

Ministry of the Environment programs and initiatives

The Great Lakes: Progress Through Partnership

.....
Progress is being made in cleaning up the Great Lakes. The lakes are the cleanest they have been in 50 years, due to efforts by the Ontario and federal governments and their partners to reduce contaminants and restore habitat for fish and wildlife. However, there is still much work to be done to improve environmental quality in the basin.
.....

In 1994, the Ontario and federal governments renewed an agreement to work together to protect and restore the Great Lakes.

The Canada-Ontario Agreement Respecting the Great Lakes Basin Ecosystem sets out 50 objectives the two governments want to achieve by the year 2000.

The Ontario Great Lakes Renewal Foundation, known as Great Lakes Ontario, will help achieve these objectives. An independent, non-profit organization, Great Lakes Ontario will secure donations from companies and individuals to fund research, restoration and public education. To help get it started, the provincial government has contributed \$5 million in seed money.

Restoring degraded areas

Ontario and the federal government are developing and carrying out remedial action plans to restore beneficial uses in 16 areas of concern (see map). Some beneficial uses are suitable habitat for fish and wildlife, safe drinking water and clean water for swimming.

With support from local governments and community groups, more than half the activities needed to restore beneficial uses have been carried out.

Contaminated sediment is being removed from rivers and harbors. Improvements are being made to sewage treatment plants to reduce contaminants. Thousands of hectares of wetlands and hundreds of kilometres of

rivers and streams have been restored as habitat for fish and wildlife. New technologies and processes are being developed to curb pollution and clean up contamination.

Eliminating toxic pollutants

The provincial and federal governments want to get rid of 15 of the worst pollutants from the Great Lakes basin. Their goal for the year 2000 is to reduce discharges of seven of these substances by 90 per cent of 1988 levels.

Toxic chemicals from about 190 industrial plants have been greatly reduced as a result of regulations under Ontario's Municipal-Industrial Strategy for Abatement.

The pulp and paper industry has cut discharges of chlorinated toxic substances by 74 per cent and has stopped dioxin and furan emissions to the lakes.

Discharges of copper, lead, nickel, zinc, cyanide and arsenic from mines have been reduced by 40 per cent.

Toxic substances from chemical plants have been cut back by about 50 per cent in the last seven years.

Since 1991, discharges of toxic substances from iron and steel plants have been reduced by 80 per cent.

Other toxic threats to the Great Lakes have been eliminated. The province has banned the use of the pesticides aldrin/dieldrin, chlordane, DDT, toxaphene and mirex. About 30 per cent of high-level polychlorinated biphenyls (PCBs) have been destroyed and another 46 per cent have been removed from use.

Improving sewage treatment

Better treatment of sewage has improved water quality in many parts of the Great Lakes. Under the Canada-Ontario Agreement, eight sewage treatment plants will be upgraded from primary to secondary treatment to remove more contaminants. So far, one plant has been upgraded and four are in the design stage.

New technologies and refinements to processes are also producing good results, at millions of dollars less than it would cost to expand plants or install conventional equipment. For example, some municipalities are using ultra-violet technology instead of chlorine to disinfect sewage. Windsor and Thunder Bay are testing innovative, cost-saving methods to reduce ammonia in treated sewage.

Municipalities can apply to the Provincial Water Protection Fund if they are having environmental or health problems because of poor water and sewage treatment. As of July 1998, 45 municipalities had received grants adding up to more than \$121 million to improve their systems.

Reducing phosphorus discharges

Phosphorus gets into lakes from municipal sewage, urban runoff and runoff from fields that have been treated with fertilizers. It can be a problem for fish and other aquatic life and it fosters the growth of algae, which remove oxygen from the water as they decompose.

Improvements in sewage treatment and farming practices in the last 20 years have cut by hundreds of tonnes the amount of phosphorus going into the lakes. In western Lake Erie and in Lake Ontario, levels of phosphorus have dropped by almost 80 per cent. Conditions for fish and other aquatic life have noticeably improved and people around these lakes enjoy cleaner water for drinking and swimming.

Fish making a comeback

As water quality has improved, levels of contamination in fish have declined. In many parts of the Great Lakes, the number of fish that may be safely eaten has increased during the last five to 10 years.

Much lower levels of mercury were found in sport fish after the province halted industrial discharges of mercury to Lake St. Clair and the English-Wabigoon River system.

PCB levels in salmon and trout from Lake Huron and Lake Ontario have declined in the last 20 years because of strict controls on PCB use.

Native fish are making a comeback in some areas and the number of species are on the rise. After a major cleanup and restoration of Hamilton Harbour, the number of fish species on the northeastern shoreline jumped from just four in 1995 to at least 14 in 1996.

A sure sign that the lakes are on the mend is the increase in fish-eating birds. The double-crested cormorant, osprey and bald eagle are returning, primarily because of bans on the use of DDT and other highly toxic pesticides.

Cleaning up the Great Lakes

Lake Huron and Georgian Bay

The remedial action plan to clean up Collingwood Harbour has been carried out and the harbor has been removed from the list of areas of concern. A remedial action plan for Spanish Harbour on Lake Huron's Northern Channel has been developed.

Dioxins and furans from a kraft paper mill in Espanola have been dramatically reduced as a result of provincial regulation. Improvements to the sewage treatment plant have also contributed greatly to environmental recovery.

Contamination in the Midland/Penetaanguishene area has been significantly reduced. In Severn Sound, the open waters are now free of excessive algae as a result of reductions in the amount of phosphorus from sewage treatment plants and agricultural sources.

The federal and provincial governments and seven municipalities have formed an environmental association to restore and protect Severn Sound.

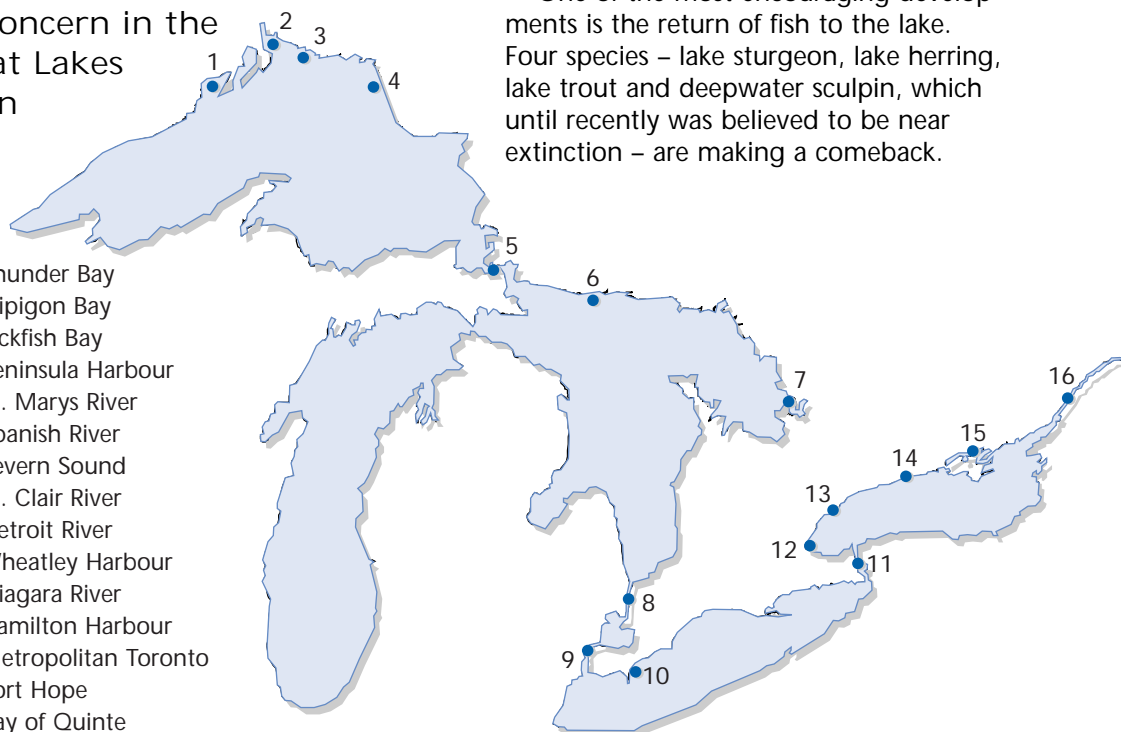
Lake Superior

Contaminated sediment is being removed from Thunder Bay.

Recommendations for restoring healthy environments in Jackfish Bay and Nipigon Bay have nearly all been carried out.

Kraft paper mills in Thunder Bay, Terrace Bay and Marathon have virtually eliminated discharges of dioxins and furans to the lake.

Canadian Areas of Concern in the Great Lakes Basin



- 1 Thunder Bay
- 2 Nipigon Bay
- 3 Jackfish Bay
- 4 Peninsula Harbour
- 5 St. Marys River
- 6 Spanish River
- 7 Severn Sound
- 8 St. Clair River
- 9 Detroit River
- 10 Wheatley Harbour
- 11 Niagara River
- 12 Hamilton Harbour
- 13 Metropolitan Toronto
- 14 Port Hope
- 15 Bay of Quinte
- 16 St. Lawrence River

Lake Erie

Algae in the lake have noticeably declined, largely due to improvements in sewage treatment and farming practices which have reduced phosphorus in the open water.

A remedial action plan for Wheatley Harbour is nearing completion.

Improved wastewater treatment by local industry have dramatically improved the quality of the environment.

Lake Ontario

Cleanup of the abandoned Deloro mine north of Belleville will reduce discharges of harmful substances such as arsenic to the Bay of Quinte.

Following an extensive cleanup and restoration of habitat, fish are beginning to return to Hamilton Harbour.

With improvements in stormwater management, it is now safe to swim at a number of beaches in Hamilton, Toronto and other cities.

One of the most encouraging developments is the return of fish to the lake. Four species – lake sturgeon, lake herring, lake trout and deepwater sculpin, which until recently was believed to be near extinction – are making a comeback.

Niagara River

Ten persistent toxic substances in the river have been reduced to undetectable levels.

Discharges of 18 persistent toxic chemicals from Ontario sources were cut by 94 per cent between 1986 and 1995.

A cleanup of mill waste in the Welland River, a tributary of the Niagara River, has helped to improve fish and wildlife habitat.

St. Lawrence River

Emissions of dioxins and furans from a Cornwall kraft mill have been greatly reduced and a plan to enhance fish and wildlife habitat is being carried out.

Detroit, St. Clair and St. Mary's rivers
In April 1998, the Canadian and U.S. governments, Ontario and Michigan agreed to work together to clean up and restore the shared waters of the Detroit, St. Clair and St. Mary's rivers. Teams are being formed to work on restoration projects.

Ontario is making progress in restoring the Great Lakes, but a great deal remains to be done. All of us who live, work and play around these magnificent lakes must do our part by helping to prevent pollution and by getting involved in cleanups in our communities.

For more information,
please contact:

Ministry of the Environment
Public Information Centre
135 St. Clair Ave. W.
Toronto, ON M4V 1P5
Tel: (416) 325-4000
1-800-565-4923

For further information on our Great Lakes from Environment Canada visit:
www.cciw.ca/glimr/rap/intro.html.

Sources

In Brief: The Ontario Great Lakes
Renewal Foundation, August 1998

Second Report of Progress Under the
Canada-Ontario Agreement Respecting
the Great Lakes Basin Ecosystem
1995-1997 (Environment Canada 1997)