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CANADA-ONTARIO AGREEMENT RESPECTING THE GREAT LAKES BASIN ECOSYSTEM

2002-2007
PROGRESS REPORT

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EXECUTIVE SUMMARY

The 2002-2007 Canada-Ontario Agreement Respecting the Great Lakes Basin Ecosystem (COA) was a success. Overall, 179 of 181 specific commitments were met, leading to the achievement of 25 of 26 Results, and eight of 11 Goals. These accomplishments contribute to meeting Canada's obligations under the Canada-United States Great Lakes Water Quality Agreement.

The combined efforts under this Agreement offer an excellent example of what can be achieved when governments work together. Some of the accomplishments under the 2002-2007 COA include:

- Environmental quality was restored in Severn Sound, leading to its official removal from the list of Great Lakes Areas of Concern.
- Progress was made toward the virtual elimination of key harmful pollutants, such as mercury, dioxins, furans, and PCBs.
- More than 9,700 hectares of waterfowl habitat were protected and restored.
- Over \$500 million was invested through federal, provincial and municipal government partnerships to reduce pollution from municipal sewage and wastewater.
- Over 50 per cent of Ontario's farmers have now participated in the Environmental Farm Planning process.
- Monitoring efforts are more efficient than ever, due to increased planning and coordination with the United States and with Great Lakes scientists through the Cooperative Monitoring Initiative.
- The latest understanding of environmental conditions and causes of ecological impairments was released biennially through lakewide management plan updates and State of the Lakes reporting.

Despite the progress made, Canada and Ontario recognize that the Great Lakes continue to exhibit symptoms of stress due to human activities within the Basin and elsewhere in the world. Canada and Ontario are committed to continuing to work together and with others to restore, protect, and conserve the environmental quality of the Great Lakes Basin.

INTRODUCTION

Since 1971, the Government of Canada and the Government of Ontario have been working together through a series of Canada-Ontario Agreements to restore, protect and conserve the Great Lakes Basin.

The 2002-2007 COA committed the governments of Canada and Ontario to work together and with others in the Basin toward the common vision of a healthy, prosperous, and sustainable Great Lakes Basin Ecosystem. Toward this vision, the Agreement provided a framework for coordinated action; 11 Goals, 26 Results, and 181 specific Commitments.

The 2002-2007 Agreement was largely a success, in meeting its stated objectives and enabling a growing Great Lakes community to take positive actions on-the-ground.

First and foremost, recognition must be provided to the hundreds of partners that are working toward COA's vision. COA provides a framework for federal/provincial coordination, but accomplishing its vision depends on the partnerships and actions taking place by local governments, landowners, Aboriginal peoples, conservation authorities, industry, academia, non-governmental organizations, our American partners, and the many individuals who make positive changes in their own life and in their community.

Two examples of government initiatives that foster these important partnerships and help drive COA implementation are the federal Great Lakes Sustainability Fund and the provincial Canada-Ontario Agreement/Great Lakes efforts.

The Parties to COA value the relationships that have been built with the rest of the Great Lakes community. The Parties are meeting regularly with a wide range of stakeholders to share information, look for collaborative opportunities, and share ideas about the future. For example, under the 2002 COA a Great Lakes Innovation Committee comprised of representatives from municipalities, academia, forestry, fisheries, public health, conservation, industry, agriculture, environment, and other organizations came together to identify, research, and provide recommendations to overcome barriers to COA implementation. This advice played a valuable role during implementation and will help shape future COAs.

The Parties to the Agreement recognize that the success of specific time-bounded objectives under COA does not mean the Great Lakes are completely restored, protected or conserved. In fact, it is recognized that despite the progress made, the Great Lakes continue to exhibit symptoms of stress.

While progress is made in reducing the releases of many toxic pollutants, tens of thousands of new substances have been detected in the waters but are not monitored systematically, and their impacts to fish, wildlife and human health are not completely understood.

While progress is made in restoring and protecting some fish and wildlife habitats, other areas are being destroyed or degraded due to increasing urbanization and other land-use practices.

While progress is made in understanding the ecosystem, new factors such as climate change and aquatic invasive species are impacting how the ecosystem functions.

Where progress is being made, it is up to all of us to continue our efforts. Where problems are mounting and new challenges are appearing, it is up to all of us to act.

The following report provides a final assessment of the Goals, Results and Commitments adopted for the 2002-2007 period toward the long-term vision of having a healthy, prosperous, and sustainable Great Lakes Basin Ecosystem.



2002-2007 PROGRESS ON ANNEX 1 – AREAS OF CONCERN

ANNEX 1: AREAS OF CONCERN

Preamble:

Areas of Concern are locations designated by the International Joint Commission where environmental quality is significantly degraded. To achieve COA's vision of a healthy, prosperous, and sustainable Great Lakes Basin Ecosystem it is necessary to restore environmental quality in these areas.



Goal 1

Restoring environmental quality and beneficial uses in at least two locations, resulting in the removal of the designation "Area of Concern"

Grade:

Partially Met

Status: Following years of cooperative efforts by governments, industry, community groups and citizens, Severn Sound was restored and removed from the list of Areas of Concern in January 2003. Restoration efforts in Severn Sound addressed algae growth, local fish communities and fish and wildlife habitat.

Significant advancements were also made in the Nipigon Bay Area of Concern, a targeted second location. However, a final effort is still required to update the Township of Nipigon's sewage treatment plant. During the 2002 COA, the township's application for federal and provincial funding for the upgrade was successful, but the project was not initiated in the 2002 COA timeframe. Most recently, the township was re-evaluating funding requirements due to an increased cost estimate. COA agencies continue to monitor the area to determine when environmental quality is recovered to a level that justifies delisting.

Goal 2 *Completing all required actions for the Remedial Action Plan in at least six Areas of Concern (and continuing to monitor recovery toward removing the AOC designation in each).*

Grade:
Partially Met

Status: Actions in many Areas of Concern have been completed, save for a final significant challenge of municipal waste-water infrastructure upgrades and/or remediation of contaminated sediment. Due to the substantial investment required by local citizens to address these challenges (from a few million to a billion dollars) each situation is pursued on its own track. Results 1.1 and 1.4 below provide more detail on the progress that has been made. In the case of Bay of Quinte AOC, new science and changing ecosystem conditions made it necessary to readjust the local Remedial Action Plan's approach with new targets and actions not previously anticipated.

Targeted AOCs for this Goal were: Wheatley Harbour, St. Lawrence River (Cornwall), Thunder Bay, Bay of Quinte, Peninsula Harbour, and Jackfish Bay.

Goal 3 *Making progress towards rehabilitation of ecological systems in the remaining Areas of Concern.*

Grade:
Met

Status: Sustained effort of COA agencies and their local partners made progress in the rehabilitation of ecological systems in the remaining Areas of Concern. For example, nutrient level targets for St. Clair River AOC have been met, and Hamilton Harbour AOC has seen visible progress in its water quality and fish and wildlife communities. More details on progress are provided below.

Result 1.1 *Reduced pollutant discharges from municipal sewage treatment plants and combined sewer overflows.*

Grade:
Met

Status: Through federal-provincial-municipal partnerships, many projects have been completed to reduce pollution from sewage treatment plants.

- Three AOCs completed upgrades to one or more local sewage treatment plants (Detroit River, St. Marys River, Thunder Bay).
- Two AOCs installed one or more sewer overflow tanks, reducing occurrences of treatment plants being overrun with water during heavy rain events (Niagara River, Hamilton Harbour).
- Nine AOCs developed or updated pollution control plans which allow for implementation of innovative approaches to managing waste-water and identify necessary infrastructure projects (Bay of Quinte, Detroit River, Hamilton Harbour, Niagara River, Nipigon Bay, St. Clair River, St. Lawrence River (Cornwall), St. Marys River, Toronto and Region).

Result 1.2 *Reduced loadings of nutrients, pathogens and trace contaminants from urban stormwaters.*

Grade:
Met

Status: COA agencies provided tools and financial incentives for municipalities to reduce contaminants from stormwater. Two guidance manuals on stormwater were distributed and promoted: 1) Stormwater Planning and Design Manual (www.ene.gov.on.ca/envision/gp/4329e_1.htm) and, 2) Stormwater Pollution Prevention Handbook (www.ene.gov.on.ca/envision/water/stormwaterpph.htm).

Federal and provincial funding was made available to municipalities to undertake infrastructure upgrade studies and/or try out new technology aimed at reducing loadings. Actions taken by many municipalities through programs such as downspout disconnection programs, increased street sweeping, and enforcement of poop and scoop by-laws are recognized.

Result 1.3 *Reduced nutrient, microbial and trace contaminants from agricultural sources*

Grade:
Met

Status: COA agencies worked with local partners to implement stewardship programs in applicable AOCs. Actions focused on increasing beneficial agricultural management practices such as planting buffer strips along streams and improving the manner in which manure is stored. Under the 2002-2007 COA, actions resulted in the achievement of AOC nutrient targets in Wheatley Harbour, St. Clair River, and the St. Lawrence River (Cornwall).

Result 1.4 *Management Strategies for Contaminated Sediment*

Grade:
Partially Met

Status: Management strategies to address the legacy of past industrial practices can range from full remediation through removal and treatment, to leaving the contaminated material in place to recover naturally over time. Each site is unique, with considerations including scientific assessments, local community input, and social/economic factors. COA agencies have undertaken scientific assessments at 16 sites in nine applicable AOCs: Bay of Quinte, Detroit River, Hamilton Harbour, Niagara River, St. Clair River, St. Lawrence River (Cornwall), St. Marys River, Thunder Bay, and Wheatley Harbour. Management strategies were developed in the 2002 COA timeframe for: Randle Reef site in Hamilton Harbour; Turkey Creek site in Detroit River; Trent River site in Bay of Quinte; Wheatley Harbour; and the Cornwall waterfront site in the St. Lawrence River. Management strategies are currently being developed for Peninsula Harbour and the Cascades site in Thunder Bay. A federal/provincial risk-based contaminated sediment decision-making framework has been formally adopted to facilitate consensus and management of other sites.

Progress has also been made in the Port Hope AOC. An Environmental Assessment of a proposed clean up project for contaminated sediment was completed in March 2007.

Result 1.5 *Rehabilitated aquatic and riparian habitat leading to the reestablishment of fish and wildlife populations.*

Grade:
Met

Status: COA agencies supported the development and implementation of habitat strategies/plans in the ten applicable AOCs. Projects were aimed at improving habitat, creating new habitats, removing barriers to fish migration, and restoring diversity. With support from federal and provincial funding, AOC habitat restoration targets were met in Thunder Bay, and actions were undertaken to advance fish and wildlife populations in the others.

Result 1.6 *Collaborative action among government, organizations and Basin residents.***Grade:**
Met

Status: Federal and provincial funding and staff were provided to the locally-based AOC committees that help ensure collaborative action is being taken on a local basis. Funding was also provided to support restoration projects being undertaken by hundreds of Great Lakes partners working toward the common goal of restoring Areas of Concern.

Result 1.7 *Publicly available environmental monitoring information for evaluating environmental recovery and adjusting remediation strategies.***Grade:**
Met

Status: Monitoring plans have been developed for each Area of Concern. COA agencies make the results of monitoring available to the public in a manner that allows for evaluation of environmental recovery and for adjusting remediation strategies. The following are publications that provide monitoring information:

General State of the Lakes Reporting

- State of the Great Lakes Reporting (www.binational.net/solec/intro_e.html)
- “Our Great Lakes” (www.binational.net/ourgreatlakes/ourgreatlakes.pdf)

Lake and Area of Concern Reporting

- Lakewide Management Reporting (www.binational.net/home_e.html)
- Canadian Remedial Action Plans (www.on.ec.gc.ca/water/raps/)

Toxics Reporting

- Binational Toxics Strategy (www.binational.net/bns/menu-e.html)
- Guide to Eating Ontario Sport Fish (www.ene.gov.on.ca/envision/guide/)
- Integrated Atmospheric Deposition Network (www.msc-smc.ec.gc.ca/iadn/index_e.html)



2002-2007 PROGRESS ON ANNEX 2 – HARMFUL POLLUTANTS

ANNEX 2 – HARMFUL POLLUTANTS

Preamble:

The Great Lakes continue to suffer from harmful pollutant problems. Persistent bioaccumulative toxic substances are of grave concern because they threaten fish, wildlife, and human health. Under the 2002 COA, governments continued the progress being made in addressing the release of harmful pollutants, and undertook to learn more to help shape the policies and programs of the future.

Goal 1 *Have in place policies and programs to make progress towards virtual elimination of persistent bioaccumulative toxic substances such as mercury, dioxins, furans and PCBs.*

Grade:
Met

Status: Reductions in the release of persistent bioaccumulative toxic substances have been achieved. Compared to the base year of 1988, mercury has been reduced by 86 per cent, dioxins and furans by 89 per cent, and PCBs by 89 per cent - compared to the base year of 1993. The reductions made under the 2002 COA resulted from the success of government programs such as the “Burn-it-Smart” campaign, and government regulations such as Ontario Regulation 323/02 that required hospital incinerators to close by December 2003.

Goal 2 *Reduce other harmful pollutants that have a significant environmental impact.*

Grade:
Met

Status: Releases of many other harmful pollutants have been reduced, including: 52 per cent reduction of benzo(a)pyrene since 1988; a 73 per cent reduction in hexachlorobenzene; and virtual elimination of use of alkyl-lead, octachlorostyrene and five pesticides – aldrin/dieldrin, chlordane, dichlorodiphenyltrichloroethane (DDT), mirex, and toxaphene. These reductions were made through a mix of regulatory and non-regulatory initiatives such as the implementation of a Canada-wide standard for incinerators, the closure of solid waste incinerators and implementation of best management practices by the iron and steel sector.

Goal 3 *Have comprehensive knowledge of the sources, movement, fate and impact of harmful pollutants, including persistent bioaccumulative toxic substances, for policy and program development processes.*

Grade:
Met

Status: A significant amount of science was undertaken to improve the Great Lakes community’s knowledge regarding harmful pollutants and environmental health. This information is made available through a number of forums, including:

- Binational Toxics Strategy Annual Updates
(www.binational.net/bns/menu-e.html)
- Environment Canada’s National Water Research Institute
(www.nwri.ca/nwri-e.html)
- Ontario Ministry of the Environment Publications
(www.ene.gov.on.ca/en/publications/index.php)

Result 2.1 *The virtual elimination of high-level Polychlorinated Biphenyls (PCBs)***Grade:**
Met

Status: Canada is working with the United States under the Great Lakes Binational Toxics Strategy to virtually eliminate high-level PCBs. Canada has met its latest interim goal toward this end. As of January 2007, in Ontario, 90 per cent of high level PCBs in storage had been destroyed (compared to the base-year of 1993). Storage sites had been reduced from 1500 to less than 400.

Voluntary incentive programs were developed to recognize voluntary phase outs of PCBs. Since 2003, eight recognition awards have been granted to groups including Niagara Power and the City of Thunder Bay. While the voluntary programs will continue, in 2006 the federal government moved toward regulations that would impose even stricter timelines for PCB phase-out (<http://canadagazette.gc.ca/partI/2006/20061104/html/regle2-e.html>).

Result 2.2 *An 85 per cent reduction in mercury release compared to releases in 1988 by 2005 and 90 per cent reduction 2010.***Grade:**
Met

Status: The release of mercury has been reduced by 86 per cent. The reduction target of 90 per cent by 2010 will be achievable through a combination of voluntary programs such as the Municipal Mercury Elimination Policy and Plan, and new Canada-Wide Standards endorsed by the Canadian Council of Ministers of the Environment in 2006. In addition, Ontario has targeted the closure of its remaining coal-fired electric power generation stations by 2014, the largest remaining source of mercury releases in Ontario.

Result 2.3 *A 90 per cent reduction in the release of dioxins and furans by 2005, compared to releases in 1988, and reduction of other persistent bioaccumulative toxic substances.***Grade:**
Met

Status: The release of dioxins and furans has been reduced by 89 per cent and work is underway to update the release inventory to include the latest progress on reductions. This was achieved through a number of initiatives, including the compliance of industry in Ontario to the Canada Wide Standards for steel manufacturing and iron sintering, and the Ontario regulation (Reg 323/02) that required hospital incinerators to close by December 2003. COA agencies also provided funding and technical support for outreach programs to reduce the amount of dioxins being released from burning household garbage.

Reductions in the releases of a number of other substances have been observed, including: 52 per cent reduction of benzo(a)pyrene since 1988, and a 73 per cent reduction in hexachlorobenzene.

Result 2.4 *Reductions in the use, generation and release of other harmful pollutants.***Grade:**
Met

Status: Many other harmful pollutants have been reduced through a mix of regulatory and non-regulatory initiatives, including the virtual elimination of use

of alkyl-lead, octachlorostyrene and five pesticides – aldrin/dieldrin, chlordane, dichlorodiphenyltrichloroethane (DDT), mirex and toxaphene.

Significant effort has taken place to address air pollution through implementation of the Canada-United States Air Quality Agreement and Ontario's Clean Air Action Plan. Environmental Performance Agreements have also been used to accelerate industry-specific reductions of volatile organic compounds (VOCs) (e.g., Agreement with the Screen Printing and Graphic Imaging Association).

Result 2.5 *Reductions in the release of harmful pollutants in municipal wastewater discharges.*

Grade:
Met

Status: COA agencies tracked over \$500 million in investments by the three levels of government (federal-provincial-municipal) to improve sewage treatment and stormwater control in the Great Lakes Basin. In addition, COA agencies provided financial and technical support for research and application of new techniques, and best management practices on existing infrastructure.

Result 2.6 *Voluntary reduction in the release of harmful pollutants by targeted stakeholders and sectors.*

Grade:
Met

Status: Many stakeholders and sectors work on an ongoing basis to voluntarily reduce the release of harmful pollutants into the Great Lakes Basin. The Ontario Environmental Leaders Program for example, is an initiative under which the Ministry of the Environment provides incentives to leaders who commit to beyond compliance measures. Program participants include the Automotive Parts Manufacturers Association, Canada's Chemical Producers Association, and Trillium Health Care – a multi-hospital facility group.

Result 2.7 *A common approach for effective emissions reporting.*

Grade:
Met

Status: The Ontario Ministry of the Environment harmonized inventory reporting by having Ontario-based facilities report emissions to both the National Pollutant Release Inventory (NPRI) and Ontario's Monitoring and Reporting Regulation (Reg. 127/01) through the One-Window to National Reporting System. In addition, Ontario harmonized its list of substances with the NPRI by removing all but 15 substances from Ontario's Reg. 127/01 list.

Result 2.8 *Improved quantification of in-Basin sources of harmful pollutants.*

Grade:
Met

Status: Improved quantification of harmful pollutants is reflected in Ontario's public and leading-edge databases for on-line air quality information: Smog Alert Program and the Air Quality Index - www.airqualityontario.com.

COA agencies continued to track the releases of harmful pollutants (COA Tier I and Tier II substances), through selected National Air Pollutants Surveillance sites (www.etc-cte.ec.gc.ca/NAPS), the National Pollutant Release Inventory (www.ec.gc.ca/pdb/npri), and the Great Lakes Integrated Atmospheric Deposition

Monitoring Network stations (www.msc-smc.ec.gc.ca/iadn/index_e.html). To improve substance inventories, Environment Canada has a voluntary smoke-stack testing initiative, with twelve stacks completed to date.

Result 2.9 *Knowledge of the occurrence, fate and impact of harmful pollutants on human and environmental health is gathered and communicated to the public.*

Grade:
Met

Status: A significant amount of research was undertaken to improve the Great Lakes community's knowledge regarding harmful pollutants and environmental health. See: Environment Canada's National Water Research Institute (www.nwri.ca/nwri-e.html)

Ontario Ministry of the Environment Publications
(www.ene.gov.on.ca/en/publications/index.php)

In regards to communications on environment and human health, COA agencies established a Great Lakes Public Health Network to share environmental public health information between the 37 Ontario Public Health Units and their respective Medical Officers of Health, and the provincial and federal health and environment departments. Through this initiative there has been an increased awareness and understanding of the linkage between the environment and human health.

Result 2.10 *An understanding of the ecological and human health risks of priority chemicals.*

Grade:
Met

Status: In addition to the research pointed to in Result 2.9 above, COA agencies held a workshop for government scientists, policy makers, and non-government guests in March 2006 to discuss emerging substances of concern, identify challenges and data gaps, and to set the stage for work to be taken under future Canada-Ontario Agreements Respecting The Great Lakes Basin Ecosystem.



Burn It Smart Demonstration
at Wikwemikong First Nation/
Tex McLeod



2002-2007 PROGRESS ON ANNEX 3 – LAKEWIDE MANAGEMENT

ANNEX 3 – LAKEWIDE MANAGEMENT

Preamble:

Lakewide management is an ecosystem approach to protecting the Great Lakes recognizing of the different physical, biological, chemical and geographic aspects of each lake. Federal, state, and provincial agencies in Canada and the United States work cooperatively to develop plans to restore and protect each Lake and lead the implementation of those plans with support from the entire Great Lakes community. Through COA, the federal and provincial governments coordinate Canada's contribution to this binational effort.

Goal 1 *Clearly understand the environmental problems and causes of ecological impairment.*

Grade:
Met

Status: Monitoring and research continue to be a cornerstone of government effort in the Great Lakes Basin Ecosystem. Scientific understanding of the environmental problems and causes of ecological impairments are reflected in the publicly available biennial updates to the binational Lakewide Management and lake action plans, and State of the Lake Reporting (www.binational.net).

Goal 2 *Reaching consensus on, and having broad-based support for, direction and priority actions for environmental restoration, protection and conservation.*

Grade:
Met

Status: To achieve this goal, COA agencies worked with a broad range of partners to develop, update, and implement binational Lakewide Management Plans (LaMPs) and binational lake action plans. These plans are available online (www.binational.net).

Goal 3 *Making progress on habitat restoration, conservation and protection and reducing the impact of harmful pollutants with a lake-by-lake focus.*

Grade:
Met

Status: COA agencies play an important role in: developing tools and techniques to support rehabilitation; coordinating action in the Great Lakes basin through various and complementary programs such as lakewide management plans, the Great Lakes Wetlands Conservation Action Plan, the Eastern Habitat Joint Venture, and Canada's Strategy to Protect Species at Risk; and developing a protected areas network. During the 2002-2007 timeframe examples of habitat restoration, conservation, and protection successes included: securing 1,011 hectares of ecologically significant Great Lakes habitat to conserve biodiversity and enhance Ontario's network of protected areas; and restoring or securing – through conservation agreements – more than 5,800 hectares of wetland habitat in southern Ontario through the Eastern Habitat Joint Venture initiative.

Examples of native species restoration included rehabilitation of two historically important coaster brook trout spawning streams in Lake Superior; stocking 670,000 Atlantic salmon fry and 100,000 fall fingerlings into several prime Lake Ontario tributaries to support restoration of Ontario's only native salmon; and stocking 3,000 muskellunge fingerlings and 500 spring yearlings to help restore numbers of this valuable species in the lower reaches of the Spanish Harbour AOC.

In addition to actions undertaken under COA Annex 2 – Harmful Pollutants, COA agencies worked to support locally-based harmful pollutant actions identified to be completed by 2007 under the lake specific management plans. For example, implementation of the Zero Discharge Demonstration Program for Lake Superior, and implementation of local action plans for priority watersheds in Lake Erie (Grand River, Thames River, Rondeau Bay, and the Huron Erie Corridor).

Result 3.1 *Reductions in the release of harmful pollutants on a lake-by-lake basis*

Grade:
Met

Status: As described under Goal 3 above, COA agencies worked to support locally-based harmful pollutant actions identified under the lake specific management plans. For example, implementation of the Zero Discharge Demonstration Program for Lake Superior, and implementation of local action plans for priority watersheds in Lake Erie (Grand River, Thames River, Rondeau Bay, and the Huron Erie Corridor).

Also of note, Ontario farmers continued to be active partners in the federal/provincial supported Environmental Farm Planning process, under Canada's Agricultural Policy Framework. To date, over 50 per cent of Ontario farmers have participated in the Environmental Farm Planning process. Since April 2005, more than 14,000 voluntary environmental projects were implemented on Ontario farms to improve the water, soil, and wildlife habitat. The Canada –Ontario Farm Stewardship Program provides 30 per cent to 50 per cent funding for farm improvements, such as controlling farmyard runoff, and revitalizing and protecting streams and rivers.

Result 3.2 *Rehabilitated, conserved and protected fish and wildlife habitats and protected areas.*

Grade:
Met

Status: Many individuals and organizations within the Great Lakes community are active stewards and advocates for fish and wildlife. COA agencies play an important role in developing tools and techniques to support rehabilitation, and coordinate action toward shared objectives. As described under Goal 3 above, this is achieved through various and complementary programs such as lakewide management plans, the Great Lakes Wetlands Conservation Action Plan, the Eastern Habitat Joint Venture, Canada's Strategy to Protect Species at Risk; and the development of a protected areas network.

Result 3.3 *Reduced entry and spread of non-native invasive species*

Grade:
Met

Status: In 2004, Canada introduced its Invasive Alien Species Strategy to provide a coordinated policy and management framework that minimizes the risk of invasive alien species to the economy, environment, and society; Canada also outlined a national approach for managing aquatic invasive species through the Canadian Action Plan to Address the Threat of Aquatic Invasive Species. Both initiatives were developed through the collaboration of federal, provincial, and territorial governments and apply to the Great Lakes.

Through the Government of Canada's *Invasive Alien Species Strategy for Canada and its Invasive Alien Species Partnership Program*, and the more than 100 partners affiliated with the

Ontario Ministry of Natural Resources and Ontario Federation of Anglers and Hunters Invading Species Awareness Program, government and non-government organizations are working together to deliver invasive species monitoring, risk assessment, control, reporting, research and outreach initiatives. This includes a province-wide toll-free hot line for reporting (Invasive Species Hotline: 1-800-563-7711) and a website for verifying sightings of aquatic invasive species in Ontario (www.invadingspecies.com/).

Risk assessment for aquatic invasive species of national importance is conducted by the Centre of Expertise for Aquatic Risk Assessment (www.dfo-mpo.gc.ca/science/ceara/). For example, in 2007 a risk assessment was completed for *Hemimysis anomala*, a half-inch long crustacean also known as the “bloody red shrimp” which is native to the Caspian Sea and a recent invader to the Great Lakes.

In 2006, the Government of Canada released Ballast Water Control and Management Regulations to further reduce the risk of harmful aquatic species and pathogens being introduced into Canadian waters through ship ballast water (www.tc.gc.ca/mediaroom/releases/nat/2006/06-h069e.htm)

COA agencies also continued to work with the United States to address the impact of Sea Lamprey through the Sea Lamprey Control Program (www.dfo-mpo.gc.ca/regions/CENTRAL/science/sea-mer/index_e.htm).

Result 3.4 *Reduced human health risk from contaminants in the Great Lakes.*

Grade:
Met

Status: Each Lakewide Management Plan and lake action plan prepared a chapter that addresses human health. In turn, to reduce the risk, COA agencies undertook or supported educational and advisory initiatives such as the mercury “switch-out”, “Burn-it-Smart”, Ontario Pesticide Education Program, beach advisories, and the fish consumption guidelines.

COA agencies established a Great Lakes Public Health Network (also referenced under Annex 2, Result 9) of over 200 government departments and agencies to facilitate information sharing. The Great Lakes Public Health serves the information needs of the 37 Public Health Units in Ontario on environmental health issues deemed significant by the Medical Officer of Health, provincial and federal governments. Credible peer-reviewed scientific information is delivered through monthly teleconferences, workshops, and an e-mail Network that have been established, with McMaster University currently providing the scientific support for the reference materials. Topics to date have included; pharmaceuticals in drinking water, climate change adaptation, and air quality and microbial contamination.

Result 3.5 *Collaboration between government, organizations and Basin residents.*

Grade:
Met

Status: Collaborative action is the cornerstone to successful Great Lakes restoration and protection efforts. In turn, COA agencies work with and support hundreds of partners. The following is a sample of the collaboration occurring throughout the basin:

Lake Superior – The Superior Working Group is comprised of Canadian and U.S. technical experts whose primary purpose is environmental health and/or natural resource interests and who have an ability and commitment to implement the Lakewide Management Plan.

Lake Huron – The Southeast Shore Working Group was created in response to episodes of restricted beach use and algal problems along the southeast shore of Lake Huron which was identified as an emerging domestic priority issue under the Lake Huron Bi-national Partnership. This group is comprised of various federal and provincial agencies, conservation authorities, health units and key stakeholder groups and is mandated to look at ways to better identify sources and causes of pollution and to work with local implementers.

Lake Erie – The Grand River Watershed Water Forum is an important gathering of a wide-range of experts on key water issues, growth trends, emerging technologies and innovative solutions.

Lake Ontario – Through the Emma Martin Park Sediment Remediation Project, groups and agencies, including Environment Canada, Transport Canada, Ministry of Natural Resources, Kingston Rowing Club, City of Kingston, and Ministry of the Environment, contributed funding and expertise to remove, store and ultimately dispose of PCB contaminated sediment from Kingston's Inner Harbour.

Result 3.6 *Improved scientific understanding of the fate and effects of harmful pollutants and the causes of ecological impairments for each lake.*

Grade:
Met

Status: COA agencies, in collaboration with partners, researched and reported the latest scientific understanding on a lake-by-lake basis through a number of networks and mechanisms.

In addition to hosting biennial State of the Great Lakes Conferences (www.epa.gov/glnpo/solec/), and providing biennial lake-specific updates (www.binational.net), COA agency staff were active in forums across the basin, including:

- Annual Conference of the International Association of Great Lakes Research
- Lake Erie Millennium Network Conference, 2003 & 2006
- Lake St. Clair Binational Conference, 2005
- Great Lakes Fishery Commission's committee meetings

Result 3.7 *Coordinated and integrated monitoring for scientific interpretative reporting, decision-making and reporting on progress*

Grade:
Met

Status: In 2003 COA agencies worked with the United States to launch a Binational Cooperative Monitoring Initiative. Through this new approach, governments from Canada and the United States work with academia and others to undertake cooperative monitoring on a lake-by-lake basis. The effort begins by determining the monitoring

needs of various lake programs, such as the Lakewide Management Plans, the Great Lakes Fishery Commission, and key representatives from the scientific community. In turn, a monitoring program is developed that splits sampling among the agencies, maximizes the number of projects to be taken on a lake cruise, ensures compatibility of results and increases information sharing.



Photo credit: John Cooper, Ontario Ministry of Natural Resources



2002-2007 PROGRESS ON ANNEX 4 – MONITORING AND INFORMATION MANAGEMENT

ANNEX 4 – MONITORING AND INFORMATION MANAGEMENT

Preamble:

Monitoring and sharing information are necessary to track environmental change and measure progress toward COA's vision.

Goal 1 *Coordinated and efficient federal/provincial scientific monitoring*

Grade:
Met

Status: COA agencies worked with United States and key Great Lakes scientists to launch the Cooperative Monitoring Initiative in 2003, as described under Result 3.7 above. This initiative has optimized efforts by jointly planning, scheduling and executing monitoring plans. Benefits are being realized such as using one lake cruiser to collect samples for both Canadian and American agencies. This maximizes limited vessel and staff resources for both governments. At the same time, this approach has promoted enhanced information sharing and awareness of the breadth of monitoring activity being undertaken on the Great Lakes. A binational monitoring inventory has been developed and is available publicly (www.binational.net).

Goal 2 *An information management system for tracking environmental change and progress.*

Grade:
Partially Met

Status: COA agencies had targeted the launch of a new web-based mapping application in the 2002 COA timeframe that would provide user-friendly access to data on environmental change and progress, called *Lakeviews*. Significant advancements were made in gathering federal and provincial Great Lakes information, and designing a platform that is flexible enough to include data from non-government groups following the launch. COA agencies will continue to work to deploy this new tool to the public as soon as possible.

Result 4.1 *Responsive and comprehensive monitoring programs*

Grade:
Met

Status: Great Lakes monitoring programs have been enhanced through a number of initiatives. As described above, COA agencies have established a cooperative monitoring initiative with the United States and key Great Lakes scientists. In addition to this, a binational inventory of Great Lakes monitoring was established, and made publicly available. Through these initiatives, in combination with COA agency workshops and meetings, monitoring gaps and needs are identified and pursued accordingly to ensure effective monitoring of the Great Lakes.

Result 4.2 *Scientific data and information shared among government, organizations and Basin residents.*

Grade:
Met

Status: Significant strides have been made in making federal and provincial information systems compatible. In addition, scientific data and information is being widely shared in various public forums through the basin, including conferences (see Result 3.6). In the 15 AOCs, there has been active public involvement throughout the development and implementation of remedial initiatives.

2002-2007 PROGRESS ON COMMITMENTS

ONE HUNDRED EIGHTY ONE COMMITMENTS

Efforts described above to deliver eight of 11 Goals and 25 of 26 Results were made possible in large part through actions and initiatives undertaken to deliver 181 specific Commitments. COA's Commitments provided a framework for federal and provincial coordination of ongoing programs and short-term funding initiatives for the Great Lakes.

COA's management approach goes beyond ensuring that the two levels of governments don't duplicate effort. It focuses on using resources to accomplish shared priorities beyond what either level of government could do on its own. In this way, results for improving the health of the Great Lakes are better than any organization or government could achieve on its own.

On average, 650 implementation initiatives were tracked each year toward the delivery of COA commitments. Many initiatives were long-term, ongoing efforts (e.g., Niagara River Upstream/Downstream Monitoring); some were short-term efforts completed within the 2002 COA timeframe (e.g., Blind and Wildgoose Creeks trout habitat restoration, Thunder Bay AOC); while others reflected implementation of relevant national programs and policies within the Great Lakes Basin (e.g., Agricultural Policy Framework – Environmental Farm Plans).

Through this tremendous undertaking, 179 commitments were met. Just as important as accomplishing these specific commitments, the efforts have generated a momentum within the Great Lakes community toward the shared vision of a healthy, prosperous, and sustainable Great Lakes Basin Ecosystem.

The two commitments that were not met are as follows:

Commitment 2-9.5:

Canada will develop a Health Science Framework to guide and facilitate the health sciences activities undertaken by researchers and other health scientists.

Status: Although this commitment was not met, good strides were made including potential Framework models, and the establishment of a Great Lakes Public Health Network that facilitates the exchange of information between various agencies to help improve awareness and understanding of the links between the environment and human health. COA agencies recognize the value of finalizing and adopting a health science framework, and are prepared to renew this commitment in a future Agreement.

Commitment 2-1.4:

Ontario will use regulatory or other measures to destroy all PCBs in Storage by 2008.

Status: Provincial regulations targeted to be adopted under the 2002 COA timeframe were put on hold due to feedback from environmental groups on the proposed approach. Since then, steady progress towards the destruction of high level PCBs in storage has continued. In 2007, 90 per cent of high-level PCBs in storage had been destroyed. The federal government is now intending to regulate PCBs, and posted draft regulations on Canada Gazette in November 2006.

CONCLUSION

It has long been a message of both governments that progress on the Great Lakes can only be achieved through partnership. The message is no less true today than it was at the signing of the first COA in 1971. No single agency can bear complete responsibility for the efforts required to restore, protect, and conserve the Great Lakes. From 2002-2007, eight federal agencies and three provincial ministries representing a variety of disciplines from health, to agriculture, to environment and fisheries, worked in collaboration. Each partner was responsible for delivering a portion of the work outlined in the Agreement. Only by unifying our goals, and working together and with municipalities, Aboriginal communities, landowners, environmental groups, academics and others, can we continue to see progress.

In the end, the Parties are committed to continuing to work together with the entire Great Lakes community to restore, protect, and conserve the environmental quality of the Basin for present and future generations. Toward this end, the two governments have brought into effect a 2007 Canada-Ontario Agreement Respecting the Great Lakes Basin Ecosystem.



Wood Duck / Photo.com

APPENDIX

Progress on attaining the goals of the Canada-Ontario Agreement Respecting the Great Lakes Basin Ecosystem is possible only through the cooperation of many partners in the governments of both Canada and Ontario. For more information on these COA agencies, please visit their websites.

Government of Canada

Agriculture and Agri-Food Canada (AAFC)

www.agr.gc.ca

Environment Canada (EC)

www.ec.gc.ca

Fisheries and Oceans Canada (DFO)

www.dfo-mpo.gc.ca

Health Canada

www.hc-sc.gc.ca

Parks Canada

www.pc.gc.ca

Natural Resources Canada (NRCan)

www.nrcan.gc.ca

Public Works and Government Services Canada (PWGSC)

www.pwgsc.gc.ca

Transport Canada

www.tc.gc.ca

Government of Ontario

Ontario Ministry of the Environment (MOE)

www.ene.gov.on.ca

Ontario Ministry of Agriculture, Food and Rural Affairs (OMAFRA)

www.omafra.gov.on.ca

Ontario Ministry of Natural Resources (MNR)

www.mnr.gov.on.ca

This report is available on the Environment Canada website at www.on.ec.gc.ca/greatlakes and on the Ministry of Environment website at www.ontario.ca/environment

