4.0 What is Being Done to Improve Conditions

In an effort to restore and preserve the Great Lakes, legislators, managers, scientists, educators and numerous others are responding to environmental challenges with multifaceted solutions. The responses and actions referenced here are intended to serve as examples of positive strides being taken in the Great Lakes basin to improve ecosystem conditions. Examples from both Canada and the United States and from each of the Great Lakes are included. There are many more actions that could have been recognized in this report. Each is an important part of our collective commitment to a clean and healthy Great Lakes ecosystem.

Canada and the United States implement numerous actions across the basin at national, regional and local scales. For example, in Ontario, the City of Toronto is addressing water pollution through the Wet Weather Flow Management Master Plan, a long-term solution to reduce pollution from stormwater and combined sewer overflows.

Communities, states, the U.S. Environmental Protection Agency and local industry are working together to remediate contaminated sediments in U.S. Areas of Concern (AOCs) with funding provided through the U.S. Great Lakes Legacy Act. Since inception of the Act in 2002, sediment remediation has been completed at three U.S. AOC sites (Ruddiman Creek and Ruddiman Pond in Michigan, Black Lagoon in Michigan, and Newton Creek and Hog Island Inlet in Wisconsin).

The Oswego River AOC on Lake Ontario was delisted in 2006, the first removal of an AOC designation in the United States. In Canada, two AOCs have been delisted, both on Lake Huron (Collingwood Harbour in 1994 and Severn Sound in 2003). Delisting of an AOC occurs when environmental monitoring has confirmed that the remedial actions taken have restored the beneficial uses in the area and that locally derived goals and criteria have been met.

Varrick Dam North, Oswego River
Photo Credit: U.S. EPA, GLNPO

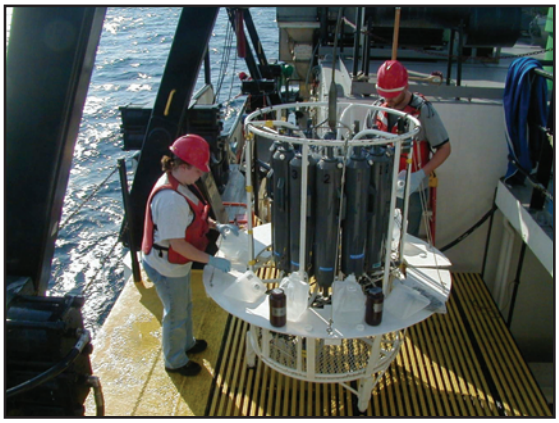
EnviroPark, Collingwood
Photo Credit: Environment Canada

Wye Marsh, Severn Sound
Photo Credit: Environment Canada

Effective actions are often based on collaborative work. In 2005, The Nature Conservancy, the State of Michigan and The Forestland Group (a limited partnership), collaborated in a sale and purchase agreement that created the largest conservation project in Michigan's history. This purchase will protect more than 110,000 hectares (271,000 acres) through a working forest easement on 100,362 hectares (248,000 acres) and acquisition of 9,445 hectares (23,338 acres) in the Upper Peninsula of Michigan. By connecting approximately one million hectares (2.5 million acres), the project curbs land fragmentation and incompatible development by establishing buffers around conservation sites such as the Pictured Rocks National Lakeshore and Porcupine Mountains Wilderness State Park.

Electronic Waste Collection
Photo Credit: Superior Watershed Partnership

Lake Superior communities have embraced a goal of zero discharge of critical chemical pollutants by engaging in a number of actions to remove contaminants. Efforts to reach this goal have included electronic and hazardous waste collection events run by Earth Keepers, a faith-based environmental initiative, which is based in the Upper Peninsula of Michigan. On Earth Day 2006, over 272 metric tons (300 U.S. tons) of household hazardous waste, primarily household electronics, were collected and properly disposed or recycled. In Canada, through Ontario's mercury Switch Out program, more than 11,500 mercury switches from scrap automobiles were collected in 2005.

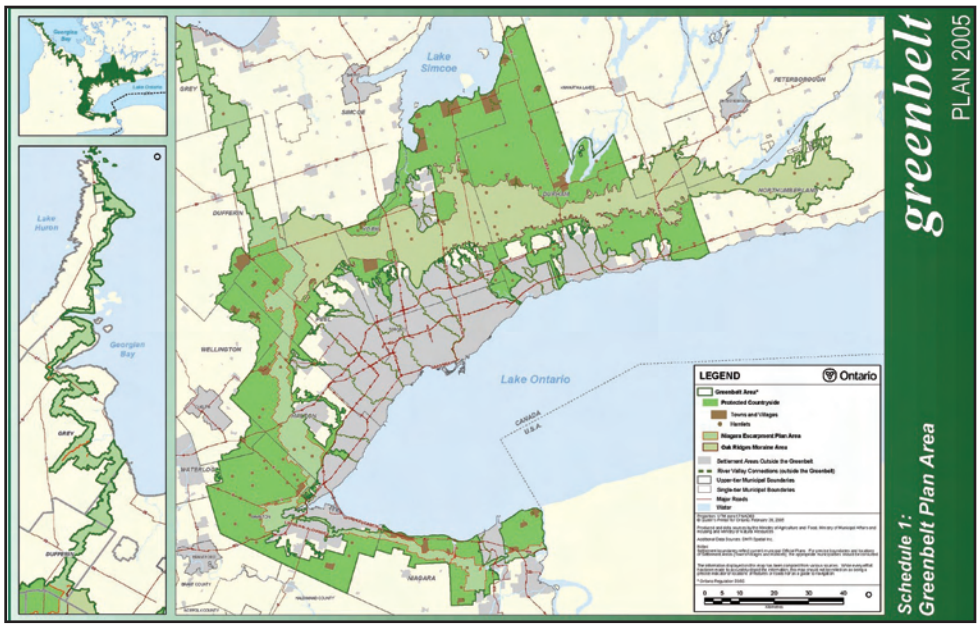


Water Sampling
Photo Credit: U.S. EPA, GLNPO

Research, monitoring and assessment efforts operating at various geographic scales are the backbone of management actions and decisions in the basin. Coordinated monitoring among Canadian and United States federal, provincial, state, and university groups began in 2003 to focus on monitoring physical, biological, and chemical parameters with monitoring occurring on a five-year rotation of one Great Lake per year. A binational Great Lakes Monitoring Inventory has been established that currently provides information on 1,137 monitoring programs in the basin. The International Joint Commission maintains a Great Lakes – St. Lawrence Research Inventory of the many funded projects that help increase our knowledge about the structure and function of the Great Lakes ecosystem.

Strategic planning occurs at basin-wide, lake-wide and local scales. An example of strategic planning is the Canada-Ontario Agreement, a federal-provincial agreement that supports the restoration, protection, and conservation of the Great Lakes basin ecosystem. To achieve the collective goals and results, Canada and Ontario work closely with local and regional governments, industry, community and environmental groups. In the United States, more than 140 different federal programs help fund and implement environmental restoration and management activities in the basin. The Great Lakes Water Quality Agreement, Great Lakes Regional Collaboration and Federal Task Force, Great Lakes Binational Toxics Strategy, Lakewide Management Plans, Binational Partnerships, and Remedial Action Plans are other examples of strategic planning in the Great Lakes basin.

In many cases management and conservation actions are based on or supported by federal, state, provincial, or local legislation. For example, Ontario's Greenbelt Act of 2005 enabled the creation of a Greenbelt Plan to protect about 728,437 hectares (1.8 million acres) of environmentally-sensitive and agricultural land in the Golden Horseshoe region from urban development and sprawl. The Plan includes and builds upon approximately 324,000 hectares (800,000 acres) of land within the Niagara Escarpment Plan and the Oak Ridges Moraine Conservation Plan.



Source: Ontario Ministry of Municipal Affairs and Housing

Proving that some legislation effectively crosses national borders, in December, 2005, the Great Lakes Governors and Premiers signed the *Annex 2001 Implementing Agreements* at the Council of Great Lakes Governors Leadership Summit that will provide unprecedented protection for the Great Lakes–St. Lawrence River basin. The agreements detail how the states and provinces will manage and protect the basin and provide a framework for each state and province to enact laws for its protection, once the agreement is ratified.

Education and outreach about Great Lakes environmental issues are essential actions for fostering both a scientifically literate

public as well as informed decision-makers. The Lake Superior Invasive-Free Zone Project involves community groups in the inventorying and control of non-native invasive terrestrial and emergent aquatic plants through education. The project combines Canadian and United States programs at federal, state, provincial, municipal, and local levels and has the goal of eliminating non-native plants within a designated 291 hectare (720 acre) area.

A shoreline stewardship manual developed for the southeast shore of Lake Huron and promoted through workshops and outreach programs encourages sustainable practices to improve and maintain the quality of groundwater and surface water and the natural landscape features that support them. The Lake Huron Stewardship Guide is a collaborative effort by the Huron County Planning Department, the University of Guelph, the Huron Stewardship Council, the Ausable Bayfield Conservation Authority, the Lake Huron Centre for Coastal Conservation, and the Friends of the Bayfield River, and a high level of community engagement has been instrumental in its success.

The Great Lakes Conservation Initiative of the Shedd Aquarium in Chicago aims to draw public attention to the value and vulnerabilities of the Great Lakes. With collaboration by Illinois-Indiana Sea Grant and the U.S. Fish and Wildlife Service, the Shedd Aquarium opened a new exhibit in 2006 which features many of the invasive species found in the Great Lakes. This exhibit provides public audiences with the opportunity to see many of these live animals and plants, and is also highlighted in teacher workshops.

As these examples show, there is much planning, information gathering, research and education occurring in the Great Lakes basin. Much more remains to be done to meet the goals of the GLWQA, but progress is being made with the involvement of all Great Lakes stakeholders.