

FOR EFFICIENT WATER USE AND CONSERVATION MEASURES ADAPTABLE TO CLIMATE CHANGE FOR THE ST-LAWRENCE WATERSHED



photo : François Anctil, Université Laval

Program
WATER RESOURCES

PROJECT STARTING DATE
AND LENGTH
February 2011 • 1 ½ years

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CONTEXT

As part of the application of the Great Lakes–St. Lawrence River Basin Sustainable Water Resources Agreement of 2005, Quebec is currently developing a government program for the conservation and efficient use of water for the part of Quebec covered by the Agreement. However it is expected that climate change will alter the quantities and temporal distribution of available water, making some areas and sectors of activity in the watershed more vulnerable. It is therefore necessary to identify measures for the conservation and efficient use of water that will be adaptable to climate variations over the coming decades.

OBJECTIVES

This project will propose particular adaptation measures in response to climate change to support the Quebec government's program for conservation and efficient use of water in the parts of Quebec covered by the Agreement. More specifically, the goal is to pinpoint the regions and sectors of activity where the demand for water is likely to increase, identify the appropriate adaptive measures, and finally, propose modalities for implementing these adaptation measures.

APPROACH

Climate analogs from North America will be identified and used to take into account the appropriate management modes for the climate conditions expected to prevail in various regions of the St. Lawrence River basin affected by the Agreement. In addition, an exhaustive literature search for volumes and consumption coefficients (percentages of water not returned to the rivers) will clarify current and future changes in demand. Such consumption coefficients partially take into account climate as well as the economic and cultural aspects of each region. Finally, adaptation measures will be selected based on the best practices listed in the literature by focussing on the regions identified as climate analogs to areas affected by the Agreement.

EXPECTED RESULTS

This project will make it possible to provide the following results to help in the implementation of adaptation measures:

- Description of the areas and the sectors of activities targeted in the project;
- Assessment of current water demand, using the relevant consumption coefficients;
- Description of the future climate in the St. Lawrence watershed and identification of climate analogs and the future change in demand for water in the sectors considered as vulnerable;
- Inventory of adaptation measures underway or planned in the context of climate change.

These results and associated recommendations will be available in a final report.

LEAD SCIENTIST

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OTHER PARTICIPANTS

- Centre d'expertise hydrique du Québec (CEHQ)
- Ministère du Développement durable, de l'Environnement et des Parcs (MDDEP)

IMPACT

First of all, the project will help the MDDEP in developing its program for the conservation and efficient use of water, by studying the repercussions from climate change impacts on water availability. The results will also enable municipalities, industries and other stakeholders concerned with water usage in the areas affected by the Agreement to prioritize their actions regarding the application of measures aimed at protecting the water resource. The government program could also be adapted to the rest of the province of Quebec.

FUNDING

