ecosystems and Green Infrastructure*”, prepared by the Environmental Law Clinic at the University of Victoria’s Faculty of Law, for Wetland Stewardship Partnership, Ducks Unlimited Canada, Grasslands Conservation Council of

British Columbia, Environment Canada and the province of British Columbia (Green Bylaws, 2007). MCI invites you to study these documents' recommendations in-depth and to include them in the Plan, as pertinent to our territory.

Given that the economy is of great importance for the MRC, we wish to highlight the fact that it is possible to determine the monetary value associated with the services rendered by ecosystems. MCI recommends the inclusion of this monetary value, which can be calculated with the *CITY Green* software, in evaluations of development projects done by the MRC. For example, it is possible to attribute a monetary value to forests, wetlands, and other ecosystems for their work in filtering water, controlling erosion, flood regulation, aesthetics, climate regulation, food production, pollination, etc (MCI—Hébert research, 2009 : 37).

In order to support the implementation of a strategic development and planning vision for the MRC's territory, which takes into account the principles of sustainable development, we have made recommendations in a constructive manner, and they should be read with the perspective of protecting Lake Memphremagog and its watershed, as well as economic development and the quality of life of the MRC's citizens.

In addition, as we did in the framework of our analysis of the development plan project, we propose that you take into consideration two approaches, the watershed management approach and the ecosystem approach, upon which we have based our advice and comments.

Finally, as the mission of MCI is the conservation of the environment of the territory of the Lake Memphremagog watershed, we are limiting ourselves, in the framework of this brief to an analysis of this territory, although many recommendations are applicable to the territory of the MRC in its entirety.

1. PRIORITY APPROACHES

Two approaches are priority for the conservation and efficient management of the territory.

1.1 Watershed Management Approach

The watershed management approach aims to take into account water and ecosystems, as well as the uses of the entire set of stakeholders (municipalities or MRC, citizens' groups, watershed users, ministries or governmental organizations) for an increased efficiency in policies, programs, and various projects. Watershed management aims to coordinate all concerned water stakeholders. This management approach allows for a better integration of the many different interests, usages, concerns and means of action, with a sustainable development perspective. This type of management should lead to the implementation of more efficient solutions, and consequently to an improvement of the health of the bodies of water, lakes, and ecosystems associated with them. (*Politique nationale de l'eau*. Québec, 2002, pages 17-18)

Watershed management takes into account the interactions between water, fauna and flora, land use, and human activities. Therefore, it is essential that all users of the resource and the different stakeholders in the watershed be involved in this type of management.

The development of watersheds involves the implementation of systems that take care of conservation and the sustainable use of resources, both today and for future generations. Watershed management planning combines the diverse aspects related to forestry, agriculture, hydrology, ecology, soil, climatology, and other sciences in order to find means of preserving and rationally using the territory. An integrated approach is essential in order to conserve, improve, and use land, water, and vegetal, animal, and human resources. (FAO, 2006).

1.2 Ecosystemic Approach

The ecosystemic approach can also be used for an integrated management of water, because this model takes into account the principles of ecological planning and the hierarchy of uses. This approach is based on the examination of interactions between water, biocoenose, the atmosphere, the watershed, and human populations. It takes into consideration ecological, social, and economic factors within the framework of an equitable process that does not tend to relegate the needs of the ecosystem to second place behind other uses. The ecosystemic approach requires, it goes without saying, a thorough knowledge of the ecosystem, as it is based on a detailed analysis of the watershed, which gives it the advantage of decreasing the possibility of adverse effects appearing after the implementation of a management system.

We believe that these two fundamental approaches should be considered to establish a planning of territory that ensures both conservation of natural environments and their ecological functions as well as a rational utilization of resources and development that is respectful of the environment (Diop, M et M. Konate, 2005).

These two approaches underlie the entire set of advice and comments that MCI presents in this brief.

2. ZONES OF CONSERVATION AND OF ECOLOGICAL INTEREST

In order to build the revised development plan on a solid scientific and environmental foundation, MCI proposes that the MRC first identify the conservation zones and territories of ecological interest and those sensitive to development, such as zones with natural constraints, to be able to prioritize development in areas of low ecological value, or which possess little ecological interest, based on their high level of disturbance.

In identifying the natural environments to be preserved and the constraints related to development, it will be easier to direct the axes of development and to propose methods of development which are more “sustainable”, that will be respectful to the environment and to local communities.

Although this approach can be applied to the entire territory of the MRC, in the framework of this brief, MCI is limiting its analysis to the watershed of Lake Memphremagog.

2.1 Conservation Zones (protected and to be protected)

In the urban planning and development project, we are pleased to see that the MRC has added a “Conservation” section. However, we believe that this section deserves to be improved upon. Presently, the only protected lands identified in this section are the Cherry River Wetlands and the Ruiter Valley and Mine-aux-Pipistrelles ecological reserves.

2.1.1 Mont Orford National Park

This territory should be included in the Conservation section, as this is the status accorded to the park in the Law on Parks (*Loi sur les parcs*). Recreational zones must clearly be identified, separately from conservation zones. In addition to recommending to the MDDEP to reintegrate the 459 hectares of land removed from the park, the MRC should recommend to the government to modify *Law 23* in order to remove any possibility of building homes within the 80 hectares of excluded lands. The totality of excluded lands should return to their initial status without condition.

MCI recommends :

- To apply the status of Conservation to the entirety of the national park's territory
- That the MRC recommend to the government to reintegrate the 450 hectares removed from the park
- That the MRC recommend that the government modify *Law 23* in order to remove all possibility of construction of 750 homes inside the 80 hectares of excluded lands. The totality of these excluded lands should return to their initial status with no conditions attached.

As the park is located in a territory of tourist destinations and of “recreational-tourism” and “residential-tourism” status, and as these statuses allow tourism projects, residential activities, and commercial activities, MCI recommends :

- To remove all references to possible construction of homes within the limits of the public lands separated from the park. Among others, the phrase “to envision particular mechanisms of control of recreational-tourism development in certain strategic sectors, located on the edge or inside the Mont-Orford land mass” p.6.11 More precisely, MCI would like to see no construction undertaken in the National Park, nor on the lands that have been excluded, and to see these lands reintegrated.

2.1.2 THE ECOLOGICAL RESERVES

The Ruiter Valley and the Mine-aux-Pipistrelles ecological reserves are already included in the planning project. In the Lake Memphremagog watershed, despite the high ecological value of certain sites, there is currently no ecological reserve at this time.

2.1.3 PRIVATE PROTECTED LANDS

Private lands protected by non-governmental conservation organizations such as: *The Nature Conservancy of Canada*, *Ruiter Valley Land Trust (FFVR)*, the *Fondation marécages Memphrémagog*, the *Association of Nature Conservation of South-Stukely*, and the *Conservation des vallons de la Serpentine* should be recognized in the MRC's development plan. These organizations protect lands in perpetuity either by the application of the nature reserve status, or through the detention of full title deeds (acquisition or donation), or through legal arrangements such as conservation easements, or donations of land of ecological interest. Moreover, in some cases properties are protected from development and provide citizens with access , as is the case with certain properties in the FFVR and the future Green Mountains Nature Reserve. The *Sentiers de l'Estrie*, an organization devoted to the creation of rustic pedestrian trails, offers its members and the general population access to a vaste protected and private territory. The upcoming creation (2009) of the Green Mountains Nature Reserve, which is located in

the Memphremagog and Brome-Missisquoi MRCs, is an excellent example of the role that such organizations can play on private property. Over the course of the past 8 years, *Appalachian Corridor*, *Nature Conservancy Canada*, and several other local organizations protected 8500 hectares, a territory covering over 50 km², making up the Green Mountains Nature Reserve, a protected area that is greater in size than Mont-Orford National Park. There are also other sites protected by private institutions, such as Penfield Point in Austin's Green Bay.

MCI recommends that the MRC :

- Integrate into its development plan all private protected territories that are part of the Lake Memphremagog watershed, in addition to those located in the rest of the MRC's territory which are identified on Map #4 in Annex I, and to apply the status of Conservation to these lands, along with the norms associated with this zoning.

2.1.4 TERRITORIES TO BE PROTECTED IN THE WATERSHED

The only way to preserve the watershed of Lake Memphremagog is to protect to the maximum the territory's natural state. MCI believes that the area of the protected territories should be considerably increased over the course of the next few years. Presently in the MRC, there are only 10,874 protected hectares, including public and private lands (7.5% of the MRC). In Lake Memphremagog's watershed, there are 4,063 hectares which are protected (7.9% of the watershed). In the short term, we would like to see this area tripled.

Here are several examples :

- The *Capital Regional District Board* (regrouping 13 municipalities of three electoral counties situated in the south of Vancouver Island) adopted, in 2000, an annual tax of 10\$ per lot for a duration of 10 years. The funds collected through this tax will be placed in a fund serving to acquire land for the means of protection. The fund generates nearly 1.65 million\$ per annum. (Green Bylaws toolkit (2007).
- Another example demonstrates the political and economic value rendered by the natural water filtration performed by different ecosystems. Towards the end of the 1970s, New York City made the decision to invest in the ecosystems situated in city's watersheds instead of constructing a new filtration plant at a value of \$6 million, with an annual operational budget of \$300 million. After the study, the city decided to invest \$1.5 million into the protection and restoration of 80,000 acres of land considered "environmentally sensitive" situated within proximity to the main drinking water reservoir for the metropolis (more precisely, the 80,000 acres are located within a watershed in the Catskill mountains) (Recherche MCI, A.Hébert mai 2009).

- The *Property Tax Break* is used by the State of Washington. Further details can be found in MCI's study¹.

In order to further protect natural environments, MCI recommends :

- That the MRC put into place mechanisms that aim to protect natural environments in perpetuity. In order to do this, the MRC could create a dedicated fund for a period of 10 years, to acquire lands of great ecological value. This fund could be developed in collaboration with the City of Sherbrooke and other organizations already working in the field of conservation;
- That the MRC promote, to owners of sensitive environments (mountains, non-fragmented forests, wetlands, and all other natural environments of ecological interest) programs, provincial and federal, ecological donations permitting financial incentives for owners, programs of the Nature Conservancy of Canada and the Appalachian Corridor, which target conservation through easement agreements, donations, and acquisitions;
- To study the possibility of implementation a *Property Tax Break* for landowners accepting to dedicate part of their land to conservation.

2.2 TERRITORIES AND ZONES OF ECOLOGICAL INTEREST TO BE PRESERVED

In Lake Memphremagog watershed's territory, there exists a significant number of territories and zones of ecological interest which should be identified in order to apply a zoning change to implement adequate protection norms. Among these zones, many have already been identified by the MRC, but we insist that this step be improved by integrating the propositions put forth by MCI.

2.2.1 LAKES

Without a doubt, lakes and rivers, as well as their shorelines, are zones of ecological interest and merit that special attention be paid to them, taking into account their fragility and their attraction for real estate developers (residential and cottage), for recreational tourism, agriculture, industry, and in some cases a source of drinking water. However, pressures on the ecosystems of lakes and rivers, we know now, are important and do not just stem from the development of the shores and utilization of the nautical area, but from the entire set of uses at the watershed level, of the lakes and rivers. As well, many studies indicate that preservation of lake and river ecosystems requires the integration of a more global approach at the level of the entire watershed, taking into account the territory, the

¹ MCI par Alexandre Hébert, mai 2009. *Portrait de la législation, des meilleures pratiques et des bonnes idées émanant de l'ouest canadien et ayant attrait à la protection des eaux d'un lac comme le Memphrémagog.*

entire set of uses of the territories, and the stakeholders working in said territory (see section 1).

In the framework of this brief, MCI recommends the recognition of the aquatic ecosystems of lakes and rivers as zones of ecological interest, not just limited to the shoreline and littoral zones and sources of drinking water, but rather the entire ecosystem.

In addition, without diminishing the role played by other lakes and rivers located within the MRC's territory, MCI proposes specific actions for Lake Memphremagog and its watershed.

2.2.1.1 LAKE MEMPHREMAGOG

Lake Memphremagog represents an area of 71km²; its watershed, including the hydrography, is 51 205 hectares, for a total of 35.45% of the Memphremagog MRC's total territory.

Following the reading of the development project draft, we have noticed the absence of specific references to Lake Memphremagog in the document. Considering the major role which Lake Memphremagog plays for our region, from environmental, ecological, social and economic standpoints,

MCI recommends that the MRC :

- Add a section specific to Lake Memphremagog at the beginning of the the development plan;
- Grant “Collective Heritage” status to Lake Memphremagog;
- Identify Lake Memphremagog and its ecosystem as a territory of ecological interest to be preserved and protected; dictate, in the complementary document, specific and severe norms to ensure its protection.

2.2.1.2 OTHER LAKES IN THE LAKE MEMPHREMAGOG WATERSHED

The other lakes of the Lake Memphremagog watershed also possess an undeniable ecological interest, and should be recognized to this end.

MCI recommends :

- That all lakes located in the watershed of Lake Memphremagog be considered as territories of ecological interest to be protected, and that norms appropriate for the protection of their ecosystems be specified in the complementary document.

2.2.1.3 SUPPORT CAPACITY OF LAKE MEMPHREMAGOG

In relation to the watershed management approach favored by MCI and presented in section 1, we propose that the MRC take into account the support capacity of lakes in order to ensure the protection, as well as a better management, of these fragile ecosystems.

A study conducted by MCI in conjunction with RAPPEL, *Operation Health Lake 2004-2005*, concludes that *“the deep waters of Lake Memphremagog are globally considered as being mesotrophic. This lake is therefore characterized by an enriched level of organic matter and phosphorous in its waters, by a medium quantity of aquatic vegetation, as well as a certain oxygen deficit in deep waters. These facts indicate that the waters are undergoing an accelerated eutrophication, as a lake of this age and this depth should theoretically have waters with considerably lower levels of phosphorous and organic matter”*. (Simoneau, 2004)²

In addition, since 2006, the watchdog network put into place by MCI has reported numerous booms of cyanobacteria, observed in all sectors of the lake.

Since human activities cause a large part of the deterioration of the lake, the support capacity of the lake must be calculated before continuing development. We invite the MRC to utilize the models developed by the GRIL researchers (Groupe de Recherche Interuniversitaire en Limnologie et en environnement aquatique)³ in order to evaluate the support capacity of Lake Memphremagog. In their April 2009 report, these researchers proposed certain guidelines:

“If your lake is already showing signs of eutrophication, proactive measures must be taken to :

- *Reduce the incoming phosphorous load*
- *Limit the residential development in the watershed*

In the case where the density of residences and cottages is high, the installation of a network of collection sewers and adequate sewage treatment, as well as the above described measures, would probably be the best method to improve the state of the lake.”

The specialists say that, among others, *“lakes are a reflection of that which they receive : if we double their phosphorous load (by human activities) we double the concentration of phosphorous in the lake”*

² MCI-RAPPEL. Opération Santé du lac Memphrémagog. Rapport final 2005. p.14

³ GRIL, Avril 2009. *Calcul de la capacité de support en phosphore des lacs: où en sommes nous?* P.6

MCI therefore recommends to the MRC :

- To apply the principle of precaution until which time the support capacity of Lake Memphremagog has been evaluated, and that the phosphorous load be significantly reduced;
- To identify the sources of phosphorous and develop a plan of action to implement a strategy to reduce these sources;
- To require municipalities to implement bylaws in order to prohibit the use of fertilizers for aesthetic purposes;
- To re-evaluate the type of development permitted in accordance with the impacts of deforestation, drainage, provision of drinking water, sewer access, and the support capacity of the body of water;
- To evaluate the support capacity of Lake Memphremagog using the models of the GRIL researchers;
- To implement the propositions of GRIL, namely:
 - To limit the development in the Lake Memphremagog watershed;
 - To integrate into the development plans of municipalities measures in order to reduce phosphorous loads and to reduce erosion:
 - Reduce or prohibit the use of domestic and agricultural fertilizers within proximity of lakes and their tributaries, including on golf courses
 - Improve the management of runoff, particularly coming from road ditches, agricultural drainage, and storm sewers, in order to support the infiltration and reduce surface runoff towards lakes;
 - Verify the conformity of septic installations (tanks and fields) (Q-2, r-8);
 - Verify the conformity of all shorelines in relation to the Policy on Shorelines, Littoral, and Floodplains (*Politique de protection des rives, du littoral et des plaines inondables*) (Q-2, r-17.3);

2.2.1.4 CONSERVATION AND PLANNING IN THE LAKE MEMPHREMAGOG WATERSHED

Inside the watershed, all development can have repercussions on the natural environment, particularly if the development takes place on lands with a steep slope, on thin soil, or in a shoreline environment. Real estate development and the construction of new roads causes, among other things, a decrease in forest cover, and an increase in surface water runoff which can have negative impacts on sensitive environments such as lakes, wetlands, and rivers. The environmental impacts that are consequences of real estate development vary based on the level of sensitivity of the natural environment of the site, the level of current development, and the type of development undertaken. In addition, environmental impacts of real estate development are proportional to the current level of development: the number of homes, the percentage of deforestation of the shoreline zone,

the level of development of the street network, etc. Finally, these impacts vary according to the type of development, the system of wastewater management, the type of landscaping, the size of lots, the revegetation level, etc. (<http://www.agirpoureladiable.org>).

In order to reduce the impact of development in the territory of Lake Memphremagog's watershed, the development plan should restrict the repercussions by modifying certain norms relative to the permitted size of lots and to streets, as well as reevaluating the type of development promoted in ecologically fragile areas.

HOUSING DEVELOPMENT

As deforestation and urbanization are two factors accentuating the deterioration of the watershed and of Lake Memphremagog :

MCI recommends to the MRC :

- To modify the rules concerning the minimum size of lots to require a minimum of 1.5 hectares along the shores of Lake Memphremagog and along rivers, whether these lots be serviced or not;
- To implement in all the lots a margin of retreat from the banks of Lake Memphremagog of 30 to 50 meters; this margin should appear in table 2.3 of the appendix to the plan. A buffer zone of 100 meters along the shoreline of a river or lake should be established; larger lot sizes assure a larger protection of the forest cover;
- To maintain tree cover of at least 75% on each lot.

ROUTES

The phosphorous load carried by sediments largely comes from tributaries. The sources are diverse: road ditches, lots with exposed soil due to construction, etc.

The roads and ditches are the principle sources of sediments found in Lake Memphremagog's tributaries following strong rains. An alert observer can see that the tributaries are brown and full of sediments during each heavy period of rain... which were numerous this year (2009). Here are several examples : the ditches along Sugar Loaf Road last May caused a serious erosion problem for the Glen Brook; Mountain Road in Potton eroded by heavy rains in 2007 caused damage to Bare Brook; Taylor Road damaged the brook along this same road.

MCI recommends to the MRC to:

- Place a moratorium on the opening of new routes in the watershed of Lake Memphremagog, until the support capacity for the lake has been evaluated, and

the results of an experiment currently being undertaken by the MTQ on routes in the Parc des Laurentides are made public;

- Implement a program similar to the American “Better Back Road Project”⁴;
- To make it compulsory to draft a five-year plan in order to arrange all road ditches according to recognized environmental measures in order to lessen the impact of runoff and to reduce erosion;
- Make the application of the “tier inferieur” method obligatory for the annual maintenance of road ditches and to penalize those in non-compliance (MTQ document);
- Study the possibility of reducing the norms pertaining to the width of private roads in order to limit the fragmentation of the forests and deforestation;
- After the moratorium on the creation of new routes, to not construct roads having a slope of more than 15% and to require the implementation of measures to reduce the acceleration of water during its runoff, on all new roads.

PRIORITY DEVELOPMENT MODELS

MCI recommends :

- Re-evaluating the type of development permitted in relation to the impacts of deforestation, drainage, the provision of drinking water, sewer service, and the capacity of the water body;
- Studying the different development models which taken into consideration the watershed management and ecosystemic approaches.

2.2.2 LAKE, RIVERS, OTHER BODIES OF WATER

Taking into account the ecological value of rivers and their primordial role in the hydrographical network of the Lake Memphremagog watershed, it appears essential that all lakes and main rivers be identified as sites of ecological and aesthetic interest, in addition to subjecting them to minimal norms of protection of the shorelines, littoral zones, and floodplains. In addition, these minimal norms could be reinforced in the case where ecosystems and water are threatened.

The majority of lakes, rivers, and streams are already identified in the planning and development project, but MCI recommends that the MRC complete the identification and mapping of bodies of water over the course of the next few years. For example, we could map the intermittent streams depending on the contribution of new knowledge from a sector of the MRC experiencing significant developmental pressures.

⁴ Northern Vermont Resource Conservation & Development Council. 1997. *Better Back Road Project*.

MCI recommends that the MRC :

- Identify all the lakes and principal bodies of water as sites of ecological and aesthetic interest, and to subject them to the minimum norms of protection of shorelines, littoral, and floodplains;
- To complete the cartography of bodies of water, particularly the intermittent streams and brooks in white zones or in sectors experiencing significant developmental pressure.

2.2.3 SHORELINES OF LAKES AND RIVERS

We are in agreement with the objectives concerning shorelines and the littoral zone of lakes and rivers in the plan project, which indicates in section 2.3 (lakes and rivers) that it is necessary to:

- Adequately protect the shorelines and the littoral in order to maintain and improve the quality of lakes and other bodies of water;
- Prevent the degradation and erosion of the shores and the littoral by favoring the conservation of their natural character;
- Promote the restoration of shorelines environments that have been artificialized and degraded;
- Ensure the conservation, the quality, and the biodiversity of these environments.

However, regarding preventative measures, MCI recommends to the MRC that it:

- Requires the harmonization of environmental regulations for all shoreline municipalities;
- Establishes a protection along shorelines of the lake, its permanent and intermittent tributaries, and all wetlands, which could range from 10 to 30 meters, in particular in zones of natural constraints and bodies of water supporting fish habitats (nesting grounds).⁵
- Implements laws in order to make it compulsory to renaturalize shorelines within 10m to 15m (slopes) along all the shorelines of the lake, its permanent and intermittent tributaries as well as all marshes and all road ditches.

MCI invites the MRC to study the *Riparian Setback Model* in order to determine precisely the different widths of shoreline buffer zones with precise criteria. The widths vary from 15 to 50 meters. In all cases, the shoreline buffer zone should never be narrower than 15 meters.(MCI, A. Hébert, 2009)

MCI invites the MRC to also take inspiration from the criteria presented in «*Streamside Protection and Enhancement Areas*» of the *Fish Protection Act* of British Columbia in order to determine the definition of a body of water or “stream”:

⁵ MCI par A.Hébert, mai 2009. “Portrait de la législation environnementale, des meilleures pratiques et des bonnes idées émanant de l’ouest canadien et ayant attrait à la protection des eaux d’un lac comme le lac Memphrémagog. P.10

«The definition of a “stream” includes a pond, lake, river, creek, ditch, spring or wetland if it is integral to a stream and provides fish habitat».

In agricultural areas, MCI recommends:

- Promoting to farmers the implementation of a shoreline buffer zone of a minimum of 10 to 30 meters.

Concerning laws related to the zoning of shorelines and the littoral zone, MCI strongly recommends:

- That no intervention be permitted in these zones, unless the intervention is to restore the natural environment;

Concerning floodplains, MCI recommends :

- That no intervention be undertaken, meaning all construction work be prohibited.

Shoreline, littoral zone, and floodplain management plan:

Within the framework of the *Policy on Protection of Shorelines, Littoral, and Floodplains (Politique sur la protection des rives, du littoral et des plaines inondables)*, MRCs can implement their own particular measures of protection within their management plans.

In effect, a management plan permits “a metropolitan community, an MRC, or a town exercising the power of an MRC, within the framework of a revision or of a modification of a planning and development plan:

- To present a plan of management of shorelines, littoral zones, and floodplains for its territory;
- To elaborate particular measures of protection (norms), the development and restoration of shorelines, littoral zones, and identified floodplains, to respond to particular situations; more specifically, in the case of floodplains, to elaborate particular measures of protection for an identified sector, allowing the governance of urban consolidation while prohibiting the expansion of the built domain;
- To indicate measures within a plan which reflect a consideration and harmonization of the different interventions within its territory.

The management plan and particular measures of protection and enhancement which are approved for shorelines, littoral zones, and floodplains have the effect of replacing the policy to the extent indicated.

Among the general criteria of acceptability :

The management plan should present an improvement to the general situation of the environment in the territory it is applied to.

- To carry out a management plan, littoral and shoreline areas that have been degraded or are located in highly urbanized areas should be given preference over those still in their natural state.
- Shoreline and littoral zones of particular interest in terms of biodiversity should be considered in the application of special measures of protection and enhancement.

In addition, specific criteria of acceptability and a framework concerning a plan regarding floodplains are identified.

As part of a management plan, some construction and work could be undertaken in addition to those provided under the provision of Chapter 4 of the current policy, as they are specifically allowed or eligible for an exemption (Articles 4.2 and 4.3). These works and constructions that can be undertaken include:

- Development in zones with a strong current which are surrounded by zones of weak current, if these places do not have an environmental value;
- In addition to development of urban areas (net density greater than 5.0 constructions per hectare or 35 structures per linear kilometer, per side of street) already built, serviced by a waterworks or network of sewers, or both networks before May 18th, 2005, or before the date on which the boundaries of the floodplain in question were determined, according to the most recent of the two contingencies; a sector is considered built if 75% of the lots are occupied by a main construction; new constructions should be limited to insertions into sets already constructed, with expansion areas excluded.”

According to the plan project of the Memphremagog MRC:

«The application of the measures of the Policy on the Protection of Shorelines, Littorals, and Flood Plains does not provide specific protection measures for development and restoration of particular settings. While respecting environmental objectives, there may be a different approach that is preferable or possible, in some environments. The approach using a management plan, which is allowed in the Policy, allows for this in degraded environments, which are highly urbanized or which possess a particular interest. Shoreline territories of the MRC, highly utilized for residential and condominium activities, are more appropriate” p. 9,8.

The MRC is proposing to eventually formulate a management plan which would be integrated into the Complementary Document. Areas targeted by an eventual management plan and its contents need to be known, in order to study more in-depth the propositions that will be put forth. The plan seems to target, on page 9.8, “the shoreline territory of the MRC, strongly used for more appropriate residential or condominium activities”. If this is the case, it includes the shorelines of lakes, and the principal rivers of the MRC.

We want to ensure that the eventual management plan does not aim to be a “complement to the development of urban sectors” as aforementioned in the MDDEP criteria of acceptability.

In the opinion of MCI, there is one sole choice to be made in regard to degraded shorelines: to restore them using appropriate environmental techniques, and to avoid increased urbanization in these fragile environments.

MCI recommends that the MRC :

- Specifies the areas where a management plan would be applied, and to consult with the population on methods and interventions planned in these areas before they are integrated into the complementary document;
- Not authorize the reconstruction of damaged stone walls on shorelines, but rather to have them replaced by methods of shoreline stabilization that promote renaturalization techniques;
- Clarifies the law stipulating that a boathouse cannot be rebuilt if it is more than 50% damaged;
- Prohibits the reconstruction of cement docks in the littoral zone, and to replace them with floating docks;
- In the case of the complete reconstruction of a residence situated within 30 metres of the shoreline, invites owners to reconstruct their home outside of this 30 metre zone, and in a zone with a slope of less than 15%;
- Requests the MRNF to no longer grant permits for the construction of structures that can have a negative impact on the quality of water and to the inhabitants of the littoral zone of Lake Memphremagog.

2.2.4 WETLANDS

Taking into consideration the exceptional ecological value of wetlands and the functions (services) they provide, such as their major role water filtration, the retention of water during heavy rains, and the maintenance of biodiversity, MCI judges that the MRC's proposition to protect wetlands of 4 hectares or more to be insufficient.

After consulting our maps, MCI noted that many wetlands already mapped by the Government of Quebec (BDTQ), Ducks Unlimited, Environment Canada and COGESAF do not appear on the MRC's maps.

MCI noted that more than 579.3 hectares of wetlands of the Lake Memphremagog watershed with sizes of more than 1 hectare each were not inventoried by the MRC. This "oversight" is more than unacceptable. (See Map 2 of the Appendix)

MCI recommends :

- The protection of all wetlands, regardless of their size;

- That the MRC complete the mapping of wetlands. Wetlands of more than 4 hectares are already identified, but we insist that all wetlands of smaller areas be integrated (see Map 2 for wetlands of more than 1 hectare). For the wetlands with areas of less than 1 hectare, they should be mapped to be included in the plan in order to be preserved;
- That the MRC carry out a more precise delimitation of certain wetlands, using the botanic method recognized by the MDDEP, in order to specify, without a doubt, the exact limit of a wetland. MCI knows that in white zones, where the pressure of development is the strongest, that the limits of wetlands must be well defined in order to avoid any irreversible damage to the ecological integrity of this environment. For example, the marshlands of Cherry River as well as the delimitation works being undertaken on wetlands of the municipality of South Stukely in collaboration with ACA;
- That the MRC apply the same means of protection to all wetlands, including those under 4 hectares in size. In general, we agree with the MRC that all construction work, cutting, and filling works be prohibited in wetlands;
- That the MRC apply a measure aiming to maintain a buffer zone of protection around wetlands. We suggest that this zone be at least 15 meters, and that strict restrictions be applied in order to avoid any negative impacts on the wetlands;
- That in agricultural zones the buffer zone be enlarged, and that the MRC study the recommendations put forth by experts. The fact that the cultivation of soil is allowed with the maintenance of a buffer zone of only 3 meters seems to go against the ideas of conservation of these sites of ecological interest.

2.2.5 PROTECTION OF FORESTS

Before acknowledging the role that forests play as an ecosystem to be exploited, it must first and foremost be recognized that forests play multiple roles of extreme importance from environmental, social, and economic points of view. Some of the ways in which this is done include the preservation of landscapes, the maintenance of water quality, and controlling soil erosion. Forests are at the base of tourism activity, with eco-tourism being based on low impact “green” activities which attract a large tourist clientele.

The protection of forests is a priority to preserve water quality. Experts from Ouranos, specialists in climate change, have demonstrated this observation. During the *Rendez-vous International de l'Eau* held in Sherbrooke by COGESAF on June 2nd, the presentation of Mr Alain Bourque of Ouranos explained that his organization predicts more abundant autumn rains, flash floods from strong summer storms, and other effects, for the south of Quebec. To control soil erosion, researchers recommend, among others, to preserve 75% of the forests in a watershed, (Développeur l'adaptation aux changements

climatiques sur les bassins versants du sud du Québec : L'expérience d'Ouranos, Alain Bourque, Université de Sherbrooke, 2 juin 2009)

The preservation of 75% of forest territory may seem extravagant in the eyes of many; however, the preservation of the forest cover does not necessarily mean that the forest cannot be used. There are forest cuts which respect the environment; for example, forest cuts respecting the norms of healthy forestry practices, which take into account the forest ecosystem, the norms of forestry certification (Ex: FSC norms adapted to private properties covering a small area) and rules pertaining to the cutting of trees in order to ensure the maintaining of the forest cover and the ecological functions. This demonstrates that it is possible to harmonize the utilization of the forest territory and the protection of the environment.

In order to ensure citizens' respect of laws concerning cutting of trees, more severe penalties must be imposed. For example, the municipality of Kelowna, B.C., voted in favor of rule number 8042, which states that any person cutting a tree without authorization can be fined up to 2000\$ per tree. (MCI-Hébert 2009)

MCI recommends :

- Assuring that the forest cover in the Canadian section of the watershed remains at at least 75%;
- Assuring the maintenance of the forest's ecological, social, and economic roles through appropriate zoning;
- Modification of rules in order to minimize the deforestation and to ensure the maintenance of the forest cover, and to implement appropriate norms for cutting trees for private forest owners, real estate developers, and those involved in the forestry sector.

2.2.6 NON FRAGMENTED FORESTS

As mentioned by the Appalachain Corridor (2009) and many other scientists working in conservation sciences, such as Meffe and Carroll (1994) and Primack (1998), conservation design at the landscape level contains conservation nuclei which are non-fragmented and large enough to protect ecosystems representative of the region, and the diversity of species associated with them, in order to prevent outside influences.

Mont Orford National Park is recognized as one of only two entities of non-fragmented forest of a significant land area that are home to the Green Mountains, according to the ecological framework reference of the Ministry of Environment (Li, 2002), and of the natural region of Mont Sutton (A7), according to Parcs Québec's classification. The other mountain of significance is that of Mont Sutton, located more to the south of Orford (see ACA map, Map 4 in Appendix 1).

According to Anderson (1999), the approximate surface area of a conservation nucleus should be 10,000 hectares, which represents the non-fragmented surface area required to adequately represent and maintain the dynamics of ecosystems characteristic of the Appalachians. Even if presently the National Park has not reached this critical level in terms of surface area, it possesses an important role for conservation of biodiversity of the Appalachians (ACA, 2009). Moreover, the nuclei of secondary forests, with smaller surface areas, also possess ecological importance, and play important roles in maintaining quality habitats, as well as the connectivity between these important areas.

It is important that the statuses and restrictions on uses translate into the choice of zoning and strict norms assigned to these lands.

MCI recommends :

- Applying the status of “natural landscape of superior interest” to forests and to regulate the construction of homes and cutting of trees in order to preserve natural landscapes of superior interest, to reduce the impact of potential fragmentation. This recommendation applies to the territory of the watershed, it should also be taken into consideration for the totality of the MRC’s territory;
- Increasing the minimum surface area of lots identified in section 1.7.1 of the complementary document. The minimum surface area of 0.5 hectares is too small, with an average width of 50 meters and average depth of 75 meters.

2.2.7 MOUNTAINS AND STEEP SLOPES

In the development plan, mountain summits and steep slopes in areas with natural constraints are not identified. Only zones of erosion, at risk of flooding, lakes and rivers, shores, littoral zones, floodplains and wetlands are included. We recommend that mountain summits and steep slopes be included as well.

2.2.7.1 Mountains

Mountains are areas which are very ecologically sensitive, forming the exceptional natural landscapes of the Memphremagog MRC. These areas often possess soils and a very thin rooting. In order to ensure their environmental, landscape, and visual protection as well as their ecological integrity, **MCI recommends that the MRC:**

- Protect the mountain summits of all mountains (including those identified on Map 1 of Annex I);
- Prohibit all construction above 350 metres altitude, as recommended by the BAPE in 2005 in its Report # 209 on Mont Orford National Park;
- Apply norms identified in the complementary document applicable to “areas where forestry exploitation is prohibited” to tops of mountains, except in the case where trees are diseased, dying, or dead requiring a health cut, or in the case of trees requiring salvage logging.

More specifically, as Mont Orford is the gateway to Estrie, MCI recommends to the MRC :

- To prohibit the construction of a hotel or any other building at the summit of Mont Sylvio Lacharite, as on all other summits of 350 metres altitude or more.

2.2.7.2 Steep Slopes (> 30%)

Due to the presence of mountains, most of the territory consists of slopes greater than 30%. “The steep slopes of 30% to 50% represent 16.4 km², or 3.81% of the area of Lake Memphremagog’s watershed (see Map 1 of Appendix 1). In these areas of natural constraints, real estate development, excessive logging, and road construction can have major repercussions on the environment. Just think of the possibilities of erosion in these fragile environments, and the possible sedimentation in rivers and lakes.

MCI recommends :

- That steep slopes (more than 30%) be considered as « zones of natural constraints », as other MRCs do;
- That these areas be subject to the norms relative to « areas of severe constraints to forestry operations » in order to protect environments sensitive to human intervention and to foster conservation of the natural environment. That these same norms also apply in the context of the location of buildings and that any road construction be prohibited in areas with slopes exceeding 30%.

2.2.8 EXCEPTIONAL FOREST ECOSYSTEMS (EFE)

It is necessary to recognize the exceptional forest ecosystems of the MRC designated by the Ministry of Natural Resources and Fauna, as sites of ecological and aesthetic interest. In addition, these exceptional environments should be the subject of specific measures of protection.

MCI recommends :

- That the MRC, in collaboration with the “l’Agence de mise en valeur de la forêt privée de l’Estrie » and conservation organizations, specify concrete actions to take to conserve these exceptional ecosystems in order to govern public as well as private lands.

2.2.9 FAUNA HABITATS OF SPECIAL INTEREST

The fauna habitats indexed and mapped by the MRNF have already been integrated into the development plan. They consist of the habitats of the muskrat, areas of concentration of aquatic birds, and deer and heron habitats.

However, MCI questions the fact that fish breeding and nesting grounds in lakes and main rivers are not mentioned. In the case of Lake Memphremagog, it is known that these areas are partially indexed and that certain of them have already suffered deterioration due to sediment loads coming from diverse human activities such as real estate development or forestry operations. We understand the sensitivity of divulging information on the fish population's breeding and nesting grounds to the general population, as this could have an adverse effect of harming rather than helping the situation. However, we question the measures to be taken by the MRC and the MRNF to ensure an adequate protection of these critical habitats.

3. MANAGEMENT OF LAKE MEMPHREMAGOG

3.1 COMITÉ LOCAL DE BASSIN VERSANT (Local Watershed Committee)

Lake Memphremagog faces significant environmental and social problems. As mentioned in section 1.1, the best method to manage this important water resource is to implement a system of management that encompasses the entire watershed, which has been recommended by the MDDEP for a long time. This method of environmental management is in place in Canada as well as in several other countries. The implementation of a local watershed committee (CLBV) for Lake Memphremagog is therefore a priority. An excellent example to follow is that of the Okanagan watershed in British Columbia. In the opinion of many, this example is the most complete and best organized watershed management committee in British Columbia. Lake Okanagan is similar to Lake Memphremagog. (MCI-Hébert Research Project. P.17)

MCI recommends that the MRC:

- Prioritize, and work in close collaboration with COGESAF, the implementation of a local watershed management committee;
- Assure that the CLBV quickly prepares a master plan for the waters of Lake Memphremagog, as proposed by the MDDEP.

3.2 CONFLICTS OF USES AND NUISANCES

More than 4000 boats (on the Quebec side) navigate the waters of Lake Memphremagog. There are numerous problems related to navigation and conflicts of uses.

Several facts must be agreed upon :

- Lake Memphremagog is a collective heritage as are all the water bodies and parks of Quebec. In these public places, there are strict rules governing conduct, the types of uses permitted, as well as a limit on the number of users (ex: camping)

- Lake Memphremagog is a lake whose shores are inhabited by humans, and as in all urban residential neighbourhoods, rules related to being good neighbours should apply.

MCI cannot help but notice the large discrepancies in the control of different uses of the lake, such as improvised campings in several bays, parties, loud music, a lack of civility, as well as noise pollution problems stemming from high performance boats.

Although certain powers were delegated from the federal government to the provincial and MRC levels, including the control of boat speeds, methods of enforcing order on the lake must be found.

MCI disagrees with the following statement in the plan: “These conflicts oppose in a general way a **restrictive ecological vision** of the environment in regards to residential or recreational uses of lakes and rivers. The traditional planning tools make it difficult to manage these conflicts. For the region, the risk of limiting itself to these tools is that the debate is taking on a regional scale and an ideological coloration, and is becoming a factor in social division” p. 3.9.

Such a statement reflects more a personal opinion and is out of place in a planning and development plan. **MCI deplores this statement and demands the retraction of these derogatory words towards ecologists and citizens who are defending the lakes of the region.**

The problems of conflicts between uses of our lakes and rivers related to navigation are not the products of a “restrictive ecological vision” but rather are caused by, among others, the multitude of uses, the lack of good citizenship of certain boaters, and the nuisances such as the anarchical implantation of improvised campgrounds in certain bays, without any laws, illegal anchoring, and high performance boats. It is imperative to find a solution to these problems.

Considering that the government of Quebec made an electoral promise in 2003⁶ to “negotiate with the Government of Canada to acquire the jurisdiction over freshwater bodies of water in Quebec (lakes, rivers, wetlands, marshes) to permit a better management of aquatic activities”;

MCI recommends to the MRC:

- To claim from provincial and federal governments, the repatriation to Quebec the jurisdiction of freshwater bodies of water in Quebec, excluding the St-Lawrence Seaway;
- To evaluate the environmental impacts of motor boats on a drinking water reservoir;

⁶ Parti Libéral du Québec. Février 2003. Pour un environnement sain et un développement durable. Priorités d’actions politiques en matière d’environnement.

- To evaluate a limit to the number of boats that the lake can support;
- To ask the provincial government to modify the *Law on the Protection of Waters From Pleasure Craft Wastewater* (*Règlement sur la protection des eaux contre les rejets des embarcations de plaisance*) in such a way as to obligate all boats with kitchen equipment, toilets, or sinks to be equipped with a sealed holding tank, with the obligation to hold all wastes, including kitchen and dishwater (grey water), and to dispose of this waste in stations serving this purpose;
- To undertake a campaign of education to boaters in order to promote good behavior in regards to citizenship and the environment;
- To make Lake Memphremagog a regional park. The powers of a regional park should be shared among all involved stakeholders, including representatives from each municipality, lakefront property owners associations, MCI, hunting and fishing clubs, boaters, marinas, the MDDEP and the MRNF.

4. AGRICULTURAL LANDS

It is paramount to preserve the rural and countryside character of our region.

The MRC's proposition is to remove lands from the agricultural zonage, totaling 28 000 hectares of land, (70,000 acres, or 40% of all agricultural lands) to put them in an agri-forestry zone. Why? Are we to believe that 70,000 acres are deemed inappropriate for farming?

For the Lake Memphremagog watershed, it is 17 797 hectares that will be changing zoning to become agri-forestry.

MCI disagrees with this proposition, as the criteria used for the classification of "dynamic" agricultural lands are contestable.

MCI is of the opinion that the law on the protection of agricultural lands has greatly contributed to the protection of the environment in our region. This law has played, and continues to play, a primordial role in protecting landscapes, ecotourism, the protection of potential tourism, the protection of the quality of life for residents, and in the protection of ecosystems' ecological equilibrium.

The error must not be made of removing agricultural zoning status from lands which may potentially be needed in the future. Once houses and asphalt are in place, they cannot be erased.

The statements in the DOR (Document sur les objets de la révision) in the section regarding agriculture tend to claim that there is a problem with the fact that 45% of the MRC's territory is zoned as agricultural. Where is the problem? MCI wants to know.

If we examine this issue from another point of view, the fact that 45% of the territory is agriculturally zoned is excellent news for the region, as this will allow for the preservation of the quality of the environment, the preservation of quality of life, to protect natural landscapes which are so appreciated by visitors, to preserve the region's forests, and to limit urbanization which brings with it a multitude of environmental problems, including the degradation of lakes.

The CPTAQ is the safety net against the abuses of urbanization as, we must admit, the municipal councils are very unarmed against the pressures of development promoters.

The Law on the Protection of Agricultural Territory (*La Loi sur la protection du territoire agricole*) (LPTAA) remains fundamental.

The 28,000 hectares of which the project proposes a zoning change can, according to the current plan, have a lot of a minimum of 10 hectares. In designating these 28,000 hectares as an "agri-forestry" zone, as proposed in the SAD, the minimum permitted size becomes 4 hectares. Why 4 hectares? Why not a lot size of 10 hectares such as was the case before the zoning change?

On the other hand, if the lot is in an environment considered "destructured", the lot size can be as small as 0.3 hectares (3000m²). This is what we understand from the description made on page 7.9 in point 3.2 "Affection agro-forestière »: *This space is the subject of a greater deconstruction created by uses and non-agricultural activities and by a high density of buildings;*

MCI inquires as to whether the changing of the status of these lands does not have another goal other than development of homes on agriculturally zoned lands.

In principle, the status of agri-forestry should be given to territories in order to help maintain agri-forestry activities. However, to be viable for such activities, lot dimensions must be larger than in the agricultural zone (25 hectares). Shouldn't the agri-forestry zone have norms of 50, and even 100 hectares? Unless the agri-forestry zone is to be a "free-for-all" zone!

During public meetings, representatives of the MRC confirmed that "it is not a question of dezoning, or breaking into pieces, nor of allotting these 28,000 hectares"... for the moment!" The dezoning of lands situated in the agri-forestry zone is the easiest to be granted by the CPTAQ;

There exist several hypotheses that could render these lands more accessible to development:

- The MRC could deposit a collective demand as it has already done;
- The law on the protection of agricultural territory and the law on urbanism could be changed as proposed by the Ouimet report, starting in Spring 2010, giving power to the CPTAQ and to the MRCs to agree that for activities other than agriculture and the parceling of land... if it is included in the revised plan...

Continuing to urbanize our region, going beyond the support capacity of the lake and ecosystems leads to a large, and direct, deterioration of the quality of water, as the environmental impacts of human activities are numerous. MCI is of the opinion that such a prospect increases land speculation which allows some to profit at the expense of the environment. In this context, development carried out in the watershed of Lake Memphremagog contributes to the lake's deterioration.

Consequently, MCI is of the opinion that in order to ensure the protection of the regional drinking water reservoir which is Lake Memphremagog, the collective good should take precedence over the individual good: the interest of the greatest number should take priority over the interest of several.

In the context of changes to agricultural zoning and in order to understand the underlying context, MCI considered two reports on agriculture: the report of the Commission on the Future of Agriculture and Agrifoods of Quebec » (Commission sur l'avenir de l'agriculture et de l'agroalimentaire québécois) "*Agriculture and agrofoods : Building the Future*" (2008)⁷ and the report on *Protection of agricultural lands and regional development (Protection du territoire agricole et développement régional)* (April 2009)⁸.

The Pronovost recommends, among other things :

That Quebec's agricultural territory be treated as a collective heritage, the object of exceptional measures of protection, in order to ensure the perennality of agricultural activities, with an eye towards sustainable development.

The Ouimet report makes several recommendations that must be taken into consideration :

- That MAPAQ begin the conception of a new indicator of management of agricultural zones, by elaborating a methodology permitting them to create a first inventory of arable lands in Quebec, by metropolitan region and by MRC;
- LPTAA does not have preserving lands of good quality as its sole objective, and it is normal that the agricultural zone also includes lands of less potential, as the zone must be conducive to the practice of agriculture, and promote the protection and development of activities and enterprises in this industry. This observation should not prevent the development of the tool in question, as it could seriously guarantee that we have set aside our best lands, and that we will have enough cultivable lands in Quebec in the next 30-40 or 50 years.

In order to preserve this collective heritage, it is primordial that neutral experts conduct an exact evaluation of the arable agricultural lands of the MRC of Memphremagog before any change of zoning.

⁷ Commission sur l'avenir de l'agriculture et de l'agroalimentaire québécois. 2008 : "*Agriculture et agroalimentaire : Bâtir l'avenir*"

⁸ Ouimet Bernard. Avril 2009. *Protection du territoire agricole et développement régional. Une nouvelle dynamique mobilisatrice pour nos communautés.*

MCI recommends to the MRC to:

- Put in place a moratorium on zoning changes of agricultural lands until the MAPAQ has developed a new indicator of management and has conducted its first inventory of arable lands as proposed in the Ouimet report;
- Implement a moratorium on zoning changes of agricultural lands until an independent committee of experts has identified the quality of the agricultural lands of the Memphremagog MRC;

And, as proposed by the Austin CCE⁹ :

- To mandate an independent committee of experts to :
 - Identify the zones that are already being exploited for agriculture;
 - Identify the lands apt to receive a diversified agriculture;
 - Promote non-traditional crops (which are respectful to the environment and better adapted to our soils) by establishing a plan of action to incite the development of this type of agriculture;
 - Develop a local marketing of these food products;
 - Identify all land targeted for potential agriculture on the zoning plans of different municipalities, and adopt regulations to protect these lands;
 - Structure a financing plan to make it possible to undertake this development plan.

CONCLUSION

MCI is of the opinion that there is no urgent need to adopt this new development plan in the immediate future. MCI believes that November's upcoming electoral period will permit public debate which will shed more light on this issue.

MCI has a representative on the Environmental Consulting Committee of Austin (Comité Consultatif en Environnement d'Austin (CCE d'Austin)). The committee's recommendations are relative to Lake Memphremagog and its watershed, to the agricultural zones being considered for a zoning change, and to the natural landscapes of interest. MCI endorses the Austin CCE's resolutions, and has attached a copy to this brief.

MCI recommends to the MRC to :

- Postpone by one year the current process of revising the plan;
- Submit a new bill book with details on the various steps of the drafting of the PSAR and to make it known to the population;
- Hold information sessions for the citizens of each municipality;
- Hold public consultations with the citizens of each municipality;

⁹ CCE Austin, Juillet2009. Recommandation du Comité Consultatif en Environnement (CCE) d'Austin relatif au changement d'affectation d'agricole à agro-forestière.

MCI deplores the holding of public consultations during the summer season, as this period is not convenient for the participation of a large number of citizens. MCI invites the MRC to hold consultations during periods which will ensure a larger level of participation by citizens, and in this sense will respect democratic principles.

We consider this brief to be still incomplete as several aspects were not touched upon due to time constraints. MCI will deposit other recommendations during future public consultations.

MCI offers you its complete collaboration to improve the plan and to develop it in order to integrate a greater protection of the environment.

There are many unanswered questions, creating the necessity for information sessions and public consultations, so that citizens have a full understanding of the proposed modifications.

In closing, we thank you for taking the time to read this document, and for taking into consideration our recommendations.

APPENDIX 1

Map 1 : Lake Memphremagog Watershed : steep slopes and zones of more than 350 meters altitude

Map 2 : Lake Memphremagog Watershed : changes regarding agricultural zoning in the development plan project

Map 3 : Memphremagog Watershed : Comparison between wetlands recently inventoried by Ducks Unlimited Canada and by those present into the Plan

Map 4 : Large forests of superior interest and protected properties in the Lake Memphremagog watershed- ACA Map

REFERENCES CONSULTED

ACA, 2009. <http://www.apcor.ca>.

Anderson, M.G. 1999. Viability and spatial assessment of ecological communities in the Northern Appalachian Ecoregion. Ph. D. diss., University of New Hampshire, Durham.

BAPE. Mars 2009. *Les répercussions d'un échange de terrains sur la biodiversité et l'intégrité écologique du parc national du Mont-Orford*. Rapport d'enquête et d'audience publique. Québec.

Bourque, Alain. 2 juin 2009. *Développer l'adaptation aux changements climatiques sur les bassins versants du sud du Québec : L'expérience d'Ouranos*. Rendez-vous International de l'eau. Université de Sherbrooke.

CCE Austin. Juillet 2009. *Recommandation du Comité Consultatif en Environnement (CCE) d'Austin relatif au changement d'affectation d'agricole à agro-forestière*.

Clinique environnementale de droit de la faculté de droit de l'université de Victoria 2007. *Green Bylaws Toolkit for Conserving Sensitive Ecosystems and Green Infrastructure* » pour le compte du Wetland Stewardship Partnership, Ducks Unlimited Canada, Grasslands Conservation Council of British Columbia, Environnement Canada et la province de la Colombie-Britannique.

Commission sur l'avenir de l'agriculture et de l'agroalimentaire québécois. 2008 : *"Agriculture et agroalimentaire : Bâtir l'avenir"*. Pronovost, Dumais, Tremblay.

Diop, Mbarack et Mamadou Konate. 2005. L'approche écosystemique et la gestion par bassin versant : le cas de la Somone. Focus Conservation.

Food and Agriculture Organization of the United Nations. The new generation of watershed management programmes and projects, Rome, 2006.

GRIL. Avril 2009. *Calcul de la capacité de support en phosphore des lacs: où en sommes nous?*

Le Devoir. 30 mai 2007. *Gro Harlem Bruntland au Devoir- Le développement durable, une idée souvent déformée*. Louis-Gilles Francoeur

MDDEP, juillet 2009, Politique de protection des rives, du littoral et des plaines inondables

MCI.- Alexandre Hébert. Mai 2009. *"Portrait de la législation environnementale, des meilleures pratiques et des bonnes idées émanant de l'ouest canadien et ayant attiré à la protection des eaux d'un lac comme le lac Memphrémagog"*.

MCI-RAPPEL. 2005 *Opération Santé du lac Memphrémagog. Rapport final*.

Meffe, G.K, and C.R. Carrol. 1995. Principles of Conservation Biology. Sinauer Associates inc.

Ministère des transports du Québec. 11*02-2004. *Fiche de promotion environnementale. Entretien d'été système de drainage nettoyage, nettoyage de fossés.*

Northern Vermont Resource Conservation & Development Council. *Better back road project* <http://www.vt.nrcs.usda.gov/rc&d/bbcoverpage.html>

Ouimet Bernard. Avril 2009. *Protection du territoire agricole et développement régional. Une nouvelle dynamique mobilisatrice pour nos communautés.*

Politique nationale de l'eau. Québec, 2002

Primack, Richard, B. 1998. Essentials of Conservation Biology. Sinauer Associates inc.

RAPPEL. 2003. *Lutte à l'Érosion*. Guide d'aménagement environnementale