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# Information Newsletter

Memphremagog Conservation Inc.

MAY 2017



50 YEARS of  
COMMITMENT

- The Lake patrol in ten dates
- Healthy Fitch Bay Project:  
Erosion on agricultural land  
and exotic invasive plants
- Conservation:  
Know your natural landscapes  
to better preserve them

# Yesterday, Today and Tomorrow

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819 620-3939

**MRC of Memphremagog Lake Patrol**  
819-620-7669 / 819-821-0435

**Environmental Emergency 24h.**  
1 866 694-5454

**Wildlife Emergency**  
1 800 463-2191

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# Message from the President

DEAR FRIENDS,

## YESTERDAY:

In 1967, Lake Memphremagog was rapidly degrading. Agriculture, residential development, logging, road construction, golf courses and a lack of waste water regulation were the major contributing factors.

Three visionary lakeside residents, Gordon Kohl, his brother Peter Kohl, and Herb Mitchell, took up the challenge and created Memphremagog Conservation Inc., better known today, some 50 years later, as MCI.

This was before the creation of the Quebec Environment department in June of 1979, and well before the concept of sustainable development was spelled out in the United Nations report (Our Common Future) by Norwegian Prime Minister Gro Harlem Brundtland, tabled in October 1987.

Let us honour our founders, the many presidents and members of the board of directors of MCI who have followed, as well as the hundreds of volunteers who have helped to improve the lake over the years.

Our 50 years history has been built on a combination of small steps and large battles. The road travelled is one of belief in a better world, and of the enthusiasm, continuity and tenacity of our efforts. You will find a history of our 50 years elsewhere in this newsletter.

## TODAY

MCI is proud of its beginnings, its constitution, its history, its accomplishments and of its 1,200 members. Today, MCI continues its work of promoting good environmental practices, being present in the six lakeside municipalities and taking an active role in the various regional and governmental organizations that defend the environment. Our Vermont partners the Memphremagog Watershed Association (MWA) and the Quebec Vermont Committee, a governmental entity made up of officials from both sides of the border, are especially important given that 75% of the lake's water comes from Vermont.

We have refined our practices over the years: our understanding of the lake has improved, our patrollers today are university graduates, our equipment is high quality, and we now have a base camp on the shores of the lake. However, our approach remains fundamentally the same: a search for credible scientific information, hard work and consistency in our research, and the implementation of practical and effective solutions on the ground. The state of our knowledge today allows us to work throughout the entire watershed.

## TOMORROW

We still face many challenges: increasing numbers of invasive species, climate change and its effects on the lake, development and the loss of natural landscapes, the multitude of large powerful boats on the lake, the reduced involvement of both the Federal and Provincial governments in lake protection, and more.



While our founders were visionaries, our current leaders are up to date with scientific and political issues. At the dawn of the next 50 years, we are renewing our commitment to pursue our mission, and remain a model of consistency and tenacity for our partners from many other lakes in Quebec.

Looking ahead, we remain optimistic and confident. Your Board of Directors is devoted and competent, and has several younger members. Our financial situation is stable and our projects are numerous and targeted.

After 50 years of existence, we will be tabling our strategic plan for the coming years at our annual General Meeting August 5<sup>th</sup> in Austin. We hope to see you there in great numbers!

## A HUGE THANK YOU

We would like to thank all of you who have generously helped us with your expertise, your time and your financial support. Members, the board of directors, patrollers, local mayors and counsellors, the prefect, municipal inspectors, professionals, neighbors, scientists, experts, government officials, media and all our other partners, we want to tell you "50 times - Thank you". 🍀

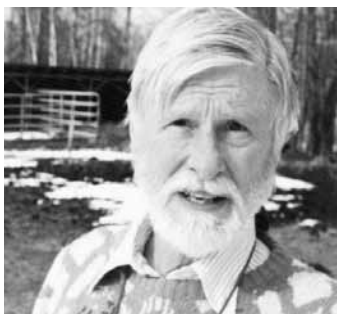
**Robert Benoit**  
*President*  
*Memphremagog Conservation Inc.*

# 50 YEARS of COMMITMENT to a healthy environment



## 1967: BECOMING AWARE OF THE PROBLEM

In a quiet corner of a bay on a calm day, the eye is attracted to a detail. One would swear that someone has poured turquoise paint onto the surface of the water. You have probably guessed that it is in fact a cyanobacteria, or blue-green algae bloom!



Because of this worrying spectacle, in 1967 Peter Kohl, Herbert Mitchell and Gordon Kohl decided to form an association to ensure the protection of Lake Memphremagog. The following year, Memphremagog Conservation Inc. (MCI), a non-profit organization, recruited 20 volunteers to sit on its Board of Directors.



Peter Kohl, Herbert Mitchell  
and Gordon Kohl, co-founders  
of MCI

At that time, there were no environment ministries at either the provincial or federal level and very few environmental organizations. Nevertheless, MCI forged ahead, and with contributions from its members, financed studies to better understand the lake. The first order of business was to find out just how polluted the lake was, especially given that both Magog and Sherbrooke drew their potable water from the lake (and continue to do so). In 1969, biologist Raymond Desrochers concluded that *"Lake Memphremagog's condition is such that immediate action needs to be taken to reverse the eutrophication (premature ageing) process that the lake is undergoing."*

## THE INITIAL ANTI- POLLUTION EFFORTS

The numerous deficient septic installations were identified as a major source of pollution of the lake. This became MCI's priority. A vast awareness program was undertaken with lakeside residents.

As well, MCI subsidized the municipalities so that they could hire septic inspectors, a program that continued until 1980. In fact, the first training programs aimed at inspectors in Quebec were held in collaboration with MCI. This era also saw MCI draft anti-pollution bylaws, which were subsequently adopted by many Townships municipalities.

## PUBLIC AWARENESS BECOMES A FULCRUM FOR ACTION

1972 marked the beginning of the Youth Patrol, which would become the Lake Patrol, still active today. The first priority for the students hired for the summer consisted of making the citizens aware of good environmental practices, managing more than 60 garbage cans distributed in public areas around the lake and doing shoreline cleanup.

Some decades later, the patrol gave presentations on the importance of protecting the environment to various day camps in the area. Perhaps some readers remember a theatrical performance given by the patrollers in costume! MCI's founders firmly believed that making citizens of all ages responsible for protecting the environment was important to achieving their goals. That is why public education has been part of MCI's mission from the beginning.

In the early 1980's, MCI participated in the 'Environment Wednesdays' held at the Cegep de Sherbrooke, during which discussions were held on pesticides' impact on the environment. In the same era, the organization collaborated with Radio-Québec to produce the film *Plan d'eau douce*, which examined the environmental problems in the watershed, i.e. the territory containing all the waterways which flow into Lake Memphremagog.



The big lake cleanup of 1973, an initiative of Opération Nettoyage Inc, with the active participation of MCI.



Photo: Opération nettoyage Inc.

With its code of ethics regarding aquatic activities on the lake, MCI hoped to encourage the values of quality of life and mutual respect among users of the lake. In 2003, this was one of the first documents of its kind to be published. Also with the objective of informing everyone of good environmental practices to protect the lake, in 2008 MCI produced a Watershed Residents Guide in the form of a short film done by Ismaël Auray. 1,200 copies of the DVD were distributed free to all MCI members, other lake associations and municipal officials.

## STRENGTH IN NUMBERS!

With so many ecosystems to protect and so many usages to balance, it was evident that all the actors involved could not continue working independently. In 1973, the Lake Memphremagog Committee was created thanks to MCI, to encourage collaboration in the fight pollution of the lake. The committee included representatives from the governments of Quebec and Vermont as well as from the cities of Magog and Newport. The first action proposed was the construction of sewage treatment plants in those American municipalities in the watershed with deficient treatment facilities.

The committee eventually evolved into today's Quebec-Vermont Committee, bringing together the two governments, MCI and the lakeside municipalities as well as the city of Sherbrooke, the Memphremagog MRC and the Memphremagog Watershed Association, MCI's American counterpart.

The *Fédération pour la protection de l'environnement des lacs* (FAPEL) was, from 1975 to 1991, an umbrella group of Quebec lake associations. Its strength

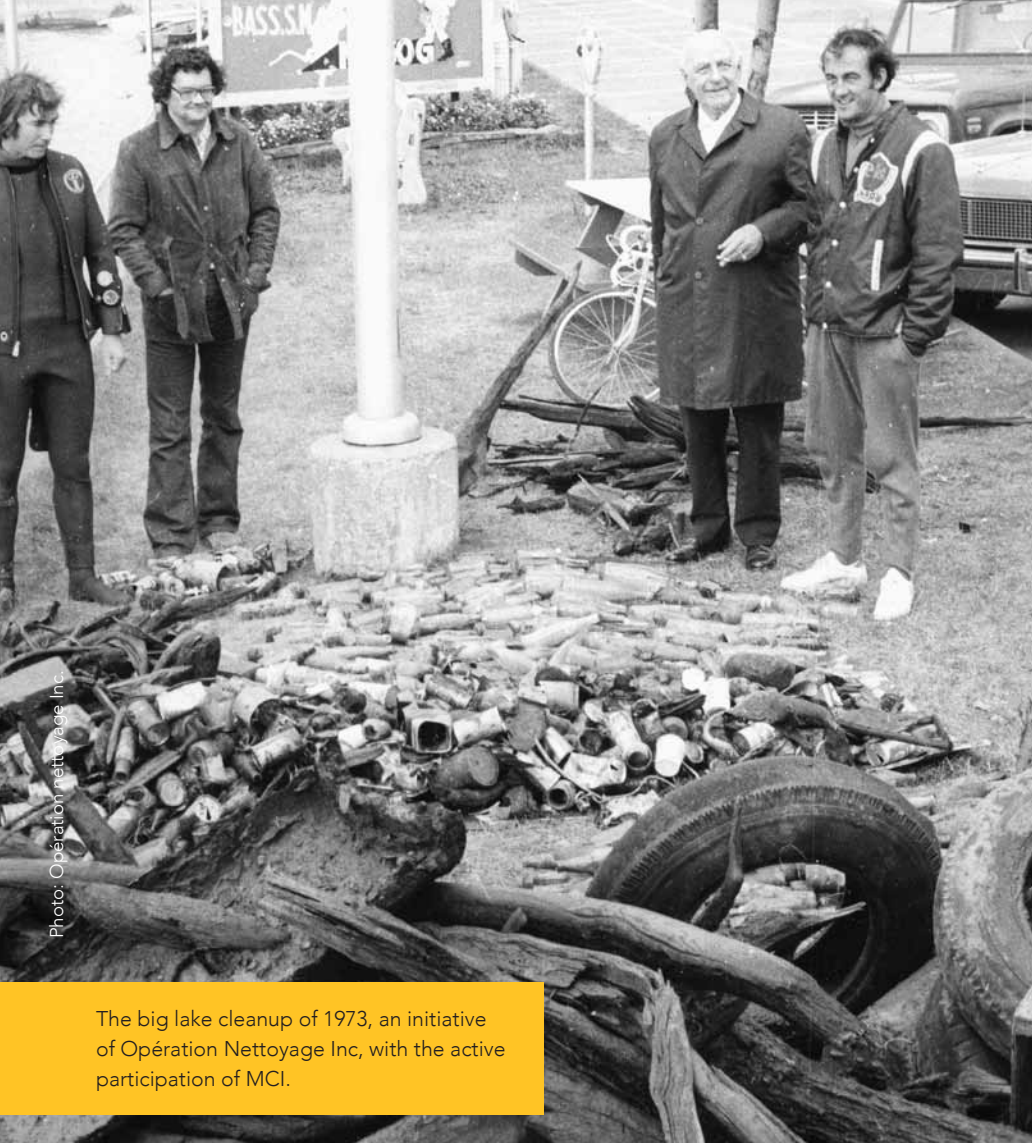
was the participation of citizens. MCI was one of its founding members. This dynamic organization worked hard to support lake associations and lobbied municipalities to take more responsibility for the environment. Moreover, over the years, FAPEL has become the *RAPPEL (Regroupement des associations pour la protection de l'environnement des lacs et des bassins versants)*.

Over the years, the directors of MCI have always sought fruitful collaborations to reach their goals. For example, MCI, in 1986, solicited the shoreline municipalities and the MRC to create a municipal relations committee to deal with the management of federal wharves. MCI continues to work with the same actors on projects such as the recent awareness campaign regarding boating etiquette.

As well, collaboration between MCI and the environment ministry goes back to the ministry's very beginnings and continues to this day. For 20 years our patrollers have been carrying out a water sampling on the lake, sending the samples to the environment ministry.



Since 1968, the annual general meeting has been an occasion for members to ask questions on subjects of importance to them and to have their say in the organization's direction.



The big lake cleanup of 1973, an initiative of Opération Nettoyage Inc, with the active participation of MCI.

## PESTICIDES NEAR THE LAKE? NO THANK YOU!

MCI got involved in the file regarding the herbicide 2-4-5-T in 1979. Known as a constituent of Agent Orange, it was widely used under power lines and road sides to control vegetation. While concern for human health and the environment over the use of DDT was increasing, MCI lobbied for in-depth studies and the banning of the pesticide. MCI's volunteers continue to work hard to make citizens aware of these issues and bring pressure to bear on the appropriate authorities.

Almost 30 years before the adoption of Quebec's Sustainable Development law, Gordon Kohl called for a policy later termed the cautionary principle and the right to a healthy environment. In his opinion, the absence of absolute certainty regarding the highly toxic effects of DDT did not justify putting

off actions to ensure the protection of ecosystems. Ahead of his time, would you say? You bet! The use of DDT was banned in Quebec in 1981.

## NUCLEAR WASTE? NO WAY!

Did you know that the US Department of Energy once considered a nuclear waste dump site in the region? Three of the sites most likely to be chosen were just the other side of the border in the Lake Memphremagog and Massawippi river watersheds. This was back in 1985, and MCI, aware of potential contamination of drinking water supplies, was quick off the mark to mobilize the actors concerned.

In response to the efforts of MCI and a citizens' committee, the 5 MRCs and 60 municipalities at risk, as well as several other organizations and private citizens, made clear their

opposition to the project. Following a series of public consultations and the sending of hundreds of letters, we learned to our great relief, that the Department of Energy had abandoned the possibility of a nuclear waste site in northern Vermont. This was a big victory for MCI and for the protection of Lake Memphremagog, but certainly not the last!

In the same period, MCI was instrumental in raising awareness of the harmful effects of the enlargement of two dump sites in the watershed, one on the Canadian side and the other on the American side. One of the two is now closed, and the other's expansion is being carefully controlled.

## SEWAGE TREATMENT: A LONG-STANDING PROBLEM

The 1990 adoption of rules controlling the discharge of sewage from pleasure boats was a big step forward for the improvement of the water quality of Canadian lakes. It is hard to imagine today that there was no requirement for boaters to ensure that their septic tanks were properly sealed and that they be emptied at an authorized pumping station.

This victory was the result of a long awareness and communication campaign. As early as 1969, Peter Kohl raised the problem with the Transport Ministry. In 1984, John Lynch - Staunton, MCI's president at the time, was quoted in the Sherbrooke Tribune that this issue would be MCI's principal battle for the year. The MP for Brome-Missisquoi, Gabrielle Bertrand, allied herself with MCI, adding her support for the cause. Today, 30 years after the adoption of the law, awareness of and respect for the rules are still problems.



## TOURIST DEVELOPMENT... NOT IF IT AFFECTS THE QUALITY OF THE WATER

Over the years, MCI has attended every public consultation which concerned the environment of the lake. In 1985, the hot topic was the issue of houseboats on the lake. That year, the owners of The Three Buoys chose Lake Memphremagog as the site for up to 100 houseboats. What they did not count on was the determination of the citizens to preserve the natural heritage of the region. There was much concern regarding the amount of garbage that would be generated, the complexity of managing their waste water, and the safety of other boaters.

Through their 'Friends of the Lake' ad hoc committee, MCI lobbied for a moratorium on the project until proper studies of the environmental and socio-economic impact could be carried out. A petition to this effect was signed by more than 6,000 people. Official resolutions against the project came from many sources, as did support for MCI's efforts. The promoters' economic arguments did not sway the citizens or municipal authorities to the environmental viability of the project. Magog's municipal council decided not to allow the project. Stewart Hopps was quoted in the press, saying 'It is the best outcome for all concerned'.

Another tourist project generated a major mobilization of citizens in 1992. The City of Magog planned to add sand to their three public beaches. The sand trucked to the site (the equivalent of at least 2,300 truck loads) would serve to cover the lake bottom as well as the shoreline; a retaining wall would be built to keep the sand in place.

However, as noted by various environmental organizations, this would have put the quality of the water at great risk. Periodic work with heavy equipment would disturb sediments, muddying the water, and

the change to the character of the lake bottom would drive away fish and other animals. MCI played an important role in the consultations held by the Bureau d'Audience publique en environnement (BAPE), tabling a memorandum and other documents detailing the likely effects on the natural environment. The government followed the recommendations, terminating the project.

## MOUNT ORFORD: THE FILE THAT QUEBECERS REMEMBER MOST

In 2004, the BAPE was charged with examining the proposed exchange of land within the limits of the park. MCI tabled a memorandum at the public hearings, revealing that the plan for the deforestation of a large area within the park could have serious repercussions on the water quality of Lake Memphremagog by increasing the quantity of sediments carried to the lake by the streams that flow through the park.

The organization's volunteers insisted that the *Parks Act* be respected, spent hundreds of hours at the public hearings and collected more than 80,000 signatures against the project. The MCI then took the leadership of the SOS Parc Orford coalition and received the support of environmental, political, social and union groups, 107 associations and 75,000 citizens. In short, the mobilization against the project was impressive! After five years of struggle, the SOS Parc Orford Coalition managed to stop the sale of 449 hectares of land and their reintegration into the national park.

Faced with this level of opposition, and the unfavourable opinion of the BAPE, the government announced the cancellation of the land swap in 2007.



The Cantons beach in Magog after a heavy rain: one can easily see the plume of sediment. Aerial photos like this, taken by MCI in 2008, are a tool to raise awareness of the problem of erosion.



## SCIENCE IN SERVICE OF LAKE MEMPHREMAGOG

In 2004, some 35 years after Raymond Desrochers' study, it was felt that an updated portrait of the lake's ecosystems was needed. MCI solicited RAPPEL's and the University of Sherbrooke's biologists and other professionals, under the leadership of Mr. Jacques Boisvert, to coordinate the *Operation Healthy Lake* project. Funded by the largest fundraising campaign in MCI's history, this study created a portrait of the entire shoreline and littoral of the lake. As noted by MCI's president at the time, Donald Fisher, this project was run entirely by MCI, in both countries at the same time, a first for MCI. It was, in fact, a major step towards the scientific grounding that the organization continues to follow today.

Since then, numerous studies have been carried out. Between 2008 and 2011, \$18,000 have helped finance studies of the water quality in the John and Black rivers. These Vermont rivers, due to their particular situation and flow volumes, have a significant impact on the quality of the lake's water. The research carried out by Dr. Fritz Gerhardt has led to the identification of problem areas, leading to restoration projects.

The report assessing the impact of wake boat waves on the shoreline has made waves of its own across the province since its appearance in 2014. Undertaken on lakes Memphremagog and Lovering by researchers from UQAM, the study dealt with a subject of increasing interest these days. The results show that waves generated by these boats near the shores have a significant negative impact on them.

Because of these conclusions, MCI is actively participating in an awareness campaign aimed at boaters (Follow the Wave) on good boating practices. In 2016, a coalition of the Lake Lovering Conservation Society, Blue Massawippi, MCI and other lake associations escalated the debate, making its case to local Member of Parliament and Cabinet Minister Marie-Claude Bibeau. MCI is following this dossier closely.

## TREES AND THE LAKE... A LOVE STORY!

Many of MCI's activities are aimed at increasing vegetation in the watershed. The free distribution of thousands of trees has become a spring tradition at MCI. Also, from 2008 to 2010, MCI financed the work of a biologist, who provided more than 150 free consultations to shoreline residents who wished to restore their



Exploring Fitch Bay with biologists in the summer of 2016. This is one of the activities of MCI to raise awareness of the rich biodiversity of wetlands and to share the results of its scientific studies.





One of several cyanobacteria blooms which appeared in 2008. That year, no fewer than 36 similar events were reported thanks to the vigilance of MCI's network of lake sentinels.

shoreline buffer zones. Parts of the beach at Weir Park, in Ogden, as well as Pointe Audet in Magog, were re-naturalised thanks to MCI volunteers and various partners, including the municipalities.

We now know that changes to natural landscapes, no matter where they occur in the watershed, have an impact on the quality of Lake Memphremagog's water. In 2010, the then president, Gisèle Lacasse Benoit, encouraged the organization to develop a new program: the conservation of natural landscapes. A committee was set up to inform property owners of the possibilities, and work with them through the entire process of protecting natural landscapes in perpetuity. The process is long, but in the end, has positive results. In fact, MCI has already contributed to the protection of 700 hectares of natural landscapes.

## 50 YEARS LATER, MCI IS STILL PURSUING ITS MISSION

Fitch Bay was already identified in 1969 as the area with the poorest water quality on the lake. In 2015, MCI undertook the *Healthy Fitch Bay: From diagnosis to solutions!* project, to identify the causes of this poor water quality and determine actions to improve it. This five-year project, supported by local municipal officials, brings together biologists, agronomists and students in various disciplines to do in-depth studies of the environmental problems and apply concrete solutions. MCI takes great pride in this project, which could not have been launched without the good relations developed over the years with the various actors in the region.

Without the vigilance and proactive work of MCI, its numerous partners and concerned citizens, it is likely that Lake Memphremagog's environment would be quite different today. We owe the successes of the last 50 years to the passionate work of the dozens of volunteers and the great generosity of MCI's members. Congratulations, and a big thank you especially to all of those who have contributed to making MCI what it is today. 🍀

Anaïs Messier, B.Env.



MCI thanks the Eastern Townships Resource Centre (ETRC) for privileged access to its archives.

*What has always impressed me about MCI is their understanding that the actions needed to protect and improve water quality and the environment in the Lake Memphremagog Basin do not stop at the Quebec-Vermont border but require that work be done on both sides of the border. MCI has been willing to put the energy and resources, including significant amounts of both time and funding, towards actions on both sides of the border, wherever they will do the most good.*

*I think fondly back to my time working with MCI - and to all my interactions with MCI - to achieve the bi-national effort needed to protect and improve the natural and human environment of the Lake Memphremagog Basin.*

**Fritz Gerhardt, Ph.D.**  
Conservation Scientist  
Beck Pond LLC

## MCI Board of Directors 2016-2017

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President

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**Anaïs Messier**  
Administrative Assistant

**Associates:**  
François Bélanger, eng.  
Madeleine Saint-Pierre  
Francine Hone, biologist  
Liz Goodwin



# THE LAKE PATROL: 45 YEARS and still GOING STRONG!

**1972:** The 'youth patrol' is inaugurated, employing a half dozen students from June to August to clean up the shoreline and provide information to residents.

**Around 1975:** The patrol maintains 60 garbage cans distributed around the lake. This becomes a mechanism for communication with shoreline residents.

**1980:** For several consecutive summers, the patrollers give 30 minute slide presentations to various audiences. They discuss the premature ageing of the lake, as well as MCI's actions to counter it.

**1996:** The Environment Ministry requests the services of the patrollers. Still today, they collect water samples and associated data, which are sent to the Ministry for analysis.

**2000:** The patrollers visit area day camps for the first time, holding workshops on environmental protection.

**2006:** The patrollers fly over the lake and its watershed, obtaining exceptional aerial photos of both.

**2010:** The patrol completes an inventory of boats on the lake. They count over 4,000 boats, including 2,100 motor boats.

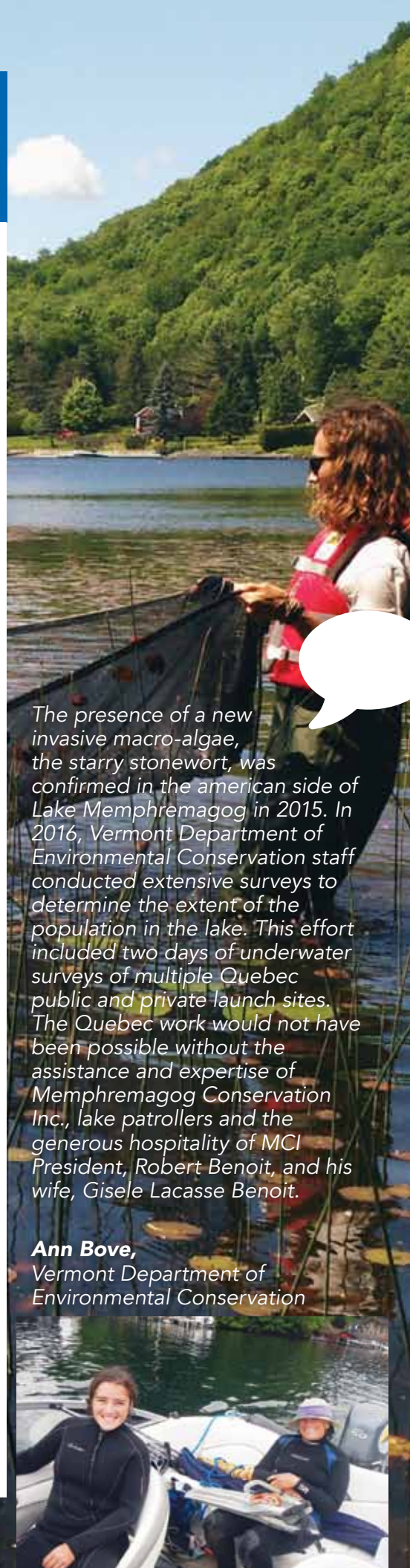
**2011:** The patrollers are now university students, hired from early May to Labour day. Each one carries out a scientific study, and thanks to the equipment lent to the patrol by the University of Sherbrooke and the MDDLCC, they add to our knowledge of the lake and its water quality.

**2012:** A collaboration is established with the Memphremagog MRC. The patrollers take water samples each summer from the tributaries entering the lake, allowing close monitoring of their health.

**2016:** For the past 10 years, the patrol continues to work closely with municipal inspectors and the MRC's nautical patrol. In particular, it mentions any problems encountered on the lake.

*The presence of a new invasive macro-algae, the starry stonewort, was confirmed in the american side of Lake Memphremagog in 2015. In 2016, Vermont Department of Environmental Conservation staff conducted extensive surveys to determine the extent of the population in the lake. This effort included two days of underwater surveys of multiple Quebec public and private launch sites. The Quebec work would not have been possible without the assistance and expertise of Memphremagog Conservation Inc., lake patrollers and the generous hospitality of MCI President, Robert Benoit, and his wife, Gisele Lacasse Benoit.*

**Ann Bove,**  
Vermont Department of  
Environmental Conservation





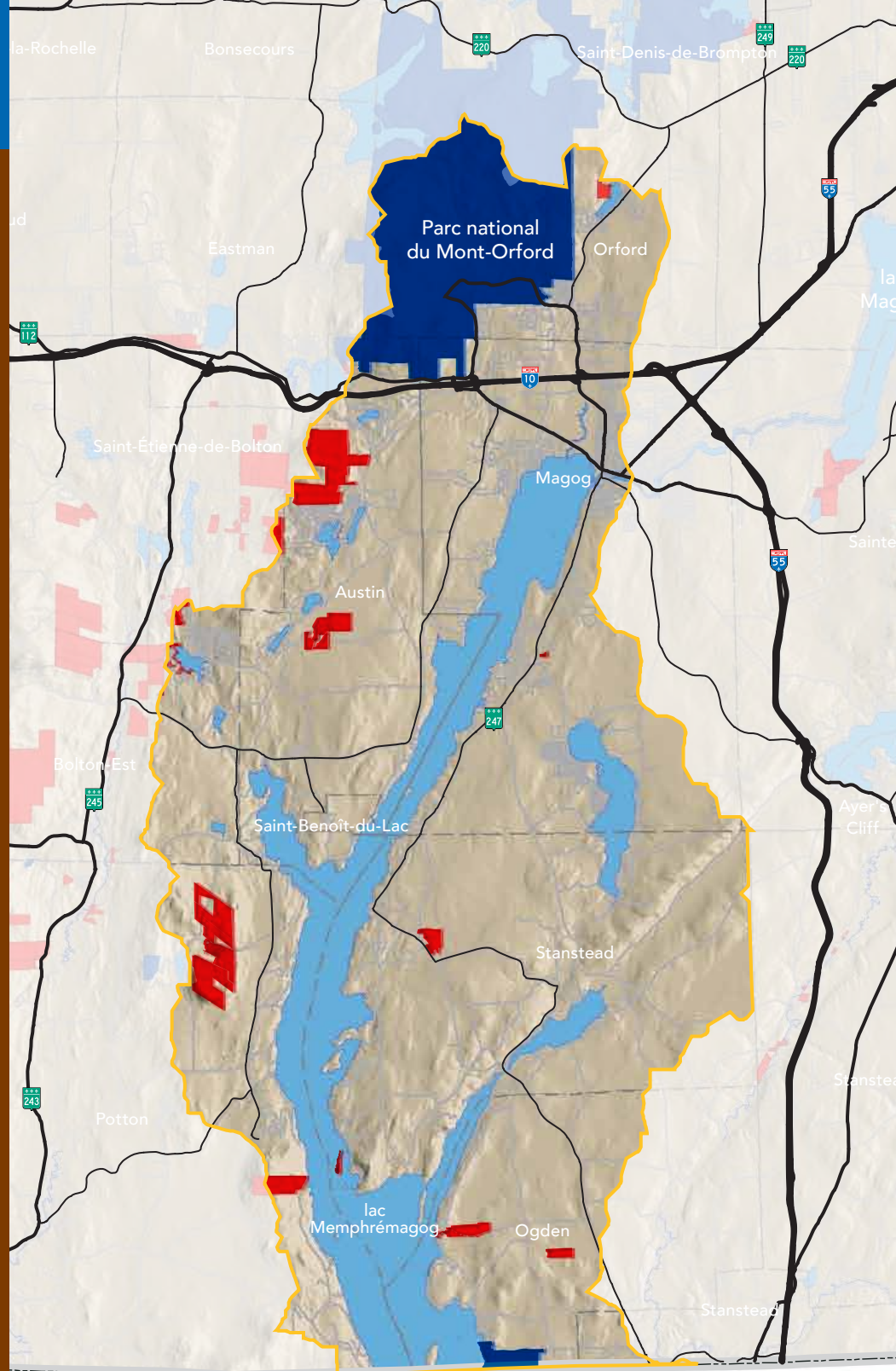
# PROTECTED LAND in the LAKE MEMPHREMAGOG WATERSHED

Since 2009, MCI has participated in the conservation of more than 700 ha of protected areas on private land in the watershed of Lake Memphremagog.

## MCI and the Appalachian Corridor:

*Working together to better protect the natural landscapes of the Lake Memphremagog watershed*

*As an affiliate member of Appalachian Corridor, MCI collaborates regularly with them. It is a solid partnership that began when MCI created its Conservation program. Appalachian Corridor's multidisciplinary team of a dozen employees shares their expertise in geomatics, ecology and conservation biology. Whether for the creation of a snapshot of natural landscapes, the delimitation of wetlands, or carrying out ecological evaluations, the Appalachian Corridor team is always willing to lend a hand towards our common goal: preserving the natural landscapes and the biodiversity of the Lake Memphremagog watershed.*



- Protected private land
- Protected public land
- Lake Memphremagog's watershed

This document contains geographic information from the following sources: Gouvernement du Québec. All rights reserved.  
Watershed: Centre d'expertise hydrique du Québec (2013)  
Protected lands: Appalachian Corridor (2016)

# KNOW your natural landscapes, to **better preserve them**

Lake Memphremagog and its watershed contain magnificent landscapes and a rich biodiversity. To preserve them, we must know them and their location. Several tools are available for this purpose, such as ecological inventories and wetlands delimitation.

## THE ECOLOGICAL INVENTORY

An ecological inventory will identify and locate flora and fauna present on the territory, noting any species at risk. It will identify the priority landscapes for conservation, inventory any exotic invasive species menacing the biodiversity, and allow for control efforts and follow up. In 2016, MCI carried out ecological inventories in the Tompkin's Creek and Cummins Bay areas of the watershed.

## THE TOMPKIN'S CREEK WETLAND, A LITTLE-KNOWN TREASURE

The Tompkin's Creek wetland, in the municipality of Ogden, is one of the largest wetlands in the Lake Memphremagog watershed. Nonetheless, its unique characteristics are little known! The ecological inventory carried out by MCI in 2016 was a first step towards a better understanding of its rich biodiversity and protection of its landscapes, so important for maintaining the quality of the water of the lake.



Photo: Isabelle Picard

Northern Dusky Salamander



William H. Majoros.  
Source: Wikimedia

Canada Warbler

## WETLANDS DELIMITATION

In terms of priority for protection, wetlands are at the top of the list, given their important role in maintaining water quality and biodiversity. Residential and urban sprawl are major menaces to these landscapes, which are especially vulnerable to disturbances such as agriculture or logging activities. Conservation measures need to be put in place to protect against current and future threats. Precise identification of these wetland areas is necessary to protect them. 🦋

**Ariane Orjikh,**  
*Biologist and General Manager*

## THE CUMMINS BAY EXAMPLE

In 2014, MCI prepared a conservation plan for the City of Magog, a baseline document used today in support of the revision of the city's urban plan. This work indicated that Cummins Bay, on the west side of the lake, was an area that required particular attention, given its ecological value. It contains important wetlands and large unbroken forest tracts threatened by various human activities. In the summer of 2016, in collaboration with Appalachian Corridor, the delimitation of the wetlands on the ground was completed. As well, to get to know any other natural landscapes of interest, biologist Isabelle Picard carried out ecological inventories of various locations in the area. The results give us a more precise picture of the ecological value of the area, allowing for better conservation planning, and orienting future development away from these sensitive areas.



Isabelle Picard, biologist

Cummins Bay



# Ogden's CONSERVATION PLAN

## AIMING FOR A BALANCE BETWEEN CONSERVATION AND DEVELOPMENT

Municipalities have an important role to play in the protection of natural landscapes and the environment. They are responsible for managing their territory, and have the power to plan its development while protecting natural landscapes.

Planning the development of a municipality, and integrating into it the protection of natural landscapes, is a difficult task. However, it is much more easily accomplished when sensitive and ecologically important areas have been identified. This year, MCI prepared a conservation plan for the municipality of Ogden, thanks to the financial support of the municipality and the Fondation de la Faune du Québec. This plan will aid them in their urban plan revision. By knowing which areas to target for conservation, they are in a better position to create balance between

conservation and development, and respond to today's needs without compromising the needs of future generations. With this kind of vision, they can offer their citizens a high quality of life in a healthy environment.

Integrating the conservation of natural landscapes and sensitive areas is an enormous challenge, but one that is certainly achievable. Look at the examples of Austin, Magog and Stanstead Townships: all three have integrated conservation into the revisions of their urban plans, a major change from the past, for which we commend them. 🍀

**Ariane Orjikh,**  
*Biologist and General Manager*



Fitch Bay and the Tompkin's Creek wetland

## Conserving the natural landscapes on your property: **Yes, you can!**

Private property owners can take concrete action to conserve their natural landscapes via private nature reserve status, or via long term agreements such as donation or conservation servitudes. Several property owners have already taken action and signed agreements protecting their land in perpetuity.

### MCI CAN HELP

If you hold dear the natural landscapes on your land and would like to protect them, several conservation options are available to you. Many of these options contain (or provide) fiscal or monetary incentives, such as tax receipts for the total of a donation to property tax reductions for a private nature reserve. MCI's conservation experts are happy to answer all of your questions. Our goal is to help you meet your conservation and financial objectives by developing a scenario that meets all your specific needs. Our experts can then guide you through the conservation process, step by step. For any questions regarding the conservation of your

MCI has been helping property owners conserve the natural landscapes on their land since 2009. This year MCI met with several property owners, and carried out ecological assessments to better understand, and thus protect their property. Several owners are ready to go ahead and work towards the conservation of their land.

property, you can reach us at (819) 340-8721 or by email at [conservation@memphremagog.org](mailto:conservation@memphremagog.org).

We would like to thank the following partners who contributed generously to our program: the Fondation de la faune du Québec and the Protéger nos habitats fauniques program, the City of Magog, the municipality of Ogden as well as the many generous private donors who value the preservation of the watershed and the quality of the water of Lake Memphremagog.

# Erosion on agricultural lands: **THERE ARE SOLUTIONS!**



Photo: Stéphanie Durand, CAEE

In the Townships, the hilly terrain and loamy soils make the region susceptible to erosion by water. On agricultural land, inadequate surface drainage and erosion can result in significant loss of topsoil, soil compaction problems and delays in field work. As well, soil erosion sends sediments and nutrients into waterways, and thus into Lake Memphremagog, encouraging silting of the lake and the risk of blue-green algae blooms.

There are several methods of preventing erosion on agricultural lands, both increasing fertility and generating important economic benefits for producers, all while improving the water quality in waterways and the lake. These techniques are generally fast, easy to implement, effective and inexpensive.



Photo: CAEE

Direct sowing

## DIRECT SOWING

Direct sowing is a technique which allows the sowing of a crop without tilling the soil. It is done as a single operation, i.e. sowing seed. The remains of the previous crop are left on the soil, covering it and protecting it from the impact of rain drops. As a rule of thumb, 30% of the crop residue left on the soil will prevent 70% of potential erosion (Guide des pratiques de conservation en grande culture, 2000).

## COVER CROPS

A cover crop is a plant sown during or after the growth period of a main crop, whose principal objective is to provide cover for the soil. It improves soil structure and water percolation, and thus reduces erosion of the soil.



Cover crop (winter rye-grass) between corn rows

Photo: Stéphanie Durand, CAEE



## HYDROAGRICULTURE WORKS

Hydroagriculture works aim to capture water before it develops sufficient velocity to free up and capture soil particles. Filtration wells, drains and sumps, and interception gullies are examples of hydroagricultural works which allow the evacuation of surface water via underground canals. 🌿

**Ariane Orjikh,**  
*Biologist and General Manager*

## ARE YOU A FARMER IN THE FITCH BAY SECTOR?

The Club Agroenvironnemental de l'Estrie offers free erosion analysis of your fields. They also provide information on erosion reduction techniques, and their agronomists provide help in implementing soil conservation practices.

## SOIL CONSERVATION PROJECTS IN AGRICULTURAL AREAS WITHIN THE FITCH BAY WATERSHED

MCI and the Club Agroenvironnemental de l'Estrie have undertaken a soil conservation project in agricultural areas of the Fitch Bay watershed. This project falls under the aegis of component 3.1 of the Prime-vert 2013-2018 program, and benefits from financial support from the Ministry of Agriculture and Fisheries (MAPAQ). The aim is to help agricultural producers in the adoption of soil conservation practices.

This program fits in well with MCI's Healthy Fitch Bay: From diagnosis to solutions! Project, which aims to improve the water quality in Fitch Bay and to conserve the biodiversity of its watershed. MCI, the municipalities and several other partners are working together to implement an action plan regarding all the activities that have an impact on the health of Fitch Bay. This includes boating, residential and farming practices, as well as the protection of natural landscapes. All the actors involved have been enjoined to act in protecting the health of Fitch Bay.



# Exotic **INVASIVE PLANTS** in our region

Why should we be concerned with exotic invasive plants? It is because they reproduce rapidly, and, given that they have no predators or diseases to stem their proliferation, they take the place of native, or indigenous, species. They can also deprive animals of habitat. For example, a wetland overrun with phragmites (European Common Reed) cannot support as many birds as a healthy wetland<sup>1</sup>. As well, these plants can impede certain activities; Eurasian Watermilfoil can invade swimming areas, making them unsuitable for swimming. The following is an overview of the most common exotic invasive plants found in the Lake Memphremagog watershed.



Photo: Stéphanie Durand, CAEE

## **PHRAGMITES** (European Common Reed)

This plant grows in ditches and other non-forested humid areas, slowly replacing cattails, and other species. Several phragmite colonies can be found in the Cherry River wetlands.



Photo: Stéphanie Durand, CAEE

## **GIANT HOGWEED**

This plant is known for the injuries caused by skin contact with its sap in the presence of sunlight. It can grow to 5 metres in height. It does not seem to be very present in the watershed but can spread quickly thanks to the thousands of seeds produced each season by a single plant.



## **EURASIAN WATERMILFOIL**

The stems of this aquatic plant break off very easily, which promotes its spread to new downstream sites. A 2015 MCI study showed that this plant is widely present in the littoral of Fitch Bay. Dense populations can also be found at the mouth of Castle and Chateau Brooks, respectively in Magog and Potton Township, and in Channel and Abbey Bays.<sup>3</sup>



Photo: Stéphanie Durand, CAEE

## **JAPANESE KNOTWEED**

Its hollow stems resemble bamboo. It is mostly found in ditches. This plant releases toxins that are harmful to other plants. Its roots can spread 7 metres in all directions horizontally and can be up to 2 metres deep. Thus, it is not surprising that it is very hard to eradicate!<sup>2</sup>

### **WHAT TO DO WITH EXOTIC INVASIVE PLANTS?**

1. Properly identify the plant, and avoid touching Giant Hogweed. The following web site is useful for identification purposes: [www.pub.mddefp.gouv.qc.ca/scc](http://www.pub.mddefp.gouv.qc.ca/scc).
2. Notify the Environment Ministry via the same web site.
3. Notify your municipality's environment inspector. If the plant is on your property and you wish to control it, be sure to respect local bylaws (particularly those regarding shoreline interventions).

### **HOW TO PREVENT THE SPREAD OF THESE SPECIES?**

- Pressure wash all boats and trailers before putting them in the water;
- Keep a close eye on your own residential property;
- Be aware of invasive species so as to avoid introducing them in your garden or aquarium;
- Avoid composting any part of an exotic invasive plant.





Installation of plastic and cover material.

## FITCH BAY AND ITS WETLANDS: A TREASURE TO BE PROTECTED FROM THE SPREAD OF PHRAGMITES

The colonisation of Fitch Bay by phragmites was noted in the summer of 2015. In August 2016, MCI and the municipality of Stanstead Township undertook a pilot project to control phragmites in Forand Park. A large number of plants were cut down by volunteers. The site was then covered with a heavy plastic, to prevent regrowth. East of the bay, other plants were cut off below the level of

the water, so that their stems would drown.

MCI will continue to closely monitor the evolution of the different colonies of phragmites in Fitch Bay.



Phragmite colony before being cut down.

## PATROLLERS ON THE HUNT...FOR INVASIVE ALGAE!



The 2016 patrol searching for the plant.

Starry Stonewort (*Nitellopsis obtusa*) was detected in the lake for the first time in 2015, on the American side. It has been spreading since then. To assess its possible presence on the Canadian side, the patrollers donned their snorkeling gear last summer and investigated 18 sites (marinas and boat ramps), accompanied by biologists from Vermont's environment department. Thankfully, none were found. 🍃

Anaïs Messier, B.Env.

## SOURCES:

1. Collin, G. 2015. « Le contrôle du phragmite (*Phragmites australis*) dans les milieux humides et ses effets ». Online: [http://savoirs.usherbrooke.ca/bitstream/handle/11143/6918/Collin\\_Genevieve\\_MEnv\\_2015.pdf?sequence=1](http://savoirs.usherbrooke.ca/bitstream/handle/11143/6918/Collin_Genevieve_MEnv_2015.pdf?sequence=1). Essay presented to the Environment and sustainable development Training Centre in the Masters of Environment (M. Env) program. Page consulted March 8 2017.
2. Espace pour la vie. S.d. « Renouée du Japon: véritable peste végétale ». Online: <http://espacepurlavie.ca/renouee-du-japon-veritable-peste-vegetale>. Ville de Montréal. Page consulted March 8, 2017.
3. Rivard-Sirois, C. 2005. Opération Santé du Lac Memphrémagog (Phase 1). 239 pages. MCI and RAPPEL.
4. Source of images: Creative Commons. Credit to Jonas Barandun for Japanese Knotweed. Credit to Jonathan Wilkins for phragmites. Credit to Jean-Pol Grandmont for giant hogweed.

# 10 Years of Success

By happy coincidence, as MCI celebrates its 50<sup>th</sup> year in 2017, our sister organization in Vermont, the Memphremagog Watershed Association (MWA), has also reached a major milestone. It is MWA's 10<sup>th</sup> anniversary this year. Since 2007, the two conservation organizations have enjoyed a high level of cooperation and carried out many joint projects for mutual benefit. In its relatively short history, MWA has developed its own dynamic and diverse program that is remarkable and distinct. MCI and MWA hold many common values. Both are not-for-profit, largely membership and volunteer supported organizations, dedicated to preserving a shared, healthy natural environment in the entire watershed of Lake Memphremagog. Maintaining good water quality is a priority for both organizations.

MWA's objectives are to promote ecological awareness, inform and educate the public, encourage participation in its activities, support a scholarship program, and work with other area lake associations. It also works with local, state, and federal governments, as well as with businesses to protect and improve the quality of life in the watershed. It participates in water quality monitoring of the lake and its tributaries, in the clean-up and re-naturalization of the shoreline and river banks, and in the protection of plants and wildlife.

With many partners and a membership of 100, MWA has accomplished many remarkable successes. For example, along with MCI, it has participated in the vital work of the Quebec/Vermont Steering Committee's multi-year international water sampling program to determine the lake's TDML (Total Maximum Daily Load of phosphorus), the key measure of its water quality. Also, MWA has carried out shoreline buffer zone plantings and clean-up activities, annual educational boat rides for Grade 3 students, field

trips, storm water checks and retrofit studies, training for Vermont Invasive Patrolling projects, outreach programs, cyanobacteria monitoring, Aquatic Invasive Species eradication as well as collaborated with other Vermont Lake Associations and with the Northwoods Stewardship Center.

The association has received grants for water quality monitoring and ecosystem restoration programs such as the Illicit Discharge Detection and Elimination (IDDE) study of the municipal storm-water systems in the watershed. MWA has also been involved in the Better Backroads program and it works closely with the Vermont Fish & Wildlife Department on stewardship and management of the Eagle Point Wildlife Management Area in Derby, Vermont.

Clearly, MWA has been an outstanding success. It is an exemplary leader in conservation in the Northeast Kingdom and a strong partner for MCI in our joint efforts to protect the natural environment of the watershed, thereby improving the lives of living things, both in Vermont and Quebec. We wish to congratulate MWA President Mary Patricia Goulding, her Board of Directors and their predecessors for their many accomplishments. MCI is looking forward to the next decades of our cooperation. 🍀

**Tom Kovacs**  
MCI Vice President

*COGESAF would like to extend their warmest congratulations to Memphremagog Conservation Inc. on their fifty years of existence. The example set by the MCI and its volunteers in the fight for clean water make them a valuable ally. The Lake Memphremagog watershed is a jewel of the Eastern Townships, and MCI is working hard to preserve it. MCI's collaboration with COGESAF is greatly appreciated. Whether by its participation in the CLBVM Memphremagog, in the Quebec-Vermont Committee for the management of the waters of Lake Memphremagog and its watershed, or by its modeling of phosphorous sources, MCI's important role in the preservation of the quality of the water cannot be denied. We congratulate you and wish you a long future.*

**Stéphanie Martel**, General director of COGESAF  
(Conseil de gouvernance de l'eau des bassins versants de la rivière Saint-François)





# Our municipalities Our partners



The City of Magog is proud to have counted on Memphremagog Conservation Inc. (MCI) over the years to protect this precious natural resource that is Lake Memphremagog. Your sustained efforts have contributed to achieving the objectives of our strategic plan for conserving our natural landscapes and waterways. Thank you to your members and volunteers. Your concerted actions have ensured or supported the preservation of the quality of this source of drinking water. May you continue your efforts, and we look forward to relying on your expertise and commitment for the coming 50 years!



## OGDEN

The Municipality of Ogden has enthusiastically co-operated with the dynamic leadership of MCI in adopting the strictest legislation to protect Lake Memphremagog from shoreline erosion and water contamination.

The joint MCI-Ogden project at Weir Park demonstrates an ideal natural shoreline restoration acting as an example for the general public to emulate.

The recent thorough research by MCI with Ogden's blessing, aimed at reducing the pollution in Fitch Bay is greatly appreciated by Ogden and its citizens.

Congratulations to MCI for 50 years of action in an admirable cause.

## HAPPY BIRTHDAY TO MEMPHREMAGOG CONSERVATION!

For their 50<sup>th</sup> anniversary, the municipality of the Township of Potton would like to recognize MCI for the improvements they have brought, in collaboration with the municipality, to the management of Lake Memphremagog and its watershed. MCI has made the citizens aware of the problems facing our lake and their impacts on the water quality. Some examples: the distribution of shoreline shrubs and trees arranged between the Memphremagog MRC and Potton over the past few years, conferences on the ecological management of lawns and their alternatives, training of local contractors and municipal employees on the ecological management of ditches, installation of signage explaining why it is not appropriate to feed waterfowl, and finally, the inspection of the shorelines to identify property owners who do not respect the bylaws regarding shoreline buffers, and to make them aware of the dangers of erosion, especially on steep slopes.

As part of MCI's anniversary celebrations, the municipality of Potton Township would like to emphasize its association with them, and congratulate them on their 50 years of efforts.

**Edith Smeesters,**  
*Municipal Counselor in Potton  
and president of the Sustainable  
Development Consultative committee*



Retention pond as part of the ditch work on the Sugar Loaf Pond Road.



## 50 YEARS ALREADY?

Warm congratulations to MCI from the municipality of Austin for its 50 years of commitment to protecting our majestic Lake Memphremagog. From the first alarms sounded 50 years ago, to the myriad awareness, training, learning and mobilization activities of today, you have done, and continue to do admirable work.

In the name of all the citizens of Austin, bravo, thank you and may you continue your work for many years to come!

**Lisette Maillé**  
*Mayor, Municipality of Austin*



Thanks to their devoted team and their expertise, MCI has been a valued partner of the municipality for many years. More recently, our partnership in the Healthy Fitch Bay project has allowed us to combine our forces to better protect Fitch Bay, one of the jewels of the region. We hope that this collaboration will continue, for the benefit of current and future citizens of the municipality of Stanstead Township.



It gives us great pleasure to highlight MCI's anniversary, and their contribution to the protection of majestic Lake Memphremagog and its watershed over the past 50 years. Over the past half century, many projects have seen the light of day and valuable links have been formed with the collectivity that is the MRC. May your future be filled with success!

**Jacques Demers,**  
*prefect of the Memphremagog MRC*



## HERITAGE CIRCLE MEMBERS

Abbott, William	Caron, Trevor H.	Desjardins, Jean-Guy	PALPLUS INC.	Spencer, Norman
Anthony, Karen	Clinique médicale Dupuy & associés inc.	Desmarais Jr., Paul	Lacasse Benoit, Gisèle	Straessle, Tony
Arbuckle Fisher, Alison	Coughlin, Peter F and Elizabeth Paulette-Coughlin	Dumont, Jean	Landry, Jean-Luc	S.E.C., The Memphremagog Golf Club
The Bannerman Family Foundation	Couture, Martin	Eakin, Gael	Marcon, Loretta	Talon, Jean-Denis
Benoit, Robert	Cyr, Joanne	Fondation Huguette et Jean Louis Fontaine	Milne, Catherine A.	Thorburn, Cynthia Caron
Bombardier, J.R. André	Davidson, Howard	Fondation Howick	Mitchell, William	Wilson, Janet & Dr. Michael Quigley
Albert Brandt CTR. Imm. Inc.	deLange, Andrew J	Ivory, Joan F.	Perrault, Charles	
		Ivory, Sarah et Mr. Guthrie Stewart	Savard, Guy	
			Sirois, Sean	

We would like to thank the municipalities of Austin, Magog, Stanstead Township, Potton, the Abbaye Saint-Benoît-du-Lac and Ogden for their financial contributions.

## IMPORTANT DATES FOR 2017!

**May 5<sup>th</sup>:** Start of the Lake Patrol season

**May 20<sup>th</sup>:** MCI's 50th anniversary cocktail party at the Hermitage Club, with honorary co-presidents Mrs. Clémence Desrochers and Mr. Donald Sutherland.

**End of May:** Planting of a tree (an oak tree with a commemorative plaque for MCI's 50 anniversary) at the town halls of each of the 6 Canadian municipalities bordering the lake.

### Tree distribution:

**May 26<sup>th</sup>** Ogden Town Hall,  
**May 27<sup>th</sup>** Austin General Store, Park Forand, Fitch Bay, Stanstead Township,  
**May 28<sup>th</sup>** Magog LAMRAC

**June:** Launching of Volume 2 of *Memphremagog, An Illustrated History* by Louise Abbott on the history of Lake Memphremagog

**July 1<sup>th</sup>:** Patrol kiosk at Canada Day celebrations in Georgeville

**August 5<sup>th</sup> :** Canada's 150 years anniversary Stanstead Township

**August 5<sup>th</sup>:** MCI's Annual General Meeting (Austin Town Hall)

**August 12<sup>th</sup>:** Kayak excursion in Fitch Bay, accompanied by biologists, leaving from Park Forand

**September 30<sup>th</sup> and October 1<sup>th</sup>:** MCI booth and conference, Foire Écosphère in Magog.