



CANADA-ONTARIO AGREEMENT RESPECTING THE GREAT LAKES BASIN ECOSYSTEM

including

AREAS of CONCERN, HARMFUL POLLUTANTS, LAKEWIDE MANAGEMENT,
and MONITORING and INFORMATION MANAGEMENT

Annexes to the Agreement

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Canada-Ontario Agreement Respecting the Great Lakes Basin Ecosystem

THIS AGREEMENT IS EFFECTIVE THE 22ND DAY OF MARCH 2002

BETWEEN

HER MAJESTY THE QUEEN IN RIGHT OF CANADA (CANADA)

REPRESENTED BY

THE HONOURABLE DAVID ANDERSON, MINISTER OF THE ENVIRONMENT

THE HONOURABLE LYLE VANCLIEF, MINISTER OF AGRICULTURE AND AGRI-FOOD

THE HONOURABLE SHEILA COPPS, MINISTER OF CANADIAN HERITAGE

THE HONOURABLE ROBERT THIBAUT, MINISTER OF FISHERIES AND OCEANS

THE HONOURABLE ANNE McLELLAN, MINISTER OF HEALTH

THE HONOURABLE HERB DHALIWAL, MINISTER OF NATURAL RESOURCES

THE HONOURABLE DON BOUDRIA, MINISTER OF PUBLIC WORKS AND GOVERNMENT SERVICES

THE HONOURABLE DAVID COLLENETTE, MINISTER OF TRANSPORT

AND

HER MAJESTY THE QUEEN IN RIGHT OF ONTARIO (ONTARIO)

REPRESENTED BY

THE HONOURABLE ELIZABETH WITMER, MINISTER OF THE ENVIRONMENT

THE HONOURABLE JOHN C. SNOBELEN, MINISTER OF NATURAL RESOURCES

THE HONOURABLE BRIAN COBURN, MINISTER OF AGRICULTURE, FOOD AND RURAL AFFAIRS

Definitions

- “Basin” means the five Great Lakes and the St. Lawrence River, to the Ontario and Quebec border, and includes the lands and surrounding waters which drain into them.
- “Canada-United States Great Lakes Water Quality Agreement” means the revised Canada-United States Great Lakes Water Quality Agreement of 1978 as amended by Protocol in 1987.
- “Ecosystem” means the air, land, water and living organisms (including humans) and their interactions.
- “Agreement” means the Canada-Ontario Agreement Respecting the Great Lakes Basin Ecosystem, including the Annexes.

Preamble

Since 1971, Canada-Ontario Agreements Respecting the Great Lakes Basin Ecosystem have guided the Parties in their work to improve the environmental quality of the Basin. Along with the efforts of the Basin’s residents, these agreements have contributed to:

- reducing the amount of pollution that enters the Basin;
- improving and protecting the habitat of fish and wildlife;
- working toward the goal of water that is safe to swim in and to drink; and,
- fostering a sense of stewardship throughout the region for the Basin Ecosystem.

Natural Features of the Lakes

The Great Lakes are vast inland freshwater seas that play a vital role in the physical, social and economic life of North America. The five Great Lakes – Lake Superior, Lake Michigan, Lake Huron, Lake Erie and Lake Ontario – form a chain of lakes that span more than 1,200 kilometres from west to east and together hold about 20 per cent of all the surface freshwater in the world.

The foundation of the Basin was laid three billion years ago during the Precambrian era. It was the glaciers, the last of which retreated 10,000 years ago, that created the lakes as they are today. The glaciers scoured out the valleys that became the basins of the Great Lakes and the nearby escarpments, ridges and bluffs. Indeed, almost all the water in the Basin is a legacy of the glaciers. Less than one per cent is renewed annually by precipitation and run-off. This means pollutants discharged into the system stay there and can become more concentrated over time.

But there is more to the Basin than the lakes. The lakes are part of a complex system of streams, rivers and smaller lakes, that drain large tracts of Ontario and eight American states. In all, the Great Lakes drainage Basin, on both sides of the border, measures around 775,000 square kilometres. In Canada, the Basin extends from just north of Lake Nipigon to the southern shore of Pelee Island in Lake Erie. The Basin reaches west just beyond Thunder Bay and east past Cornwall on the St. Lawrence River to the Ontario-Quebec border.

The Basin contains a wide variety of vegetation, fish and wildlife. In the north, the Boreal Forest covers much of the Basin with spruce, balsam fir and jack pines, which provide habitat for moose, beaver, deer, martens, weasels, porcupines, mink, wolves, bears, osprey and peregrine falcons. In the central and southern regions of the Basin, mixed forests of deciduous and coniferous trees including beech, sugar maple, red and white oak, as well as red and white pine, have given way to extensive urban and agricultural development.

Human Dependence on the Lakes

At the beginning of the twenty-first century, more than 33 million people inhabited the Basin, including about a third of Canada's population. Eight of Canada's largest cities including Toronto, Hamilton, Oshawa and Windsor sit in the Basin. The Basin provides drinking water to millions of Canadians and affects the health and well-being of additional Canadians living downstream along the St. Lawrence River.

The Great Lakes are the source of water for shipping, power generation and industries. On both sides of the border, the Basin supports multibillion dollar manufacturing, service, tourism and outdoor recreation industries, commercial and recreational fisheries, as well as strong maritime transportation systems and diversified agricultural sectors.

The Basin is home to 45 per cent of Canada's industries. At the beginning of the twenty-first century, the Basin provided the foundation for trade between Canada and the United States, equalling 50 per cent of Canada's annual trade with the United States.

In Ontario, roughly 75 per cent of the population lives and works in the Basin. Ontario accounts for more than 50 per cent of Canada's manufacturing activity. In fact, Ontario's gross domestic product is about 40 per cent of the nation's total. Clearly, the Basin is vitally important to the integrity of Canada's economy. Challenges to the environmental quality of the Basin directly affect the viability and vitality of this economic engine.

The growing population and continuous economic development during the twentieth century has brought change to the Basin, not all of which has been positive. By the middle of the twentieth century, the signs of an Ecosystem under stress were clearly evident. Degradation of environmental quality can directly impair the viability and vitality of the region, since the economy and quality of life depend on a healthy Basin Ecosystem for its survival.

In 1971, the Parties signed the first Canada-Ontario Agreement Respecting the Great Lakes Basin Ecosystem to show their commitment to stemming the tide of environmental degradation within the Basin and to restoring the Ecosystem's health. The Canada-Ontario Agreement Respecting the Great Lakes Basin Ecosystem has been renewed four more times and revised to reflect the changing challenges within the Basin.

Shared Management of the Lakes

Significant progress toward restoring the health of the Basin's Ecosystem has been achieved with the cooperation of the area's citizens, including the governments of the United States and the eight United States Great Lakes states. Discharges of harmful pollutants to the Basin are down and the quality of the water has improved. One result is that species, which were dying, are now returning. There are now small but growing and healthy populations of osprey, bald eagle, peregrine falcon and lake trout in the Basin. Their return is a tangible indicator of an Ecosystem that is improving.

However, the job of restoring, protecting and conserving environmental quality within the Basin is not yet done. Meeting present and future challenges and sustaining the improvements made to date will require the continued efforts of all citizens and stakeholders. For this reason, the Parties have entered into this Agreement.

The Parties know they share an interest as well as a responsibility for managing the Basin Ecosystem. To turn the vision of the Agreement into a reality and restore the Basin Ecosystem, however, will require the cooperation of the Basin's residents, Aboriginal People, industries, businesses and non-government organizations, as well as all levels of government. The Agreement provides a means to engage the considerable skills, energy and resources of all people and organizations with an interest in the Basin, and to enable them to work together on the shared vision for the Ecosystem.

Vision

This Agreement is guided by the vision of a “healthy, prosperous and sustainable Great Lakes Basin Ecosystem for present and future generations.”

The Purpose of the Agreement

The Agreement builds on the long-standing commitment of the Parties to restore, protect and conserve the Basin Ecosystem.

Under this Agreement, the Parties commit to continue to work in a cooperative, coordinated and integrated fashion, with each other and with others in the Basin, to achieve the vision.

To make the vision a reality, the Agreement:

- Establishes principles which will guide the actions of the Parties;
- Describes the development of Annexes, to respond to existing or emerging environmental issues or management functions; and,
- Sets in place administrative arrangements for the effective and efficient management of the Agreement.

Through this Agreement, the Parties establish:

- Common priorities, goals, and results for the enhancement and conservation of the Basin Ecosystem;
- Management strategies required to achieve these goals and results;
- The roles and responsibilities of each Party in relation to these strategies; and,
- A commitment to report regularly and publicly on the state of the Basin Ecosystem as it relates to actions taken pursuant to this Agreement.

By defining a vision for the Basin, specific goals and results, and the commitment to action by the Parties, this Agreement will give momentum to wider efforts and will facilitate collaborative arrangements and collective action among all people and organizations with an interest in the Basin.

Implementation of this Agreement will contribute to meeting Canada’s obligations under the Canada-United States Great Lakes Water Quality Agreement (GLWQA).

The Principles of the Agreement

The following principles will direct and guide the actions of the Parties under the Agreement.

Accountability - to remain accountable to citizens, the Parties must establish clear commitments in relation to agreed upon goals and objectives for this Agreement and regularly report on progress in relation to the achievement of those commitments.

Adaptive Management - openness, continuous learning, innovation, and improvement ensures effective and efficient management of the Agreement.

Conservation - energy, water and other resources should be conserved to sustain the physical, chemical and biological integrity of the Basin Ecosystem.

Ecosystem Approach - the interdependence of land, air, water and living organisms, including humans, and the need to make decisions that will maximize the benefits to the entire Basin Ecosystem.

Free Exchange of Information - data will be collected once, closest to the source, in the most efficient manner possible and will be shared.

Pollution Reduction - control at the source is a fundamental step in restoring the health of the Ecosystem of the Basin and that work will continue towards the virtual elimination of persistent toxic substances and reductions in other contaminants.

Precautionary Principle - where there are threats of serious or irreversible environmental damage, lack of full scientific certainty shall not be used as a reason for postponing cost-effective measures to prevent environmental degradation.

Prevention - anticipate and prevent approach yields maximum environmental benefits and is economically cost effective.

Public and Stakeholder Participation - ensure that the decision making process incorporates consideration of public and stakeholder opinions and advice, and provide the public and stakeholders with meaningful opportunities to consult, to advise and to participate directly in activities that support the Agreement.

Rehabilitation - where environmental quality has been degraded by human activity, restoration will be part of the solution.

Science-Based Management - best available science, research and knowledge shall provide advice in setting management priorities, policies and programs.

Sustainability - social, economic and environmental demands are all considered, to balance the needs of the present without compromising the ability of future generations to meet their own needs.

Annexes to the Agreement

The Parties will develop and implement Annexes which will focus on environmental issues or management functions that are a priority to the Parties and will benefit from co-operative and coordinated action.

Each Annex will specify:

- Five-year societal goals for the Basin Ecosystem, specific to the environmental issue or component of environmental management, which is the subject of the Annex. These goals are, in the opinion of the Parties, both reasonable and desirable to achieve over the duration of the Annex;
- Identification of results that the Parties will pursue jointly or separately in order to contribute towards the achievement of the stated goals;
- A clear articulation of the specific commitments each of the Parties will deliver over the duration of the Annex in order to contribute to the achievement of the stated goals and results; and,
- A management structure that will ensure the coordination and sound management of the actions of the Parties. This will include:
 - Timeframes for meeting the agreed-on results; and,
 - Quantitative and measurable environmental outcomes and the name of the Party responsible for specific actions and monitoring and reporting the results.

Administration

The Agreement

The Agreement will come into force upon signing by the Parties, and will remain in force for a period of five years from the date of signing. The Agreement may be terminated earlier by either Party giving the other at least twelve months written notice.

Nothing in this Agreement alters the legislative or other authority of the Parties with respect to the exercise of their legislative or other authorities under the Constitution of Canada.

Reviewing the Agreement

The Parties will conduct a comprehensive review of the effectiveness of this Agreement in the fifth year. The review will be completed within six months. The Parties will consult with the public on the review and make public the findings and outcomes of the review 60 days thereafter.

Amending the Agreement

Upon completion of the Agreement review, or at any other time, the Agreement may be amended by consent of the Parties. The Parties commit to conducting public consultations when amending the Agreement. Amendments will be confirmed by an exchange of letters by the Parties that will specify any and all amendments to the Agreement, and the effective date or dates when such amendments take force.

Annexes

Annexes may be developed at any time, and will come into force upon signing by the Parties. Annexes will remain in force for a period of five years from the date of signing, unless otherwise specified in an Annex. Annexes may be terminated earlier by either Party giving the other at least three months written notice. If the Parties terminate the Agreement, Annexes are terminated as well. The Parties commit to conducting public consultations when developing or terminating Annexes.

Amending Annexes

Annexes may be amended by consent of the Parties. The Parties commit to conducting public consultations when amending Annexes. Amendments will be confirmed by an exchange of letters by the Parties that will specify any and all amendments to the Annex, and the effective date or dates when such amendments take force.

If either Party is unable to fulfil its obligations, as specified within an Annex, a minimum of twelve months prior, written notice must be provided to the other Party.

Resources

The Parties commit themselves to providing the resources needed to implement the Agreement and the Annexes pursuant to it. The Parties will create opportunities for others to contribute to achieving the vision of the Agreement.

Management Committee

The administration of the Agreement will be entrusted to a Management Committee. The Committee will include a co-chair from Environment Canada and co-chair from the Ontario Ministry of the Environment, as well as Regional Director General and Assistant Deputy Minister level representatives from all departments, ministries, and agencies of the Parties who are participants in any one or more of the Annexes.

The Management Committee will be put in place when the Agreement comes into force. The Management Committee will be responsible for:

- Setting priorities and establishing strategies for addressing emerging environmental issues or management functions based on regular and ongoing review of scientific information, monitoring reports, public consultations, and other information;
- Identifying gaps and coordinating the development and amendment of Annexes to fill these gaps;
- Approving work plans of the Annexes;
- Coordinating the internal annual assessment of the Agreement against objectives established at the outset;
- Evaluating the results of the assessment against the objectives established at the outset, and recommending amendments as appropriate;
- Conducting ongoing evaluations of the administration and implementation of the Agreement as well as promoting any actions needed for continuous improvement;
- Facilitating the free exchange of information pertaining to the Agreement between departments, ministries and agencies of the Parties to ensure the effective coordination of actions;
- Addressing the implications of changes or adjustments to government policy, programs or resourcing that may affect the ability of the Parties to meet the commitments laid out in the Agreement;
- Producing progress reports and State of the Lakes reports every two years for the public that are meaningful, timely, reliable and in plain language;
- Conducting regular and ongoing public consultation; and
- Developing common positions and joint action plans for representing Canadian interests and engaging in cooperative initiatives with United States agencies and the International Joint Commission.

Commitment to Notify

Canada will consult with Ontario regarding any changes to the Canada-United States Great Lakes Water Quality Agreement or on any other international activities that may affect this Agreement. Similarly, Ontario will consult with Canada over the initiation of programs and agreements with other provinces or states that may affect this Agreement.

Dispute Avoidance

The Parties are committed to working collaboratively to avoid and resolve any dispute concerning the management of the Agreement and performance of obligations set out in the Annexes.

In the event of a dispute under this Agreement, either Party may provide notice in writing of the matter in dispute together with related information and documentation. Within 60 days of a notice, the Parties will meet to discuss the dispute in a cooperative, collaborative manner. If the dispute is not resolved within 120 days of the meeting, or such longer period as the Parties may agree, the Parties may jointly retain a third party to provide fact finding advice for mediation in connection with the resolution of the dispute.

ORIGINAL SIGNED BY

ON BEHALF OF HER MAJESTY THE QUEEN IN RIGHT OF CANADA

MINISTER OF THE ENVIRONMENT
MINISTER OF AGRICULTURE AND AGRI-FOOD
MINISTER OF CANADIAN HERITAGE
MINISTER OF FISHERIES AND OCEANS
MINISTER OF HEALTH
MINISTER OF NATURAL RESOURCES
MINISTER OF PUBLIC WORKS AND GOVERNMENT SERVICES
MINISTER OF TRANSPORT

ON BEHALF OF HER MAJESTY THE QUEEN IN RIGHT OF ONTARIO

MINISTER OF THE ENVIRONMENT
MINISTER OF NATURAL RESOURCES
MINISTER OF AGRICULTURE, FOOD AND RURAL AFFAIRS

ANNEX

Areas of Concern



I Preamble

To achieve the Agreement’s vision of a healthy, prosperous and sustainable Great Lakes Basin Ecosystem, it is necessary to restore the environmental quality in 11 Canadian and five shared Canada-United States Areas of Concern (AOCs). AOCs are locations where environmental quality is degraded and beneficial uses (as defined in the Great Lakes Water Quality Agreement) are impaired.

Remedial Action Plans (RAPs) have made considerable progress towards restoring environmental quality in AOCs. However, additional effort and resources are needed to make further advances.

This annex addresses Canadian and Ontario initiatives that directly support the restoration and protection of environmental quality and beneficial uses in the 16 AOCs including:

- Repairing and sustaining ecological systems;
- Fostering greater community participation;
- Increasing knowledge through monitoring and reporting; and,
- Communicating progress.

Additional programs addressing the elimination of industrial and municipal discharges are addressed in the Harmful Pollutants Annex.

II Goals

The Parties have identified three five-year goals that will demonstrate progress towards restoring environmental quality and beneficial uses in the 16 Areas of Concern. They include:

1. Restoring environmental quality and beneficial uses in at least two locations, resulting in the removal of the designation “Area of Concern”;
2. Completing all required actions for Remedial Action Plans in at least six AOCs (and continuing to monitor recovery); and,
3. Making progress towards rehabilitation of ecological systems in the remaining AOCs.

III Results

Taking Action

The Parties will address the continuing sources of pollution to Areas of Concern by achieving:

Result 1

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

Canada and Ontario will:

- Apply a mix of regulatory and voluntary measures to reduce the quantity, and improve the quality, of wastewater and combined sewer overflows;
- Identify, to municipalities and infrastructure funding programs, priorities for upgrading primary sewage treatment plants to secondary treatment;
- Consider sewage treatment plant upgrades and combined sewer overflow issues as priorities for capital assistance through the Canada-Ontario Infrastructure Program for municipalities in AOCs; and,

continued

- Provide technical and/or financial assistance to municipalities so that they may:
 - Undertake optimization studies that will identify cost savings for upgrades to meet RAP targets;
 - Demonstrate innovative and potentially cost-saving technologies in AOCs;
 - Research cost effective options for controlling wet weather discharges from CSOs and plant bypassing;
 - Provide capital assistance for new technology demonstration projects for wastewater and combined sewer overflow management;
 - Develop and implement demonstration projects on low-cost sewage treatment for communal systems;
 - Develop models that link improvements in infiltration to receiving water quality;
 - Undertake comprehensive pollution prevention and control planning at AOCs; and,
 - Develop and implement demonstration projects for innovative, high-rate treatment technologies for combined sewer overflows.

Result 2

Reduced loadings of nutrients, pathogens and trace contaminants from urban stormwater.

Canada and Ontario will:

- Evaluate the performance of new cost-effective technologies for treating of stormwater;
- Develop and transfer technology and best management practices to assist municipalities in controlling stormwater quantity and quality;
- Identify and rank waterways particularly susceptible to adverse stormwater effects to establish management priorities;
- Provide technical support to municipalities to determine pollutant sources and develop appropriate prevention strategies with industrial and institutional stormwater discharges; and,
- Provide support for implementing demonstration projects on new technologies that reduce stormwater impacts on receiving waters.

Result 3

Reduced nutrient, microbial and trace contaminants from agricultural sources.

Canada and Ontario will:

- Assist land-owners to access funding for projects that improve farm management practices and provide financial assistance for community-based land-owner contact programs;
- Provide financial assistance to the agricultural community for environmental stewardship projects;
- Provide technical support and outreach materials to the agricultural sector to promote stewardship initiatives through education programs; and,
- Transfer technologies and information on best management practices.

The Parties will address historic contamination and degradation by achieving:

Result 4

Management strategies for contaminated sediment.

Canada and Ontario will:

- Develop a risk-based, decision-making framework;
- Consult with local communities on the development of management strategies;
- Provide technical support and/or financial assistance for feasibility studies and remediation activities;
- Undertake post project and long-term monitoring studies to determine the recovery of beneficial uses; and,
- Develop publications and web sites and conduct workshops to promote management strategies and technologies for contaminated sediment.

Canada will:

- Conduct detailed sediment chemistry and biological assessments in AOCs.

Ontario will:

- Use, where necessary, regulatory tools (e.g. director's orders) to advance the remediation of sediment.

Result 5

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

Canada and Ontario will:

- Provide capital assistance to municipal and regional official planners to complete and implement natural heritage and fish habitat management strategies;
- Transfer habitat rehabilitation technology among local implementers;
- Confirm indicators to be used locally to assess restoration of habitat and fish and wildlife populations; and,
- Fund habitat strategy implementation including land-owner participation.

Canada will:

- Provide technical support to local implementers in the development of Habitat Management Strategies.

Ontario will:

- Develop lakewide and regional fish community objectives and advise on AOC-specific objectives and interim milestones; and,
- Provide technical support on monitoring plans and ensure consistency with provincial standards used by Ministry of Natural Resources.

Sharing Responsibility

The Parties will continue to encourage citizens to participate in planning, making decisions and taking actions to restore environmental quality in Areas of Concern by achieving:

Result 6

Collaborative action among government, organizations and Basin residents.

Canada and Ontario will:

- Develop and sustain local RAP implementation mechanisms;
- Provide technical support and funding to local organizations to facilitate RAP implementation;
- Convene regular workshops and support information exchange and technology transfer;
- Consult with and engage community participants in the implementation of RAP activities; and,
- Publish RAP progress reports and information materials and maintain current web sites.

Enhancing Knowledge

The Parties will ensure that essential knowledge is available to make informed decisions in Areas of Concern by achieving:

Result 7

Publicly available environmental monitoring information for evaluating environmental recovery and adjusting remediation strategies.

Canada and Ontario will:

- Develop and implement monitoring plans in consultation with AOC communities;
- Provide technical support in the delivery of monitoring programs and reports for all AOCs and build collaborative arrangements with local implementers to deliver and expand monitoring programs;
- Track federal and provincial monitoring in AOCs in conjunction with the Monitoring and Information Management Annex initiatives; and,
- Establish long-term monitoring strategies for Areas in Recovery.

Canada will:

- Undertake biological and chemical assessments and report on the quality of sediment and benthic communities;
- Monitor and report on the recovery of wildlife populations and contaminant levels;
- Provide data through upstream/downstream monitoring for the Niagara River Toxics Management Plan, Detroit/St. Clair River Corridor Monitoring; and,
- Monitor water quality in the St. Clair, Detroit, Niagara, St. Marys and St. Lawrence Rivers.

Ontario will:

- Monitor and report on water, sediment and biota quality in the AOCs;
- Monitor and report on contaminants in sport fish in the AOCs;
- Ensure drinking water quality data generated provincially is made available for use by the AOCs; and,
- Collect emissions data from industry for use by the AOCs.

IV Management and Administration

Effective implementation and management of this Annex will ensure progress and consistency in decision making, monitoring, communications and reporting, as well as clarity in Government leadership pursuant to this Annex.

To manage the delivery of the results and commitments under this Annex, the Parties will establish an AOC/Lakewide Annex Management Subcommittee. The Subcommittee will report to, and receive direction from, the Management Committee.

The Subcommittee will be co-chaired by a director-level representative of Ontario and a director-level representative of Canada. It will be comprised of representatives of those departments, ministries and agencies of the Parties responsible for delivery of commitments and the achievement of the Annex goals.

The Parties will provide resources for the operation of the AOC/Lakewide Annex Subcommittee jointly and equally.

The AOC/Lakewide Annex Management Subcommittee will:

- Develop and coordinate implementation of a multi-year work plan within 12 months of this Annex coming into effect. The work plan will be submitted to the Management Committee for review and approval. The work plan will describe the activities and deliverables of each contributing agency in relation to the specific results and commitments articulated within the Annex. In preparing work plans, every effort will be made to maximize the integration of activities of contributing departments, ministries and agencies in order to ensure a coordinated and cooperative approach;
- Annually, by June 1, submit the multi-year work plan and prepare progress reports for review and approval by the Management Committee;
- Establish issue teams, as needed, (e.g. sediment, habitat, non point source) that serve the AOCs or Lakewide Management needs. These issue teams will report to the AOC/Lakewide Management Subcommittee;
- Canada and Ontario will co-lead RAP management in Toronto and Region, Severn Sound, St. Marys, St. Clair and Detroit River AOCs;
- Canada will lead the process in Thunder Bay, Hamilton Harbour, Port Hope, and the St. Lawrence River AOCs; and,
- Ontario will lead the process in Nipigon Bay, Jackfish Bay, Peninsula Harbour, Spanish Harbour, Wheatley Harbour, Niagara River and the Bay of Quinte AOCs.

V Definitions

Area of Concern

A geographic area that fails to meet the General or Specific Objectives of the Canada-United States Great Lakes Water Quality Agreement, where such failure has caused or is likely to cause impairment of beneficial use or of the area's ability to support aquatic life.

Area in Recovery

A geographic area, identified as an Area of Concern, where, based on community and government consensus, all scientifically feasible and economically reasonable actions have been implemented and monitoring continues to track the restoration of beneficial uses.

Beneficial Use

The ability of living organisms to use the Great Lakes Basin Ecosystem without adverse consequence (includes the 14 uses identified in Annex 2 of the GLWQA).

Restoration of Beneficial Uses

Meeting locally defined objectives designed to be rigorous and realistic.

Ecosystem Approach

Recognizes the interactive system of biological communities, their non-living components, their associated activities and the interconnectedness of and linkages occurring among air, water, land and living things. Ecosystems include humans and their activities and institutions.

Delisting

Meeting the objectives for the restoration of beneficial uses as defined by the RAP and agreed upon by the agencies.

Fish Community Objectives

The objectives describe desirable fish community structure for nearshore and offshore habitat zones. The objectives provide a common framework for agencies to develop and implement complementary fishery management programs and serve as an interface with other environmental planning initiatives, including Remedial Action Plans and the Lakewide Management Plans.

Non Point Source

Diffuse sources of pollution including combined sewer overflows and urban and rural runoff.

Upstream/Downstream Monitoring

Measurement of environment quality upstream and downstream of a particular source or stress to the Ecosystem for the purposes of defining whether the source is causing environmental harm.

ANNEX

Harmful Pollutants



I Preamble

To achieve the Agreement's vision of a healthy, prosperous and sustainable Great Lakes Basin Ecosystem, it is necessary to achieve virtual elimination of persistent bioaccumulative toxic substances and significant reductions of other harmful pollutants.

Over the years, considerable progress has been made in addressing releases of harmful pollutants. Efforts by the Parties, combined with those of industry, municipalities and Basin residents, have successfully reduced the levels of many substances in the lakes.

For instance, over the past decade significant reductions of persistent bioaccumulative toxic substances have been achieved through regulatory and voluntary actions. In particular, over 75 per cent of reductions have been reported for dioxins, furans, mercury, alkyl lead and other chemicals. Nevertheless, additional efforts are required to reach virtual elimination of persistent bioaccumulative toxic substances.

In fact, all of the Great Lakes continue to suffer from chemical and pathogen related problems. Persistent bioaccumulative toxic substances are grave concerns because they can threaten fish, wildlife and human health. Newer threats of an increasing concern include the effect of air pollution on the Ecosystem and the influence of hormone-mimicking chemicals on fish, wildlife, and human health.

Harmful pollutants are released from a variety of sources, many of them far from the Great Lakes. For example, more than 50 per cent of Ontario's air pollution, in the form of smog, comes from the United States. Efforts need to take these factors into account.

The more we learn about harmful pollutants, the more we recognize how challenging it is to virtually eliminate the last remaining sources. Our current emphasis is on the development of policies and programs that address this challenge.

II Goals

The Parties have identified three five-year goals that will demonstrate progress toward the virtual elimination of persistent bioaccumulative toxic substances and significant reductions of other harmful pollutants. They are:

1. Have in place policies and programs to make progress towards virtual elimination for persistent bioaccumulative toxic substances such as mercury, dioxins, furans and PCBs;
2. Reduce other harmful pollutants that have a significant environmental impact; and,
3. Have comprehensive knowledge of the sources, movement, fate and impact of harmful pollutants, including persistent bioaccumulative toxic substances, for policy and program development purposes.

III Results

Taking Action

The Parties will work with producers and sources of pollutants towards virtual elimination of persistent bioaccumulative toxic substances and reductions of other harmful pollutants, using a substance and/or sector specific approach by achieving:

Result 1

The virtual elimination of high-level Polychlorinated Biphenyls (PCBs).

Canada will:

- Replace the current federal Chlorobiphenyls Regulations to require the phase out of PCBs in service in accordance with the requirements and deadlines to be established under the new regulations;
- Introduce PCB storage time deadlines through amendments to the federal *Storage of PCB Material Regulations*; and,
- Replace the current federal PCB Waste Export Regulations, 1996 to harmonize controls on PCB waste imports and exports and to allow for better control and tracking of wastes with 2 to 50 parts per million of PCBs.

Ontario will:

- Use regulatory or other measures to destroy all PCBs in storage by 2008.

Result 2

An 85 per cent reduction in mercury releases compared to releases in 1988 by 2005 and a 90 per cent reduction by 2010.

Canada and Ontario will:

- Develop standards for mercury emissions from coal-fired plants through the Canada-Wide Standards (CWS) process;
- Develop technical information to guide municipalities in identifying and reducing sources of mercury discharges to sewer systems;
- Develop and implement, with other partners, life cycle management programs to divert mercury-containing products from the waste stream; and,
- Develop a public education program on mercury for use in schools.

Canada will:

- Implement its commitments under the CWS for waste from dental amalgam;
- Develop and implement education and outreach programs with manufacturers to eliminate or reduce the use of mercury in manufactured products; and,
- Provide pollution prevention training for the healthcare sector to reduce mercury entering the waste stream and municipal sewer systems.

Ontario will:

- Implement the CWS for emissions from coal-fired plants;
- Implement initial actions to support the CWS for incinerations, with the inclusion of dioxins and furans into the standards; and,
- Implement its commitments under the CWS for waste from dental amalgam.

Result 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.

Canada and Ontario will:

- Develop CWS for dioxins and furans from steel manufacturing and iron sintering; and,
- Undertake outreach initiatives, including with municipalities, to promote environmentally sound waste biosolid utilization and incineration.

Canada will:

- Undertake outreach initiatives directed at the steel sector to guide the implementation of Strategic Options Process environmental codes of practice and verify reduction progress under the CWS process;
- Review the performance of federal solid waste incinerators operating in Ontario and undertake outreach initiatives to promote compliance with the CWS for mercury, dioxins and furans;
- Provide technical support to develop and demonstrate innovative waste incineration control technologies; and,
- Survey household garbage disposal practices in rural Ontario and determine the significance of barrel/backyard trash burning as a source of dioxins and furans, and develop options for addressing the issue.

Ontario will:

- Review the performance of existing incinerators against the CWS for mercury, dioxins and furans, and develop a compliance strategy; and,
- Implement the CWS by 2006.

Result 4

Reductions in the use, generation and release of other harmful pollutants.

Canada and Ontario will:

- Develop environmental codes of practice in collaboration with sectors identified under the federal CEPA Strategic Options Process;
- Develop programs, including an education and outreach program, to promote woodstove changeover in the Great Lakes Basin;
- Implement the commitments under the Canada-United States Air Quality Agreement Ozone Annex, Anti Smog Action Plan, and Canada-Wide Standards, and establish a federal-provincial smog coordinating committee to exchange information in order to develop opportunities for further reductions; and,
- Undertake outreach initiatives to promote the implementation of Codes and Guidelines for reducing releases of benzene and volatile organic compounds (VOCs).

Canada will:

- Regulate on-road vehicles and fuels by actions including:
 - Enacting regulations to reduce sulphur content in gasoline to 30 parts per million by 2004;
 - Developing national emission reduction regulations, aligned with those in the United States, for on-road vehicles, light-duty vehicles and light-duty trucks, effective the 2004 model year;
 - Developing codes of practice for heavy-duty vehicle inspection and maintenance programs in 2001;
 - Aligning emission control programs for off-road engines with those in the United States to be effective by the 2004 model year; and,
 - Enacting new regulations to reduce sulphur in on-road diesel fuel to 15 parts per million by 2006.
- Implement the 2001 Memorandum of Understanding between Environment Canada and the Canadian Marine Manufacturers Association to introduce cleaner outboard engines and personal watercraft into the Canadian market place;
- Identify sources of those substances found “toxic” under the *Canadian Environmental Protection Act* and undertake outreach initiatives to promote pollution prevention activities by source sectors/facilities; and,
- Lead the implementation of the Binational Toxics Strategy (BTS).

Ontario will:

- Undertake outreach initiatives to influence further reductions in discharges from Municipal/Industrial Strategy for Abatement (MISA) sectors and facilities, and examine and implement new policies and regulations to manage aqueous industrial discharges and dischargers not currently captured under MISA;
- Accelerate reductions of nitrogen oxides (NO_x) and VOC emissions to 25 per cent and 45 per cent reduction from 1990 levels by 2005 and 2010 respectively, from the current commitment to meet this target by 2015;
- Quantify reductions in other harmful pollutants that result as a co-benefit of reduced criteria air contaminants; and,
- Implement a public education program linking individual behaviour to the release of criteria air pollutants.

Result 5

Reductions in the release of harmful pollutants in municipal wastewater discharges.

Canada and Ontario will:

- Consider sewage treatment plant upgrades and combined sewer overflow issues as priorities for capital assistance through the Canada-Ontario Infrastructure Program; and,
- Research sewage treatment plant processes to optimize technologies used to treat harmful pollutants.

Canada will:

- Develop a comprehensive municipal wastewater strategy as part of a national water strategy;
- Provide technical support to optimize sewage treatment plant processes in order to improve treatment efficiency;
- Provide pollution prevention training and other support to municipal inspectors and industry sectors;
- Undertake outreach initiatives to promote pollution prevention planning as a municipal sewer use bylaw requirement; and,
- Regulate the concentration of hexachlorobenzene in coagulant used in municipal wastewater treatment to reduce hexachlorobenzene releases into receiving waters.

Ontario will:

- Provide technical advice, information and training to encourage optimization in the management of municipal wastewater;
- Develop a management framework for municipal wastewater;
- Develop best practices guidance documents to aid municipalities in identifying and reducing sources of harmful pollutants and other contaminants discharged to sewers; and,
- Implement outreach activities to promote water conservation as a means of reducing demands on wastewater treatment facilities and maximizing treatment efficiency.

Result 6

Voluntary reductions in the release of harmful pollutants by targeted stakeholders and sectors.

Canada and Ontario will:

- Develop and implement a joint pilot program where Environmental Management Agreements (EMAs) are negotiated to encourage multi-pollutant, beyond-compliance reductions of harmful pollutants by priority sectors/facilities; and,
- Undertake outreach initiatives targeting priority industries and industry associations to promote participation in the joint pilot program.

Enhancing Knowledge

The Parties will ensure that essential knowledge is available for decision-making pertaining to virtual elimination of persistent bioaccumulative toxic substances and reductions of other harmful pollutants by achieving:

Result 7

A common approach for effective emissions reporting.

Canada and Ontario will:

- Develop and implement a pilot project to integrate the air emission reporting requirements of Ontario's proposed Mandatory Monitoring and Reporting Regulation with the federal National Pollutants Release Inventory to facilitate the development of a common database of harmful pollutants and tracking the releases to air.

Result 8

Improved quantification of in-Basin and out-of-Basin sources of harmful pollutant releases.

Canada will:

- Develop and maintain substance profiles in support of the Binational Toxics Strategy and the *Canadian Environmental Protection Act* to identify source sectors for remedial actions and release reduction activities;
- Provide technical support for stack emissions testing of persistent bioaccumulative toxic substances within selected priority sectors to improve substance inventories;
- Maintain the Great Lakes Integrated Atmospheric Deposition Monitoring Network (IADN) stations, expand to monitor mercury, dioxins and furans, and review monitoring coverage to ensure a comprehensive substance list and sufficient spatial coverage;
- Monitor Tier I and II substances at selected federal National Air Pollutants Surveillance (NAPS) sites; and,
- Develop, with various partners, Canada-United States regional airshed networks (beginning with Windsor) to address local transboundary air pollution issues including complaints, monitoring and prevention.

Ontario will:

- Develop a program to monitor application of biosolids, including biosolids quality;
- Identify transboundary sources of air deposition through regional scale models; and,
- Provide current air quality information and smog updates both on-line and via the media.

Result 9

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

Canada and Ontario will:

- Collect and develop more complete and comprehensive data on pollutant releases and sources to facilitate the risk and health impacts assessment of harmful pollutants within the Great Lakes Basin; and,
- Conduct field studies on the fate and movement of harmful pollutants including pathogens in biosolids applied to agricultural lands.

Canada will:

- Research the occurrence, persistence, fate and effects of toxic substances in the aquatic environment;
- Research the impact of discharges from various source sectors on the receiving environment, and develop and implement environmental effects monitoring programs for major source sectors such as pulp and paper and metal mining; and
- Develop a Health Science Framework to guide and facilitate the health science activities undertaken by researchers and other health scientists.

Ontario will:

- Develop source-receptor models and provide data to appropriate agencies for use in determining the human health impacts of harmful pollutants; and,
- Research health impacts of harmful pollutants to set new provincial standards, guidelines and objectives.

Result 10

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

Canada and Ontario will:

- Research the environmental and human health impacts of substances of potential concern; and,
- Research the sources of these substances and examine options for reducing their release into the environment.

IV Management and Administration

Effective implementation and management of this Annex will ensure progress and consistency in decision making, monitoring, communications and reporting, as well as clarity in government leadership pursuant to this Annex.

To manage the delivery of the results and commitments under this Annex, the Parties will establish Annex Management Leads. The Leads will report to, and receive direction from, the Management Committee. The Leads will be a director-level representative of Environment Canada and a director-level representative of Ministry of the Environment. The Parties will provide resources needed for the management of the Annex jointly and equally.

The Harmful Pollutants Annex Management Leads will:

- Develop and coordinate implementation of a multi-year work plan, to be updated annually by June 1. Within 12 months of this Annex coming into effect, the work plan will be submitted to the Management Committee for review and approval. The work plan will describe the activities and deliverables of each contributing agency in relation to the specific results and commitments articulated within the Annex. In preparing work plans, every effort will be made to maximize the integration of activities of contributing departments, ministries and agencies in order to ensure a coordinated and cooperative approach;
- Annually, by June 1, update the multi-year work plan and prepare progress reports for review and approval by the Management Committee; and,
- Liaise with other departments/ministries/agencies to ensure that those departments/ministries/agencies are aware of the goals, priorities and strategies of the Agreement, and to the maximum extent, incorporate these into agency planning.

V Definitions

Criteria Air Pollutants

Nitrogen Oxides (NO_x), Volatile Organic Compounds (VOCs), Sulphur Dioxide (SO₂), particulate matter less than 10 microns (PM₁₀), particulate matter less than 2.5 microns (PM_{2.5}).

Discharge

Refers to a release of a substance directly or indirectly into a water body.

Emission

Refers to a release of a substance to the air.

Harmful Pollutants

Are those substances having a deleterious impact on the health/functioning of the Basin Ecosystem. The harmful pollutants are substances on the Tier I and Tier II substance lists, as well as the Criteria Air Pollutants.

Loading

Refers to the amount (concentration x flow) of a substance being emitted or discharged.

Release

Refers to an air emission or aqueous discharge, depending on the context.

Source-Receptor Models

Computer or mathematical models that predict how sources of pollution are distributed in the environment and what risk that they pose to the receptor, which could be humans, animals, water quality, etc.

Tier I

Includes the 11 critical pollutants identified by the International Joint Commission, plus critical pollutants identified in the Niagara River and Lake Ontario Toxic Management Plans and the Lake Superior Binational Program. Tier I pollutants are targeted for virtual elimination. The Tier I listing includes:

| | | |
|------------------|-------------------|----------------|
| Aldrin/dieldrin* | Hexachlorobenzene | PCDD (dioxins) |
| Alkyl-lead* | Mercury | PCDF (furans) |
| Benzo(a)pyrene | Mirex* | Toxaphene* |
| Chlordane* | Octachlorostyrene | |
| DDT* | PCBs | |

Note:* denotes substances that are no longer being used or released in Ontario.

Tier II

Includes substances identified as having the potential for causing widespread impacts, or have already caused local adverse impacts on the Great Lakes environment. The Tier II listing includes:

| | |
|----------------------|----------------------------------|
| Anthracene | Dinitropyrene |
| Cadmium | Hexachlorocyclohexane |
| 1,4'-dichlorobenzene | 4,4"-methylnebis(2-chloraniline) |
| 3,3'-dichlorobenzene | Pentachlorophenol |
| Tributyl tin | |

Plus 17 PAHs as a group, including but not limited to:

| | |
|----------------------|--------------|
| Benz(a)anthracene | Perylene |
| Benzo(b)fluoranthene | Phenanthrene |
| Benzo(g,h,i)perylene | |

Virtual Elimination

Means that there is “no measurable release” of a substance to the environment.

ANNEX Lakewide Management



I Preamble

To achieve the Agreement’s vision of a healthy, prosperous and sustainable Great Lakes Basin Ecosystem, it is necessary to establish collaborative management and decision-making processes in both Canada and the United States that address lake-specific ecological impairments.

Although they form an interconnected system, the Great Lakes and Lake St. Clair each have their own unique physical, biological, chemical, geographical and surrounding land use characteristics, which are reflected in their Ecosystem management challenges.

Binational federal-provincial-state collaborative management among jurisdictions is the means by which lakewide challenges are addressed. The ultimate goal is to “restore the chemical, physical and biological integrity of the Great Lakes ecosystem”, or more specifically, to address a variety of ecological and human use impairments caused by stresses such as harmful pollutants, habitat loss, nutrient loadings and nuisance invasive species.

The management programs for each of the lakes are in different stages of development, but they generally share the same methodology.

Human health risks transcend all the lakes and are addressed in the Harmful Pollutants Annex.

II Goals

The Parties have identified three goals for the next five years, which demonstrate progress towards establishing collaborative management and decision-making processes on planning and decision-making in both Canada and the United States that address lake-specific ecological impairments. They are:

1. Clearly understanding the environmental problems and causes of ecological impairment;
2. Reaching consensus on and having broad-based support for direction and priority actions for environmental restoration, protection and conservation; and,
3. Making progress on habitat restoration, conservation and protection and reducing the impact of harmful pollutants with a lake-by-lake focus.

III Results

Taking Action

The Parties will address lake-specific Ecosystem quality and beneficial use impairments by achieving:

Result 1

Reductions in the release of harmful pollutants on a lake-by-lake basis.

Canada and Ontario will:

- Implement actions called for in the binational Lakewide Management Plans (LaMPs) for lakes Superior, Ontario and Erie;
- Identify point and non-point sources of pollution to each lake and its contributing watersheds;
- Identify sites outside Areas of Concern (AOCs) that have contaminated sediments that act as sources of harmful pollutants and develop sediment management strategies;
- Develop methods and provide support for watershed management;
- Provide financial assistance for the adoption of environmentally sound farm management practices;

continued

- Conduct specific watershed investigations focussed on identifying sources of LaMP critical pollutants in Lakes Ontario, Erie, Huron, St. Clair and Superior;
- Lead the development of binational Lakewide Management Plans for lakes Superior, Erie and Ontario, and develop initiatives for lakes Huron and St. Clair; and,
- Promote achievement of Binational Toxics Strategy targets.

Canada will:

- Undertake education and public outreach campaigns to engage local communities/ municipalities in reducing emissions of contaminants to air; and,
- Implement the *Canada Shipping Act* and the International Conventions of the International Maritime Organization to prevent ship source pollution.

Ontario will:

- Use regulatory and voluntary measures to reduce the use, discharge or emission of LaMP critical pollutants by key facilities in each lake; and,
- Develop a nutrient management policy framework and a monitoring program to control land application of sewage biosolids, septage and pulp and paper biosolids.

Result 2

Rehabilitated, conserved and protected fish and wildlife habitats and protected areas.

Canada and Ontario will:

- Advance implementation efforts related to fish and wildlife habitats identified in Lakewide Management Plans;
- Develop and implement habitat restoration, protection and conservation strategies for lakes Ontario, Erie, St. Clair, and Huron, and implement lake Superior's habitat strategy;
- Implement measures to address erosion and pesticide use in priority watersheds;
- Use conservation easements and other tools to secure ecologically significant lands and areas requiring protection;
- Implement the Great Lakes Wetlands Conservation Action Plan;
- Monitor water quantity changes in the Great Lakes to determine their ecological impact;
- Develop technologies to rehabilitate habitat and remediate sediment; and,
- Begin to establish a viable and representative Great Lakes protected areas network.

Canada will:

- Expand capability and develop new collaborative arrangements to protect fish habitat; and,
- Work towards identifying and designating National Marine Conservation Areas along with other stakeholders in the Great Lakes.

Ontario will:

- Incorporate lake objectives for fish and wildlife beneficial uses into other initiatives such as Great Lakes Heritage Coast and Fisheries Plans.

Result 3

Reduced entry and spread of non-native invasive species.

Canada and Ontario will:

- Research the impacts of non-native invasive species.

Canada will:

- Research new methods for treating ballast water residues;
- Implement the Sea Lamprey Control Program;
- Research alternative technologies to lampricide; and,
- Develop a Canada/United States harmonized regulation for the management of ballast water.

Ontario will:

- Develop educational materials aimed at reducing the risk of spreading non-native invasive species; and,
- Through commitment to the Great Lakes Fishery Commission's Joint Strategic Great Lakes Fisheries Management Plan, continue to provide advice on the effectiveness of the Sea Lamprey Control Program.

Sharing Responsibility

The Parties will foster a culture of shared responsibility by achieving:

Result 4

Reduced human health risk from contaminants in the Great Lakes.

Canada and Ontario will:

- Develop and deliver education and outreach materials to communicate to the public, especially high-risk populations, methods of minimizing exposure to harmful pollutants.

Canada will:

- Establish and facilitate the work for a Public Health Network in the Basin.

Result 5

Collaboration between government, organizations and Basin residents.

Canada and Ontario will:

- Provide technical support to improve stormwater management and nutrient management;
- Provide funding and consultation opportunities to enhance the implementation of LaMPs;
- Produce outreach materials and use technology transfer tools to encourage environmental citizenship initiatives such as rehabilitating fish and wildlife habitats, establishing viable and representative protected areas networks, and pollution prevention;
- Develop and implement pollution prevention plans and performance-based agreements with industry and municipalities;
- Provide technical support to the Ontario agricultural and rural community to implement sustainable farm practices; and,
- Strengthen binational collaboration for implementing cooperative programs and other measures that facilitate meeting the desired outcomes of the GLWQA.

Enhancing Knowledge

The Parties will ensure that essential knowledge is available to make informed decisions in each lake by achieving:

Result 6

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

Canada and Ontario will:

- Provide financial assistance for research by academia.

Canada will:

- Research the sources of contamination including contaminated sediments;
- Develop scientifically defensible indicators for measuring progress;
- Develop methods to classify habitats and evaluate their quality;
- Research the sources, fate, effects and response of the Ecosystem to contaminants including in-use pesticides;
- Research the effects of endocrine disrupting substances on environmental health; and
- Research the effects of pesticides on biodiversity in protected areas, agricultural and forestry systems.

Ontario will:

- Undertake and encourage research in support of LaMP information needs. including food web modelling, habitat supply analysis, understanding the impacts of non-native invasive species and watershed Ecosystems.

Result 7

Coordinated and integrated monitoring for scientific interpretative reporting, decision-making and reporting on progress.

Canada and Ontario will:

- Participate in the LaMP working groups to develop and implement a monitoring and reporting strategy that enables lakewide federal and provincial working groups to report on progress and determine the effectiveness of related management and partner actions.

Canada will:

- Lead the development of binational monitoring plans for lakes Ontario, Erie, Superior and Huron;
- Monitor ambient environmental quality in open waters and connecting channels including lake St. Clair;
- Monitor precipitation for contaminants and conventional pollutants at selected locations;
- Monitor environmental conditions and remediation activities at federal harbours and ports;
- Monitor the health of coastal wetlands;
- Monitor trends in contaminants in selected wildlife populations (e.g. Herring Gull Monitoring Program); and,
- Monitor contaminant trends in the Great Lakes' fish.

Ontario will:

- Provide technical support for binational monitoring on Lakes Ontario, Erie and Superior;
- Monitor water and sediment quality nearshore areas, connecting channels and tributaries;
- Monitor contaminants in nearshore biota;
- Ensure monitoring of point source air emissions and water discharges;
- Monitor population status of fish and wildlife;
- Monitor the impact and status of non-native invasive species; and,
- Monitor natural heritage systems.

IV Management and Administration

Effective implementation and management of this Annex will ensure progress and consistency in decision making, monitoring, communications and reporting, as well as clarity in government leadership pursuant to this Annex.

To manage the delivery of the results and commitments under this Annex, the Parties will establish an AOC/Lakewide Annex Management Subcommittee. The Subcommittee will report to, and receive direction from, the Management Committee.

The Subcommittee will be co-chaired by a director-level representative of Ontario and a director-level representative of Canada. It will be comprised of representatives of those departments, ministries and agencies of the Parties responsible for the delivery of commitments and the achievement of the Annex goals.

The Parties will provide resources for the operation of the AOC/Lakewide Annex Management Subcommittee jointly and equally.

The AOC/Lakewide Annex Management Subcommittee will:

- Develop and coordinate implementation of a multi-year work plan within 12 months of this Annex coming into effect. The work plan will be submitted to the Management Committee for review and approval. The work plan will describe the activities and deliverables of each contributing agency in relation to the specific results and commitments articulated within the Annex. In preparing work plans, every effort will be made to maximize the integration of activities of contributing departments and ministries in order to ensure a coordinated and cooperative approach;
- Annually, by June 1, submit the multi-year work plan and prepare progress reports for review and approval by the Management Committee; and,
- Establish issue teams, as needed, (e.g. sediment, habitat, non point source) that serve the AOCs or Lakewide needs. These issue teams will report to the AOC/Lakewide Management Subcommittee.

V Definitions

Beneficial Use

The ability of living organisms to use the Great Lakes Basin Ecosystem without adverse consequence (includes the 14 uses identified in Annex 2 of the GLWQA).

Great Lakes Wetlands Conservation Action Plan

The Great Lakes Wetlands Conservation Action Plan (GLWCAP) was established to protect and rehabilitate coastal wetlands in the lower Great Lakes. The Action Plan is a collaborative plan among federal and provincial governments and non-governmental organizations.

Habitat Strategy

A strategy to assure the long-term sustainability of habitat necessary to support Great Lakes fish communities as well as healthy aquatic Ecosystems overall.

Sea Lamprey Control Program

Sea lampreys are a parasitic non-native invasive species that has had an enormous negative impact on the Great Lakes fishery. Integrated sea lamprey management includes lampricide control, construction of barriers in streams to deny sea lampreys' entry, and an experimental program to reduce spawning success by releasing sterilized male sea lampreys.

ANNEX

Monitoring and Information Management



I Preamble

To achieve the Agreement’s vision of a healthy, prosperous and sustainable Great Lakes Basin Ecosystem, it is necessary that governments, organizations, and Basin residents have access to accurate information regarding trends in environmental quality. Monitoring helps to detect and characterize emerging issues as well as historic issues requiring additional management.

No one organization has the mandate or ability to examine the state of the Great Lakes in its entirety. However, several agencies, organizations and individuals routinely collect data, analyze them and report on parts of the Ecosystem. Common understanding, vocabulary, standards and protocols are all prerequisites for reporting meaningfully on how monitoring commitments are being met, to track progress in achieving environmental objectives, and to define appropriate actions.

Coordinated and cross-referenced monitoring plans are to be implemented under the respective Annexes. Responsibility for ensuring compatibility among Annex monitoring activities, reporting and sharing of collected information will reside with the appropriate parties to each Annex.

The monitoring programs managed under the Agreement are a subset of the fuller range of Great Lakes monitoring programs undertaken by the Parties. The complete needs pertaining to information management under the Agreement remain to be defined as new technology and systems are investigated.

II Goals

The Parties have identified two goals for the next five years that will ensure governments, organizations, and Basin residents have access to accurate information regarding trends in environmental quality. They are:

1. Coordinated and efficient federal/provincial scientific monitoring; and,
2. An information management system for tracking environmental change and progress.

III Results

The Parties will ensure accurate and timely information on environmental progress by achieving:

Result 1

Responsive and comprehensive monitoring programs.

Canada and Ontario will:

- Develop and maintain an indexed inventory of on-going monitoring programs and activities and track their status;
- Circulate an indexed inventory of ongoing monitoring activities to program managers through workshops, websites, or through other opportunities such as State of the Lakes Ecosystem Conference (SOLEC);
- Identify gaps in monitoring activity as well as emerging needs and determine their significance; and,
- Address significant gaps and needs.

Result 2

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

Canada and Ontario will:

- Organize a workshop within six months to assess existing designs in order to propose a compatible and coherent information management system framework for the Agreement;
- Identify key contacts for administering the information management system;
- Develop and maintain the compatible and coherent information management system framework for the Agreement;
- Ensure federal and provincial information management systems for the Agreement are compatible with each other; and,
- Provide public access to monitoring information through the Internet and published reports.

Canada will:

- Ensure compatibility with current federal information management systems, e.g. Environmental Management Inventory (EMI), Ecological Monitoring and Assessment Network (EMAN), National Pollutant Release Inventory (NPRI) and National Contaminants Info System (NCIS).

Ontario will:

- Ensure compatibility with current provincial information management systems, e.g. Land Information Ontario (LIO) and Water Resources Information Project (WRIP).

IV Management and Administration

Effective implementation and management of this Annex will ensure progress and consistency in decision making, monitoring, communications and reporting, as well as clarity in government leadership pursuant to this Annex.

To coordinate the development and delivery of work plans and progress reports, the Parties will establish a Monitoring and Information Management Subcommittee.

The Subcommittee will report to, and receive direction from, the Management Committee. The Subcommittee will be co-chaired by a director-level representative of Ontario and a director-level representative of Canada. It will be comprised of representatives of those departments, ministries and agencies of the Parties responsible for delivery of commitments and the achievement of the Annex goals.

The Parties will provide resources for the operation of the Monitoring and Information Management Subcommittee jointly and equally.

The Monitoring and Information Management Subcommittee will:

- Develop and coordinate implementation of a multi-year work plan within 12 months of this Annex coming into effect. The work plan will be submitted to the Management Committee for review and approval. The work plan will describe the activities and deliverables of each contributing agency in relation to the specific results and commitments articulated within the Annex. In preparing work plans, every effort will be made to maximize the integration of activities of contributing departments, ministries and agencies in order to ensure a coordinated and cooperative approach;
- Annually, by June 1, update the multi-year work plan and prepare progress reports for review and approval by the Management Committee; and,
- Establish issue teams (e.g. monitoring inventory, information technology, data dissemination), as needed, that serve the monitoring and information management needs. These issue teams will report to the Monitoring and Information Management Subcommittee.



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