

Lake Champlain Basin Program  
Steering Committee Meeting  
Tuesday July 18th, 2006 Montpelier, VT

**PHOSPHORUS REDUCTION IN MISSISQUOI BAY 2003-2009 ACTION PLAN**

**Executive Summary 2005-2006 Annual Report**

In 2005-2006, the Ministry of Sustainable Development, Environment and Parks and its partners invested more than \$1.2 million in various activities, i.e., application of the *Agricultural Operations Regulation (REA)*, implementation of Best Management Practices to reduce nonpoint source pollution, acquisition of land to create protected areas and finance research programs. The Ministry itself invested nearly \$600,000 to accelerate the cleaning up of the Missisquoi Bay.

Within the Program to develop private network of protected areas, the Ministry and its partners made it possible to protect 10 territories in the Missisquoi Bay Watershed covering a total of 815 ha for an investment of more than \$1.5 million since 2002.

**Regulatory Program**

Within the survey of the farm-by-farm to ensure compliance with the REA, the Centre de contrôle en environnement du Québec (CCEQ) intensified its interventions throughout the Missisquoi Bay Watershed, including the Estrie region, regarding all livestock production and manuring locations. The initial operation expected to inspect 550 farms, but 790 inspections were carried out, i.e., all farms located in the basin of the Bay. Moreover, the CCEQ inspected 74 of the 83 farms classified as non-compliant during the first visit. Following these 74 inspections, 15 notices of infraction were served for various rules of the REA.

Furthermore, the Ministry implemented a Individual Wastewater Treatment Systems Program, particularly commercial and institutional septic facilities. The CCEQ pursued the program to check the facilities' compliance in 60 establishments that will have been visited for the two years of the inspection program, i.e., all facilities in the basin of the Bay. The CCEQ intervened a second time with six establishments that were classified as non-compliant, one of which was reported to our Investigation Department.

**Soil Conservation and Stream Restoration**

Through the Canadian Agriculture Strategic Frame, the Ministry of Agriculture, Fishery and Food (MAPAQ) estimates that about 32 new agroenvironmental Agr-environmental support plan (PAA) were created and 95 follow-ups carried out by

six agroenvironmental clubs to help farms manage nutrient rationally, reduce pesticides use and adopt soil and water conservation practices. MAPAQ also helped eight farms improve manure management and ensure adequate storage within the Program Prime-Vert.

To restore and ensure the protection of the streambanks, MAPAQ initiated the creation of windbreaks on about 2 km in the subwatersheds of the Brochets River.

MAPAQ, in collaboration with its partners (Dura-Club and Coopérative de Solidarité), invested more than \$500,000 to support the implementation of Best Management Practices.

### **Water Quality Program**

Within the framework of the Vermont-Québec agreement on phosphorus (P) reduction in the Missisquoi Bay, the Ministry ensures since 1998 the monthly sampling of water quality at 11 stations for 20 samples involving the major tributaries of Missisquoi Bay. The stations are located on the watercourse, at their point of entry to Québec or return to Vermont, so as to follow the quality of the water and calculate P contributions (loads) on both sides of the border. An analysis of the 1979-2004 chronological data series of the Pike River detected a downtrend in P concentrations. Computing the P contribution for the wastewater pre-decontamination (1979-1995) and post-decontamination (1995-2004) period revealed a drop on the order of 25 kg of P/day attributable to the reduced urban (10 kg of P/day) and industrial (15 kg of P/day) source contribution. Despite growing agricultural pressures between 1991 and 1996, nonpoint source P contribution remained stable. These preliminary data were given in the LCBP Lake Champlain "State of the Lake" report in 2005.

The Cyanobacteria Monitoring Program (7 samples) was carried out. The Region Health Department (DSP) issued a beach closing advice only for Saint-Armand (eastern section of the Missisquoi Bay) to inform and protect the population. Brochures and posters were distributed to the lakeside population to inform them and make them aware of cyanobacteria. A guide has been produced to identify algal blooms in the field and differentiate them from other algae.

### **Community Involvement**

Missisquoi Bay Watershed Corporation (CBVBM) have to elaboration of a Water Plan (Plan Directeur de l'eau) and has received a \$65,000 grant from MDDEP especially for its production. Following public consultation and until now, three issues and 12 policies have been adopted. The Plan is being revised. Phase I of the four phases Elementary School Educational Program has been developed and launched for the 2005-2006 school year with the support of the Lake Champlain Basin Program (LCBP) and local partners. Six English brochures about the various Missisquoi Bay issues, 2000-2005 Report of the Action Plan of

CBVBM and four LCBP posters translated in French have been produced with the Ministry's participation and financial support.

Following the evaluation of the cyanobacteria control measures taken within the framework of the BAPE program, a cyanobacteria control pilot project is being implemented, in collaboration with the CBVBM and MDDEP. In 2005-2006, the harvesting of beached water plants and composting were carried out with the financial support of the MDDEP for an amount of \$15,000.

### **Research and Development Projects**

The Ministry granted \$49,000 financial assistance within the framework of the Programme de gestion en milieu agricole (Farm Management Program) to Institute of Research and Development in Agroenvironment (IRDA) to identify the steps necessary to meet the objectives of reducing phosphorus contribution from agricultural sources in the Missisquoi Bay set within the framework of the Québec-Vermont Missisquoi Bay Agreement. The second project development phase was carried out to support the modeling of agroenvironmental intervention scenarios.

Developed agroenvironmental scenarios aim at supporting the development of the agricultural section of the Missisquoi Bay Water Plan and the implementation of agroenvironmental interventions (farming conservation practices, surface runoff control structures, conversion of vulnerable areas into permanent grassland, etc.) at the individual farm scale in the Missisquoi Bay Watershed.

### **Québec-Vermont Agreement**

Vermont and Québec have intensified their collaboration within the framework of the implementation of the agreement. Québec continued its activities as provided in the 2003-2009 Action Plan on phosphorus reduction specific to the Missisquoi Bay. This plan was carried out in partnership with the MDDEP, the MAPAQ and the Ministry of municipal Affairs and was translated into English for our American Partners. Presentations were made by the MDDEP concerning agricultural regulations and by the MAPAQ for Prime-Vert to the Vermont Department of Agriculture. Later, exchanges took place on the operation of the agroenvironmental clubs with the MAPAQ. Vermont is initiating its first club with the agricultural producers of the Missisquoi Bay Watershed.

Québec also participated in the production of the Lake Champlain "State of the Lake" report with LCBP and to the presentation of the First Lake Champlain Farm Awards to three farms from the States of Vermont and New York as well as Québec, i.e., Fraisière Rougi et fils Inc in Sainte-Sabine.

Finally, CCEQ collaborated in the renewal of emergency agreements concerning Lake Memphremagog and Lake Champlain that will be signed in 2006.

## **International Joint Commission**

The International Joint Commission (IJC) announced in June 2004 the creation of the Missisquoi Bay International Task Force. This group, made up of two United States members (one federal government representative and one Vermont representative) and two Canadian members (one federal government representative and one Québec representative, in this case a Ministry representative), studied the transboundary repercussions of the Alburg-Swanton bridge. The IJC also held public information sessions on August 25, 2004 in Québec and August 26 in Vermont, to hear the population's concerns. These sessions revealed general support for complete removal of the causeway.

On March 31, 2005, the International Joint Commission issued a press release and published its report entitled "Transboundary Impacts of the Missisquoi Bay Causeway and the Missisquoi Bay Bridge Project," whose main conclusions and recommendations were:

- the IJC supported the conclusion of the Task Force that removal of the causeway would have only negligible repercussions on the concentrations of phosphorus in the bay, but also recognized the importance of the predominant opinion among local residents that the causeway contributes significantly to the Bay's problems
- the IJC recommended that the governments of Canada and Québec contribute an amount equivalent to the cost of removing the causeway (about \$1.5M) and that of initiatives aimed at reducing the concentrations of phosphorus in the Missisquoi Bay and Lake Champlain and repair the spiny softshell turtles' habitat

Vermont has announced its intention to respect the IJC's recommendations and developed a process of assessment of the impacts of the removal of both the Missisquoi Bay causeway and the Carry Bay causeway.

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