



GREATER LAKES

Reconnecting the Great Lakes Water Cycle



March 2015

About the Project

A team led by the Great Lakes Commission is working with communities in the United States and Canada to identify and test the ecological and financial rationales for pursuing water conservation and green infrastructure practices, and pilot how this information can drive better water management throughout the Great Lakes region.

An Integrated Water Management approach is being pursued, recognizing that to be effective in the Great Lakes region, all water streams – municipal supply, stormwater and wastewater – must be part of the equation. In addition, the audience for the project is looking beyond that of traditional water conservation strategies and engaging multiple departments within city/municipal government including finance, planning, engineering/construction and green infrastructure.

The team is piloting these approaches in six communities (three in the U.S., and three in Ontario):

- Township of Lyons, Michigan
- Township of Commerce, Michigan
- Southwest Oakland County, Michigan
- Regional Municipality of Waterloo, Ontario
- City of Waterloo, Ontario
- City of Guelph, Ontario

These communities extract water from a variety of ground and surface water sources and face challenges – such as the overuse of groundwater supplies, stream impacts from water withdrawal and discharge, and impacts related to stormwater runoff – that are common throughout the Great Lakes basin.

A detailed impact and infrastructure assessment is being conducted in each of the six pilot communities. This includes

- developing a set of management actions for each community that will reduce environmental impacts and decrease costs;
- tracking the rate at which the pilot communities implement the recommended actions and calculating the environmental and financial impacts; and
- creating and testing a series of knowledge transfer strategies that will help communities teach other communities.

The team will transfer the tools created in the pilots to communities throughout the Great Lakes basin. New communities of practice will be created around the most promising techniques that have ecological importance and basinwide applicability.

Results of Integrated Water Management

Not only have water conservation and efficiency programs led to a decline in water use; they also have led to reduced costs for supplying water and handling wastewater.

Water conservation and efficiency programs reduce the need to pump, treat and deliver water to customers and decrease the amount of water being treated in wastewater treatment plants. Also, decreased water use in homes reduces the energy costs to heat the water. These in turn reduce the energy consumption and greenhouse gas emissions associated with these processes.

For example, the Greater Lakes project evaluated Guelph, Ontario's, many water conservation and efficiency programs using the Alliance for Water Efficiency's Conservation Tracking Tool and came up with some significant findings. Taking the entire portfolio of programs into consideration, the city is saving nearly *six times* that of the program costs. The City of Guelph estimates that the per liter cost of supplying water from new water supply and wastewater treatment infrastructure is approximately twice as costly as saving a liter of water through conservation and efficiency.



Great Lakes
Protection Fund

For more information on this project, visit www.glc.org/projects/water-resources/greater-lakes;
or contact John Jackson, jjackson@web.ca, 519-744-7503; or Victoria Pebbles, vpebbles@glc.org, 734-971-9135.

Funded by the Great Lakes Protection Fund.