

REGENERATION AND RESTORATION OF THE TROIS-LACS LAKE



ISSUE: Building on the environment

ITINERARY 2B

Date: Wednesday, September 11, 2013

Location: Mount Ham

PROMOTER

Karine Thibault, Intermunicipal Management Board for the Restoration and Preservation of the Trois-Lacs Lake

Presentation of the issue:

Due to the many activities on its banks and in its watershed of over 500 km², the Trois-Lacs lake is undergoing premature ageing. Every year, tons of sediment end up in the water, creating a significant accumulation which, in turn, causes the proliferation of abundant aquatic plant communities that are damaging to the touristic activities and to the quality of the habitat. Therefore, hydraulic dredging work for the removal of sediments is being tested on different areas.

Project description:

Established in 2007, the Intermunicipal Management Board for the Restoration and Preservation of the Trois-Lacs Lake (RIRPTL) became the official sponsor of the restoration project, bringing together within its board different riparian municipal authorities of this body of water (MRC des Sources, MRC Arthabaska, City of Asbestos and the municipalities of Wotton, Saint-Rémi-de-Tingwick and Tingwick).

The project entails the execution of hydraulic dredging work towards the removal of the layer of muddy sediments in which the plant communities are rooted. Hydraulic dredging is recognized as having the least impact on the ecosystem approach. The work is performed on twelve predetermined sectors covering an area of 164,455 m² (14% of the coastal area, 0-2 meters deep).

This work is part of a larger plan to restore the watershed of the Trois-Lacs lake. Although many actions have been taken to reduce the input of sediments into the lake, control of the various sources of erosion will require continued efforts over several years, from all stakeholders. Moreover, a water management master plan for the watershed was adopted in 2010 to establish a list of preventive interventions to be implemented on the territory. However, to prevent the lake from deteriorating further and reaching a stage too far advanced, curative actions directly in the water are also needed. Thus, these actions are reflected by the removal of sediments by hydraulic dredging.

The key elements to remember according to the promoter:

The major factor that led to the materialization of this initiative is undoubtedly the result of the community mobilization vis-à-vis the degradation of its natural environment. This was made possible by its willingness to speak positively for the project during the hearings and by the adoption, by the Association in 2006, of a special tax plan to facilitate the realization of the work. Nearly one million dollars were raised by this plan.

Today, thanks to the resilience of our team and the members of the RIRPTL, we can continue the work planned for the third year, in 2013.

RESEARCHER

Rosa Galvez-Cloutier, Université Laval | E-mail: rosa.galvez@gci.ulaval.ca

Summary of the researcher's presentation:

Mrs. Galvez recalls the impacts of pollution on our lakes, impacts that are physical, chemical, biological and toxic. She explains the principles that should guide the development of a rehabilitation plan and the objectives to keep in mind (see section of the key elements to remember).

She presents, supported by field data, the results of various techniques:

- dredging (hydraulic and mechanical) and recovery;
- coagulation and active capping.

The key elements to remember according to the researcher:

underlying principles of a rehabilitation plan:

- protection of human health and the aquatic ecosystem;
- respect for the principles of SD (reduction at the source, elimination within the territory, permanent solution, etc.);
- restoration plan taking into account the entire watershed (surface and underground);
- priority for in situ actions;

objectives to strive for:

- assess and understand the streamflow/hydrogeological regime of the watershed;
- identify the sources, study the contaminants and their interactions;
- establish an action plan and timetable;
- deliver innovative and ecological solutions (eco-engineering).

QUESTION PERIOD

Questions for Mrs. Karine Thibault, Intermunicipal Management Board for the Restoration and Preservation of the Trois-Lacs Lake

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Q.: How far can the human intervention go, since some phenomena are naturally occurring?

A.: Because today, everything happens faster than before, and there is consequently, additional debris & erosion.

Q.: Does the regulation apply to the entire area of the lake?

A.: Yes.

Q.: What do you think of electrocoagulation treatments?

A.: They are too expensive, only offered by the private sector and are just another way to set a standard.

Q.: Since this method (electrocoagulation) uses heavy metals (aluminum), is there a potential health impact?

A.: Yes, we already recognize that aluminum can be a cause of Alzheimer's.

ADDITIONAL DOCUMENTATION

NOTE: All linked documents (PowerPoint, Prezi, etc.) are only available in their original French version.

[PowerPoint from Karine Thibault, Intermunicipal Management Board for the Restoration and Preservation of the Trois-Lacs Lake](#)

[PowerPoint from Rosa Galvez-Cloutier, Université Laval](#)