



ADVICE TO GOVERNMENTS
ON THEIR REVIEW OF
THE GREAT LAKES
WATER QUALITY
AGREEMENT

A SPECIAL REPORT TO
THE GOVERNMENTS
OF CANADA AND
THE UNITED STATES

AUGUST 2006

INTERNATIONAL
JOINT
COMMISSION
United States and Canada



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EXECUTIVE SUMMARY

Since 1972, the Great Lakes Water Quality Agreement between Canada and the United States (the Parties) has provided a vital framework for binational cooperation, consultation and action to restore and maintain Great Lakes water quality and the ecological health of the Great Lakes basin. Much has worked well over the past three decades and there have been many achievements.

Threats to water quality persist, however, and new ones have emerged. Scientific advances have yielded new understandings of problems which, in turn, point to different solutions than in the past. What once was judged far-sighted and robust enough to protect vulnerable populations of humans, fish and wildlife is no longer sufficient.

Despite these challenges and changes, the Agreement has not been revised since 1987. The International Joint Commission (the Commission), therefore, welcomes the review launched by the Parties in April 2006 and is pleased to submit its advice in this special report. The Commission's detailed recommendations appear throughout the text of this document and, for the convenience of the reader, are also consolidated in Appendix 1. In brief, the Commission recommends that the Parties:

- Replace the current Agreement with a new, more action-oriented Agreement, signed by the President of the United States and the Prime Minister of Canada and endorsed by the U.S. Congress and the Parliament of Canada, that would present a bold and convincing statement of commitment by the Parties and address a broader array of stressors that impact on the quality of the waters of the Great Lakes basin ecosystem.



- Commit in the new Agreement to developing a Binational Action Plan — separate from, but required by the Agreement — that engages federal, state, provincial and municipal departments and agencies, as well as Tribes and First Nations, that are responsible for delivering programs necessary to achieve the goals of the Agreement, has the flexibility to respond to emerging issues, and includes requirements for regular review and updating.
- Commit in the new Agreement to establishing clear accountability provisions in the Binational Action Plan that set out achievable goals and timelines, measures for evaluating performance, monitoring responsibilities and the entities that are accountable for reports, including triennial progress reports on the Binational Action Plan.
- Establish a political-level, binational Great Lakes Water Quality Agreement Steering Committee, comprised of the heads of appropriate federal departments and agencies, to oversee implementation of the Agreement.
- Establish a Binational Coordinating Committee, reporting to the Steering Committee, as a new mechanism of senior-level officials from federal, state, provincial and municipal departments and agencies, as well as Tribes and First

Nations, with responsibilities for delivering Great Lakes programs, that has clear terms of reference, including a mandate to develop the Binational Action Plan, manage its implementation and facilitate collaboration among its members.

- Ensure that the new Agreement and the Binational Action Plan incorporate the concepts of ecosystem protection and watershed planning, include human health as a clear objective, use the ecosystem approach, increase the focus on physical and biological integrity, and provide for public engagement.
- Provide a reference in the new Agreement, pursuant to Article IX of the Boundary Waters Treaty, that gives a more clear and meaningful role to the Commission in implementing the Agreement by, among other things: evaluating

progress through Commission assessments, reports and public consultations; identifying emerging issues and suggesting solutions; and facilitating collaboration among all Great Lakes basin interests.

All of the Commission's recommendations throughout this special report are aimed at producing a stronger, more contemporary Agreement, accelerated progress, greater governmental accountability and more public involvement in protecting and restoring the waters of the Great Lakes basin ecosystem. It is now time for a new Agreement — with the requisite resources — to produce significant results more rapidly so that the Great Lakes, as well as their tributaries, bays and connecting channels, are drinkable, swimmable and fishable for this generation and those to come.

I. INTRODUCTION

In Article II, the Great Lakes Water Quality Agreement (the Agreement)

between Canada and the United States expresses the commitment of both countries to restore and maintain the chemical, physical and biological integrity of the waters of the Great Lakes basin ecosystem. The Agreement was first signed in 1972 and last amended in 1987.

Article VII, a permanent reference under Article IX of the Boundary Waters Treaty, requires that the International Joint Commission (the Commission), among other things, issue a biennial report concerning progress by the Parties and the state and provincial governments toward achieving the Agreement's general and specific purposes. Article X requires that the Parties conduct a comprehensive review of the Agreement's operation and effectiveness following every third such biennial report. The Commission's *12th Biennial Report*, issued in September 2004, triggered the requirement for the current review.

In addition to biennial progress reports, Article VII of the Agreement also authorizes the Commission to make special reports at any time to the Parties and the state and provincial governments. Consistent with this provision, and its Great Lakes Declaration



of September 2003¹, the Commission has elected to provide its own advice in connection with the Agreement review.

In their review of the Agreement, the Parties have established a number of review working groups, under the auspices of the Binational Executive Committee, that commenced their work in April 2006. The Commission is submitting its advice at this time to assist the Parties and review working groups. Commission staff are also participating as observers in the review working groups and providing information as required.

¹ The "Great Lakes Declaration" was issued at the Commission's Great Lakes Conference and Biennial Meeting in Ann Arbor, Michigan in September 2003. In it the Commission undertook to assist the Parties by facilitating public participation in the review process and by submitting a special advisory report. The Declaration is available at http://www.ijc.org/rel/comm/030920-declaration_e.htm

II. THE COMMISSION'S PERSPECTIVE

Since 1972, the Agreement has provided a framework for binational cooperation, consultation and action regarding the quality of the lakes and the ecological health of the Great Lakes basin. Over the ensuing three decades, much has worked well and there have been many achievements. However, threats to water quality persist, new ones have emerged and scientific advances have yielded new understandings of problems that, in turn, point to different solutions. What was once thought to be enough to protect vulnerable populations of humans, fish and wildlife is no longer sufficient. Nonetheless, despite these challenges and changes, the Agreement has not been revised since 1987.

Some take the view that the current Agreement provides a sufficiently robust and flexible framework for addressing Great Lakes challenges on a binational basis and that efforts should focus on carrying out its provisions. They acknowledge the need for some modest updating, but believe that making fundamental changes could result in weakening already established commitments. For many years, the Commission shared that view. Our perspective, and that of many others in the basin, has now changed: the core values and thrust of the Agreement are sound, but new science, new issues and a greater ecosystem understanding render many provisions obsolete.

The current Agreement is long and complex, with 17 detailed annexes articulated in technical language that makes it remote from some segments of the public and less useful to decision makers. In addition, it has many redundancies and gaps, and outdated information, goals and targets that make it difficult to update. The Agreement's purpose of restoring and maintaining the chemical, physical and biological integrity of the waters of the Great Lakes basin ecosystem is a laudable goal, but specific actions, targets and lines of responsibility to achieve this goal are largely absent in the current Agreement.



In the Commission's opinion, the current Agreement needs to be replaced by a new Agreement. Outdated provisions need to be discarded and replaced by contemporary ones. Better account has to be taken of new conditions in the basin with more flexibility to adapt to ongoing change. Unambiguous action plans have to be developed and mechanisms put in place to ensure accountability for their implementation as well as more effective, direct consultation and coordination between the Parties. Plans should be designed to reach out to residents around the basin so that the public becomes more engaged in the process.

The Commission recognizes that tremendous efforts have been made to clean up the lakes and protect them from further pollution, and that governments at all levels, industry and nongovernment organizations have collectively put billions of dollars to these tasks. Industries have made significant strides in changing production processes and products, and in cleaning up contaminated areas. Municipalities, often supported by other levels of government, upgraded sewage and water treatment facilities across the basin, particularly in the early phases of work under the Agreement. Community and environmental groups have worked tirelessly to monitor progress and improve the environmental condition of the Great Lakes.

Nevertheless, significant challenges persist in a number of areas and new ones are emerging. For example, recent open-lake phosphorus concentrations would suggest that the Agreement's goals for

phosphorus reductions have been largely met in four of the five lakes. Yet in Lake Erie, concentrations in the three sub-basins fluctuate from year to year and frequently exceed target levels. Further, some nearshore areas and bays in all the lakes, except Lake Superior, experience elevated phosphorus levels that promote nuisance algae growth.

Similarly, the Agreement's call to virtually eliminate the input of persistent toxic substances into the Great Lakes led to programs, such as the Binational Toxics Strategy, that achieved some impressive improvements, particularly with respect to point sources of pollution (mainly industrial discharges). Nevertheless, the lakes continue to receive such inputs from a variety of sources, including contaminated sediments that have built up over the years, airborne deposition and non-point runoff from agricultural lands and urban areas, and all lakes still have advisories to limit fish consumption.

Remedial activities in officially designated Areas of Concern (AOCs) are important steps in restoring and protecting water quality-related environmental conditions. Despite some encouraging progress in the 43 AOCs to date, only three have been delisted and two others are considered to be Areas in Recovery.²

Restoration efforts for the AOCs and the lakes as a whole are complicated by new chemical issues, such as inputs of polybrominated diphenyl ethers, and biological challenges, such as invasive species. These and other developments, including climate change, air pollution, shoreline development and urban sprawl, challenge our ability to completely restore AOCs and the lakes. Many of these issues are not explicitly addressed in the current Agreement, thus diminishing its relevance and utility.

In the Commission's view, the Agreement focuses primarily on restoring chemical integrity and pays less attention to physical and biological integrity, the two other principal goals of the current Agreement. Moreover, while the ecosystem approach and the concept of protection are cursorily acknowledged in the Agreement, they are not generally used as organizing principles for action.

² The Collingwood Harbour and Severn Sound AOCs, both in the Province of Ontario, were delisted in 2003. The Oswego River AOC, in the State of New York, was delisted in 2006. Two AOCs are deemed to be Areas in Recovery: Spanish Harbour in Ontario and Presque Isle Bay in Pennsylvania.

The Commission is also concerned that the current Agreement does not clearly specify who is accountable for achieving its objectives, nor does it include adequate requirements to measure and report on progress in timely, meaningful ways. Moreover, many of the reporting requirements set out in the Agreement have not been followed. Finally, some government departments and agencies see the Agreement as a burdensome add-on to other duties rather than as an instrument to help them do their work by focusing efforts in both countries on common goals. These conditions limit the Agreement's effectiveness and retard the pace of Great Lakes protection and restoration.

The public has an important role to play. There is already a great deal of institutional and community activism across the basin by knowledgeable groups and individuals who care passionately about the Great Lakes; they have contributed to specific initiatives and have important perspectives and advice to provide on many others. There needs to be more opportunity for them to interact with governments in ways that will allow them to effectively influence activities, priorities and expenditures related to Great Lakes programs.

For much of the public, regrettably, the current Agreement is either unknown or does not inspire them to individual or community action. Promoting awareness of the Agreement has not been a priority. Moreover, much of it is out of date and may appear to be irrelevant to their day-to-day lives. The complexity and technical language of the Agreement are additional factors that serve to make it somewhat remote from the population at large. The Commission believes that because the Agreement is important to millions of people across the Great Lakes basin, it needs to be known, understandable and meaningful to them.

The Commission has important roles to assist in implementation of the current Agreement and assess program effectiveness. Over the years, however, the Commission's ability to carry out its mandate has been limited because, among other things, the governments have not followed many of the reporting requirements set out in the Agreement and have not provided all the information the Commission and the public require to evaluate progress. Shortcomings in monitoring and reporting need to be addressed in order for the Commission to be able to carry out its responsibilities more effectively.

III. FORMAT AND REVIEW OF THE AGREEMENT

As noted above, the Commission's view is that the new Agreement

should be shorter and more action-oriented — a bold and convincing statement of commitment by the Parties that would address a broader array of stressors that impact on the waters of the Great Lakes, provide a practical framework for governmental activity at all levels, more fully involve nongovernment organizations and other stakeholders in its implementation, and better guide efforts by local communities and individuals.

Specific operational provisions should be developed, with measurable goals and timelines, in a Binational Action Plan — separate from, but required by the Agreement — that engages the federal, state, provincial and municipal departments and agencies, as well as Tribes and First Nations, that deliver programs necessary to achieve the Agreement's objectives, sets out near-term and long-term performance targets, and has the flexibility to embrace adaptive management and respond to emerging issues.³

Article X of the current Agreement requires that it be subject to a comprehensive review after every third Biennial Report on Great Lakes Water Quality by the Commission. The Commission's view is that in-depth assessments of the Agreement cannot practically be undertaken so frequently because six-year periods do not afford sufficient time to implement programs and detect whether or not there have been achievements. Fundamental reviews are also resource-intensive, incurring costs that cannot be borne too often. In fact, most reviews to date have been perfunctory and the current review is the first substantial one in almost 20 years. For this reason, the Commission believes that the new Agreement



should require that both the Agreement and the Binational Action Plan be subject to a fundamental review and updating every 12 years.

Key principles and concepts from the current Agreement, such as virtual elimination and zero discharge of persistent toxic substances, should be retained in order to unite all constituencies and resolve any concerns that governments are reducing their commitment. Other concepts that could underpin and strengthen the Agreement, such as the ecosystem approach, adaptive management and the precautionary principle, should also be clearly enunciated in the new Agreement.

The current Agreement no longer is as important a driver for programs and actions in the Great Lakes because some of its goals have been achieved, it carries the baggage of out-of-date text, tables and timelines, and it does not contain provisions for addressing emerging issues. A shorter, more action-oriented Agreement, coupled with a Binational Action Plan that requires operational programs to be updated on a scheduled basis, is viewed by the Commission as a better way forward.

All of the Commission's recommendations throughout this special report are aimed at producing a stronger Agreement, accelerated progress, greater governmental accountability and

³ The proposed Binational Action Plan is explained in detail in Chapter VI below.

more public involvement in achieving the collective goal of protecting, restoring and maintaining the waters of the Great Lakes basin ecosystem. After 20 years of operating under the current Agreement, and more than 30 years since the first Agreement took effect, it is time for a new approach — one that will produce significant results more rapidly so that the waters of the Great Lakes, as well as their tributaries, bays and connecting channels, are drinkable, swimmable and fishable for this generation and generations to come.

Thus, as indicated above, the Commission believes that there should be a new Agreement, clearly superceding the existing one. This new Agreement should include a set of achievable goals, articulate the commitment of governments to achieve those goals within realistic time frames, afford the public with meaningful opportunities to be engaged, allow for flexibility to respond to changing conditions and emerging issues, and, like the current Agreement, be linked to the Boundary Waters Treaty.

The Commission also believes that the Agreement should provide for a flexible Binational Action Plan — separate from, but required by the Agreement — that will better help the Parties realize the goals of the Agreement. Ongoing updating of the Plan should be both encouraged and expected. The Plan should provide for mid-course corrections based on triennial reviews and reports of progress, in order to take account of changing conditions and new issues moving to the forefront. Such a Plan will enable the many stakeholders to undertake achievable pieces of the major efforts that will ultimately be required.

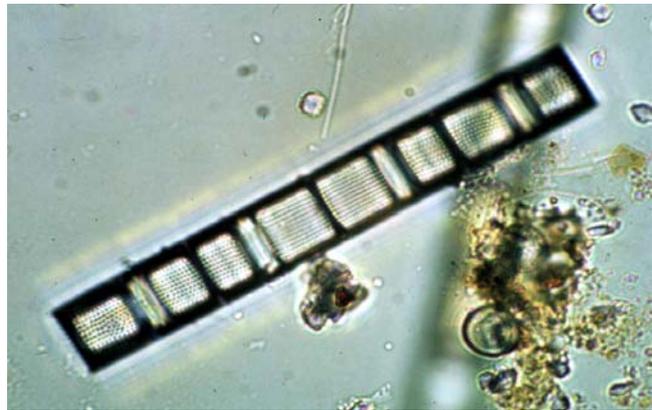
Recommendation 1

The Commission recommends that the current Agreement be replaced by a shorter and more action-oriented document that would be subject to comprehensive review every 12 years and that commits the Parties to develop a Binational Action Plan, separate from but required by the Agreement, that is reported on and updated every three years, and reviewed comprehensively in conjunction with the 12-year Agreement review. The Agreement should also identify the means whereby full accountability will be ensured for implementing the Plan.

IV. PURPOSE AND SCOPE OF THE AGREEMENT

The general concept reflected in the current Agreement has proven to be sound. Basically it provides for concurrence on broad goals for the quality of the waters of the Great Lakes basin ecosystem, commits each country to developing and implementing the programs and other measures required in its territory to achieve those goals, and provides for coordination where the programs interface. Achievement of the agreed-upon goals is very relevant to the obligation of governments under Article IV of the Boundary Waters Treaty that boundary waters shall not be polluted on either side to the injury of health or property on the other.

Today, however, other concepts need to be incorporated into the Agreement so that it can facilitate contemporary efforts to protect and restore the water quality of the Great Lakes system and can deal with emerging problems that threaten their future. The following are four areas the Commission suggests be considered for the purpose and scope of a new Agreement:



- A. *The need to “protect” the water quality of the Great Lakes system should be articulated more clearly in the Agreement.*

The purpose of the Agreement is to “restore and maintain” the water quality of the Great Lakes. Initially this was appropriate, given the conditions that led to the development of the Agreement in the 1970s and its amendment in 1987: eutrophication, point-source pollution and other factors that had caused a serious deterioration in water quality. Consequently, restoration of water quality rather than protection of the ecosystem was the main goal of the Agreement.

Today, however, there is recognition that protective action is required to prevent degradation and avoid or minimize costly restoration. The age-old adage that “an ounce of prevention is worth a pound of cure” applies to the waters of the Great Lakes as much as it does to other domains of social and environmental activity.

The concept of protection is somewhat implicit in Article IV of the current Agreement, which deals with specific objectives, but is largely absent from other parts. The Commission’s view is that the Agreement should continue to address the goal to “restore and maintain,” but also include

protection of lands, rivers, wetlands, shorelines and underwater habitats because these, in turn, protect water quality. For example, wetlands serve to filter nutrients and contaminants from runoff and thereby protect water bodies. Similarly, areas with high natural biodiversity are more resilient to invasions from exotic species. In addition, healthy lands and waters are more valuable to basin residents for employment, recreation, aesthetics and well-being.

Protection is not a new concept in the context of the Great Lakes. There is already considerable binational activity to protect Great Lakes basin natural resources. For example, the concept of Biodiversity Investment Areas⁴ was introduced during the State of the Lakes Ecosystem Conference in 1999 to identify and encourage protection of biodiversity and the habitat it depends upon. More recently, in March 2006, The Nature Conservancy in the United States and Nature Conservancy Canada issued a joint report⁵ that identified more than 500 critical conservation sites where protection initiatives should be undertaken. A revised Agreement should inspire more initiatives like these and provide a framework for coordinating them. More formal recognition of resource protection is now a timely addition to the purpose of the Agreement that complements the restoration goal. More attention to protection will lead to less need for restoration.

Recommendation 2

The Commission recommends that the new Agreement incorporate “protection” along with restoration and maintenance. This entails including protection as a goal in the purpose of the Agreement and ensuring that protection is articulated in the body of the Agreement and the Binational Action Plan.

⁴ The Great Lakes Science Advisory Board defines a Biodiversity Investment Area as a geographic area within the Great Lakes basin ecosystem which is determined to support exceptionally rich biodiversity and contributes significantly to the integrity of the system. Such areas contain habitat which supports natural, self-sustaining productivity and long term ecological integrity.

⁵ See *Binational Conservation Blueprint: The Plan for Conserving the Great Lakes* at <http://www.nature.org> or at <http://www.natureconservancy.ca>.

B. An ecosystem approach, with a focus on water quality, should be more explicitly incorporated into the Agreement and integrated into the Binational Action Plan.

The statement of purpose in the 1978 revision to the Agreement incorporated the term “ecosystem,” and Annex 2 of the 1987 Protocol introduced the notion of an “ecosystem approach” to restoring and protecting beneficial uses in Areas of Concern and open lake waters. As a result, there is a widespread perception that the Agreement advocates an ecosystem approach in government programs to achieve its objectives.

However, while the Agreement defines “ecosystem,” it does not define “ecosystem approach” or call for its adoption in areas of activity other than those specified in Annex 2. Consequently, while use of the ecosystem approach is increasing throughout the basin and around the world, it is still not employed in the Great Lakes basin on a sufficiently broad basis to ensure coordination, integration and synergy among government programs. In addition, many stressors to the Great Lakes, such as invasive species and climate change, are not receiving the attention they deserve. As a result, the Agreement’s objectives are not being achieved as expeditiously as they should.

The most widely accepted definition of ecosystem approach, adopted at the Earth Summit in Rio de Janeiro in 1992, is “a strategy for the integrated management of land, water and living resources that promotes conservation and sustainable use in an equitable way.” In practice, the ecosystem approach is a management framework that overcomes the “stovepipes” of isolated programs (e.g., water quality, water quantity, fisheries and wildlife) and recognizes the importance of the interrelationships among land, air, water and all living things, including humans.

The ecosystem approach has many advantages. It can provide a forward-looking, binational direction to programs and activities, and a framework for coordination among all players. It can also assist

policy-makers to better allocate resources according to ecosystem priorities, and understand more fully the impact and potential implications of their decisions.

For purposes of the Agreement, the Commission is of the view that a definition of the ecosystem approach should be developed that is appropriate to the objectives of the Agreement and the conditions in the basin. This means that the Agreement's focus should remain on water quality, but take account of a broader array of stressors that impact on it. Among these stressors are climate change, degraded wetlands and other habitats, urban sprawl and shoreline development, invasive species, air pollution, toxic substances, emerging chemicals of concern, excess nutrients, contaminated sediments and groundwater contamination.

Many Great Lakes agencies and jurisdictions utilize elements of an ecosystem approach to comprehensive management even if they do not specifically use the term. In some states, departments of natural resources have eliminated fisheries, wildlife and water management divisions in favor of an interdisciplinary approach by geographic subunits. The comprehensive watershed planning conducted by the Conservation Authorities in Ontario also constitutes an ecosystem approach. These and many other similar initiatives in both countries demonstrate clearly that the ecosystem approach is no longer a vague concept, but rather a comprehensive management framework used by different levels of government throughout the Great Lakes basin.

The Commission recognizes that some who advocate the ecosystem approach take the view that the Agreement should now address the full array of environmental issues across the Great Lakes basin and that "water" should possibly be struck from the Agreement's title as too limiting.

Others argue that the Agreement should go even further to address a range of socioeconomic issues in the context of sustainability.

However, the Commission believes firmly that adopting the ecosystem approach should not lead to broadening the purpose of the Agreement. This means that the scope of the new Agreement — that is, the range of issues it addresses — should only be extended to include stressors that impact on water quality and that water quality should remain the focus of the Agreement. In the Commission's view, there is a need to ensure that efforts are not dissipated by superficially attempting to address a broad array of environmental, social and economic issues to the point of being ineffective or unaffordable. There is also the fact that the Agreement is linked to the 1909 Boundary Waters Treaty, that provides that "boundary waters and waters flowing across the boundary shall not be polluted on either side to the injury of health or property on the other."

Recommendation 3

The Commission recommends that the new Agreement and its implementation use the ecosystem approach, with a focus on water quality, by incorporating this approach into the purpose of the Agreement and ensuring that the Binational Action Plan provides for programs that address a broad array of stressors and conditions that impact the quality of the waters of the Great Lakes basin ecosystem.⁶

⁶ The priority stressors and conditions are identified in the section below on the Binational Action Plan.

C. The Agreement should use watersheds as the operating framework for protecting and restoring the chemical, physical and biological integrity of the waters of the Great Lakes basin ecosystem.

Watersheds are hydrologic regions draining into a river, river system or body of water, and form the geographic units where the ecosystem approach can best be implemented. Many of the water quality problems that affect the Great Lakes stem from land use, surface water drainage and contributions from tributaries and groundwater in discrete watersheds. Thus, protective and remedial actions are best undertaken at the watershed level, where integrated or coordinated approaches to stressors can be developed and implemented collaboratively by all relevant players (government departments, industry, nongovernmental organizations and community groups) at a scale that is amendable to manageable solutions.

During its evolution over the past three decades, the Agreement has taken steps toward recognizing the importance of watershed management in protecting and restoring Great Lakes water quality. In many respects, however, this development has been too tentative and the current Agreement has not kept pace with emerging efforts across the basin. This, in turn, has made the Agreement somewhat less relevant to the many activities undertaken by governments, stakeholder groups and local communities.

The 1972 Agreement focused on water quality in response to a eutrophication crisis that resulted from over-fertilization of the Great Lakes by nutrients, especially phosphorus from inadequate sewage treatment plants and other sources. As set out in its Preamble, the purpose of the 1972 Agreement was “restoring and enhancing water quality in the Great Lakes system.”

In the 1978 Agreement, the purpose, as set out explicitly in Article II, was changed to “restoring and maintaining the chemical, physical and biological integrity of the waters of the Great Lakes basin ecosystem.” This change marked the first introduction of the watershed concept in the Agreement. A further step in the direction of watersheds came in 1987 when the Agreement was revised to introduce Lakewide Management Plans, Areas of Concern, Remedial Action Plans and watershed management plans. On the whole, however, the programs called for by the Agreement do not reflect these developments and continue to have the 1970s focus on chemical integrity without sufficient attention to physical and biological stressors.

Most watershed planning occurs at the local level to which the Parties are not effectively linked. Annex 13, however, requires the Parties to develop and implement watershed plans in conjunction with state and provincial governments. This suggests that instruments should be devised to enable the Agreement to better facilitate watershed planning. In the section below, the Commission advises that the proposed Binational Action Plan, involving all levels of government, be used for this purpose.

Recommendation 4

The Commission recommends that the Agreement specify that watersheds be the geographic units to coordinate, integrate and implement programs called for by the Agreement and set out in the Binational Action Plan.

D. Human Health should be more explicitly reflected in the Agreement.

The protection and improvement of human health has been the driving purpose of many of the Great Lakes programs and activities conducted by all levels of government. This concern has given rise to advisories about fish consumption, the quality of drinking water and the safety of swimming and other water-based recreation, and to the development of strategies to deal with contaminated sediments.

The term “human health” itself is not defined in the Agreement and this, in turn, has given rise to a perception that the concept is only implicit in it. The words “health,” “human,” “human health” and “health of humans” appear in various articles and annexes. However, the existing references are insufficient to address the specific human-health effects or concerns for the citizens living in the Great Lakes basin.

The Agreement hints at these connections but it does not fully address the concerns about human-health effects, such as carcinogenic, cardiovascular, reproductive, neurotoxic, immunotoxic, developmental and endocrine-disruption effects that are associated with known environmental stressors within the basin. Furthermore, given the Agreement’s

lack of specificity on human health in Articles I and II, government departments and agencies have often found it difficult to justify research agendas that specifically address the risks to human health posed by environmental degradation.

The evolution of scientific knowledge and understanding indicates a need to reinforce the integration of human health in the goals by explicitly recognizing it in a new Agreement. This would also help to identify the health-science gaps in Great Lakes research; set the stage, scope and context for the Agreement’s specific objectives; and assist the Parties in setting their environmental health priorities.

Explicit recognition of human health in the Agreement would strengthen its link with the Boundary Waters Treaty, one goal of which is that “boundary waters and waters flowing across the boundary shall not be polluted on either side to the injury of health or property on the other.” It would also be fully consistent with the ecosystem approach.

Recommendation 5

The Commission recommends that human health be defined in the Agreement, integrated within its goals and objectives and included in the Binational Action Plan.

V. IMPLEMENTATION AND ACCOUNTABILITY

The Commission is concerned, as will be discussed in its forthcoming

13th Biennial Report on Great Lakes Water Quality, that the Agreement lacks clear accountability provisions that specify the following:

- The actions that need to be taken to protect and restore the Great Lakes basin ecosystem;
- Their precise goals and timelines for implementation and achievement;
- Who is responsible and accountable for progress;
- Which indicators will be used to measure performance; and
- What assessments will be undertaken to evaluate success or failure.

The slow pace of implementing the policies and programs called for in the Agreement are due, in part, to this lack of follow-through on commitments that have been made. Consultations, reports and monitoring programs have not been completed to the extent required by the Agreement and many deadlines specified in the Agreement have not been met.

The information necessary to inform the public about the state of Great Lakes water quality and the process of clean up has not generally been available from governments in a format that is easily understood by non-experts. This has made it extremely difficult for them to hold the responsible parties accountable for doing what is needed to achieve the goals of the Agreement. Another difficulty is that while the Agreement includes provisions for amendments to ensure that it is up to date, these tools were rarely used in the past, and have never been used since 1987.



An important first step is recognition at the highest levels of each federal government of the important place the Agreement holds in U.S.-Canadian relations and the importance of the Great Lakes to both countries, and their commitment that achieving the goals of the Agreement is a high priority. This recognition and commitment would be firmly established by having a new Agreement signed by the President of the United States and the Prime Minister of Canada, as was done in 1972. The Agreement should also be endorsed by the U.S. Congress and the Parliament of Canada in order to increase the likelihood that adequate authorities and resources would be available to implement it. This recognition and commitment would be reinforced by establishing the practice of having the Agreement as a periodic agenda item for meetings between the Canadian Minister of Foreign Affairs and the United States Secretary of State.

In addition to these important high-level commitments and stock-taking consultations, it is essential that there be ongoing binational management and coordination of efforts in both countries to achieve the goals of the Agreement. The Commission is convinced that this is achievable in light of the fact that the goals of the Agreement are consistent with the goals of each

country, even though the specific language used to articulate the goals and the processes used to achieve them is often not quite the same in the policies and legislation of each country.

To date, there have been initial steps toward binational coordination with the establishment of the Binational Executive Committee (BEC), chaired by officials of the U.S. Environmental Protection Agency and Environment Canada. In the Commission's view, a new arrangement with a clear mandate and wider membership is called for at this time.

BEC was created because the 1987 revision of the Agreement requires the Parties, in cooperation with the state and provincial governments, to meet twice annually in order to coordinate their respective work plans with regard to implementation and to evaluate progress.⁷ However, BEC as an organization is not specified in the Agreement, its membership and terms of reference are not clear, and it has not fully carried out the coordination and evaluation functions called for in the Agreement. Moreover, there is a question of accountability because it is not clear to whom BEC reports, if anyone.

Accordingly, the Commission recommends that the BEC be reconstituted as a Binational Coordinating Committee (BCC) and formally established as such in a new Agreement. The BCC's membership should have broader representation than BEC, with members coming from all relevant federal departments and agencies as well as appropriate representatives of the state, provincial and municipal governments responsible for delivering programs necessary to achieve the goals of the Agreement. In addition, the BCC should include representatives of Tribes and First Nations. It is important that the BCC's members be senior officials who are designated to act on behalf of their respective departments, agencies or organizations and to sign operational agreements.

Both the purpose of the BCC and its membership should be set out in the Agreement, and formal terms of reference should be appended so that its role and responsibilities are clearly understood

by all. The Commission expects that the BCC will require at least four meetings a year to carry out its responsibilities. At least a portion of each meeting should be open to the public.

One of the BCC's principal duties would be to oversee the development, publication and implementation of the Binational Action Plan discussed elsewhere in this report. In the Commission's view, a major component of this responsibility is to help coordinate, where possible, the domestic programs of each country. In this sense, the BCC would serve as a binational equivalent of the two management committees which oversee, respectively, the U.S. Great Lakes Regional Collaboration and the Canada-Ontario Agreement Respecting the Great Lakes Basin Ecosystem. The Parties should consider rotating the U.S. and Canadian co-chairs among the federal members rather than assigning the positions permanently to representatives of the U.S. Environmental Protection Agency and Environment Canada.

In addition, the BCC would be responsible for managing and coordinating the development of the triennial reviews and reports recommended above by the Commission for documenting the progress to complete the work called for by the Binational Action Plan. These reports should include an accounting to the public and the Commission of whether the specific commitments made in the Agreement and the Binational Action Plan have been met. The BCC would also play a major role in the 12-year reviews of the Agreement and the Binational Action Plan.

To address the issue of accountability, the Commission recommends that the BCC report to a Steering Committee comprised of the political heads of the federal departments and agencies responsible for programs that impact on the quality of the waters of the Great Lakes basin. On the U.S. side, this could include members of the Great Lakes Interagency Task Force established by an Executive Order of the President in May 2005. On the Canadian side, it could include federal ministers who are signatories to the Canada-Ontario Agreement Respecting the Great Lakes Basin Ecosystem. Both the Steering Committee and the

⁷ See Article X, Section 3 in the current Agreement.

BCC should have an equal number of members from Canada and the United States.

The new Agreement should further address the issue of accountability by requiring the BCC to establish a formal process in the Binational Action Plan for defining:

- Performance indicators for the ecological health of the waters of the Great Lakes basin ecosystem as well as for program delivery, effectiveness and outcomes;
- Standards (benchmarks) against which performance will be assessed;
- The agencies or organizations responsible for the performance assessment; and
- Provisions for communicating the results of the performance assessment to the public.

In addition, the Agreement should specify a role for the Commission in evaluating progress and commit the Parties to formally seek periodic oversight hearings by the U.S. Congress and the Parliament of Canada.

Recommendation 6

The Commission recommends that the new Agreement:

- *Be signed by the President of the United States and the Prime Minister of Canada and endorsed by the U.S. Congress and Parliament of Canada in order to confirm it as an important instrument of binational environmental cooperation and to facilitate implementation.*

- *Establish a political-level, binational Great Lakes Water Quality Agreement Steering Committee, comprised of the heads of appropriate federal departments and agencies, to oversee implementation of the Agreement.*
- *Establish a Binational Coordinating Committee reporting to the Great Lakes Water Quality Agreement Steering Committee and comprised of senior federal, state, provincial and municipal officials, as well as representatives of Tribes and First Nations, who are designated to act on behalf of their respective organizations and sign operational agreements.*
- *Provide that the BCC be co-chaired by U.S. and Canadian federal members, possibly on a rotating basis, and include its terms of reference in the Agreement.*
- *Require that the Binational Action Plan incorporate provisions for ensuring accountability through triennial progress reports using meaningful performance measures.*
- *Provide for progress reports to the Commission and the public, evaluation of these reports by the Commission and periodic oversight hearings by federal legislative committees in both countries.*

VI. THE BINATIONAL ACTION PLAN

Article VI of the current Agreement, dealing with Programs and Other

Measures, does not constitute a sufficiently robust agenda for protecting and restoring the waters of the Great Lakes basin ecosystem. With some exceptions, it is a list of programs without specifying who is responsible for implementing them, what precisely needs to be done and the timeframes for action. In the Commission's view, this constitutes a fundamental shortcoming of the current Agreement that should be remedied in a new one.

As noted earlier in this special report, the Commission believes that the Parties need to develop a flexible Binational Action Plan — separate from, but required by the Agreement — that would specify the actions to be taken and by whom, commit to timelines for implementation and provide for regular review and updating. The Plan should make provision for effective monitoring and surveillance.

In the Commission's view, the Binational Action Plan should have provisions for triennial progress reports to the Commission and the public, and a fundamental review at the time when the Agreement is reviewed. The triennial progress reports, using meaningful performance measures, would provide opportunities for mid-course corrections.

The Commission recognizes that much of the work required to implement the Plan will be carried out under domestic authorities of the two countries. Accordingly, the Plan should identify the specific federal, state and provincial laws, regulations and programs that will be used as instruments to achieve the Agreement's objectives. State, provincial and municipal governments, as well as Tribes and First Nations, which deliver many of the programs vital to protecting and restoring the Great Lakes waters, should participate with federal agencies in both countries in developing and implementing the Plan.



In the Commission's view, the following are some key components that should be considered in the course of developing the first Binational Action Plan under a new Agreement:

- **Accountability provisions:** Describe precise objectives and specific commitments for each element of the Plan and the performance indicators that will be used to measure progress, and identify timelines and who is accountable.
- **Coordination:** Emphasize what aspects of each element will be coordinated binationally and how domestic legislation and programs will be used to achieve the stated objectives. Joint binational planning between agencies with similar mandates (e.g., U.S. Coast Guard and Transport Canada) is encouraged.
- **Integration:** Although it is operationally convenient to address chemical, physical and biological processes in separate programs, the Plan should acknowledge their interaction and provide for program integration where possible. For example, programs to combat eutrophication by reducing nutrient loading from point and non-point sources need to take account of evidence that eutrophication may also be caused by nutrient release from zebra

mussels. Similarly, aquatic invasive species need to be controlled from all sources (i.e., ballast water, vessels with no ballast on board or “NOBOBs,” live food fish, and aquarium and water garden trades).

- **Domestic activity:** Identify the laws, regulations and operational plans to be used to deliver the Binational Action Plan. This might include, but not be limited to, the Canada-Ontario Agreement Respecting the Great Lakes Basin Ecosystem and, on the U.S. side, the Great Lakes Regional Collaboration Strategy to Restore and Protect the Great Lakes.⁸ Provisions should also require references to planning activities pertinent to the Binational Action Plan by regional and municipal governments, Tribes and First Nations.
- **Adaptive management:** The Plan should make provisions for appropriate monitoring, surveillance and reporting to measure and assess whether objectives are being achieved, a schedule whereby this will be done and provisions for amending or updating the Plan in view of the results. This should include collaborative monitoring by agencies, focused lake-by-lake monitoring on a rotating basis, and wherever feasible and appropriate, volunteer monitoring capabilities.
- **Data management:** Considerable amounts of data are currently generated across the basin, but they have less than optimal utility because dissemination and sharing is not as efficient as it should be. Therefore, the Plan should make appropriate provisions for the management of and access to monitoring and surveillance data.
- **Reporting:** As noted earlier, the Commission believes that triennial progress reports will reduce the number of documents and amount of time spent on preparing them, allow more time for implementation of the Plan and make the reports more substantive and meaningful. The reports should focus on the Plan, measure progress in achieving its objectives and demonstrate what adjustments are needed to ensure maximum effectiveness.
- **Research:** Research always has been an important aspect of the current Agreement and should remain so in a new Agreement. The Plan should include a research coordination strategy that provides an overarching framework for cooperative international Great Lakes research. The collaborating federal agencies should assist the Binational Coordinating Committee in developing such a strategy that provides, among other things, a binational interagency process for identifying and addressing research priorities in support of Plan objectives.
- **Monitoring and surveillance:** Monitoring and surveillance is a cross-cutting activity that must underpin the entire Binational Action Plan. Over the years, there has been a pronounced lack of specificity on what actions need to be undertaken in this regard and by whom. In the Commission’s view, the Plan should provide clear direction to all relevant jurisdictions about the monitoring and surveillance programs required to support it. This includes surface and groundwater quality and quantity — aquifers, tributaries, connecting channels and the lakes themselves. Such data are needed for a broad array of purposes including, for example, ascertaining mass loadings, developing meaningful indicators and assessing the impact of environmental conditions on ecosystem and human health. In this regard, the broad array of indicators developed by the State of the Lakes Ecosystem Conference (SOLEC) should be reviewed in order to identify those most relevant to the Binational Action Plan and the Plan should include provisions for sufficient, sustained monitoring of those indicators.

⁸ The 2002-2007 Canada-Ontario Agreement is at www.on.ec.gc.ca/greatlakes/default.asp?lang=En&n=D11109CB-1. The Great Lakes Regional Collaboration Strategy is at www.glrc.us.

The Binational Action Plan should be completed and presented to the public no later than 12 months after the new Agreement comes into force with commitments for the necessary human and financial resources to implement it.

As indicated earlier in this special report, the Commission believes that the Binational Coordinating Committee should be responsible for developing the Binational Action Plan. Likely, it will draw upon the annexes of the current Agreement, issues raised during the Agreement review, the Great Lakes Regional Collaboration initiative in the United States, and the review of the Canada-Ontario Agreement Respecting the Great Lakes Basin Ecosystem. However, in the Commission's view, the following priorities should also influence the development of the Plan:

(a) Excess nutrients: Nutrient management is essential to ensure ecosystem health. The recurrence of eutrophication suggests that there is an urgent need to revisit the excess nutrient problem and the research models upon which the phosphorus reduction programs of the 1970s and 1980s were based. This includes improved monitoring of phosphorus loads from point and non-point sources, as well as an assessment of both the sources of increased nitrogen loadings and their impact on ecosystem health.

(b) Toxic contaminants: Although the current Agreement provides for action on a wide range of toxic contaminants, most activity has focused on persistent organic chemicals. Nonetheless, ongoing contamination suggests that the Binational Toxics Strategy, which arose out of the Agreement, needs to be assessed for its effectiveness. The lakes continue to receive inputs of persistent toxic substances from a variety of point and non-point sources, and all of the Great Lakes and their tributaries continue to have advisories for limiting fish consumption to protect human health. In addition, pharmaceuticals, flame retardants, perfluorinated compounds, pesticides and personal care products are examples of new and emerging chemical threats to Great Lakes water quality, and their impact on humans is not yet fully understood. Therefore, the Binational Action Plan should

address both existing and emerging chemicals of concern. It will likely require a combination of new or revised regulatory and voluntary programs and processes. It will also require monitoring and research to increase understanding and guide further action. Virtual elimination and zero discharge, hallmarks of the current Agreement, should figure prominently in the Plan, as should strategies to better protect human health.

(c) Spills: Spills of chemicals, oils and hydrocarbons and wastes can have significant impacts on Great Lakes water quality. Enhanced monitoring programs, accurate spill detection and simplified notification procedures are needed to reduce the harmful human and ecosystem impacts of spills. The Binational Action Plan should enhance the effectiveness of the Canada–United States Joint Marine Contingency Plan for spill response, facilitate cross-border agency coordination, and improve the exchange of spill information between response organizations in the two countries. The Plan should also serve to improve public education and provide for clear, consistent cross-border communication with water users about protective actions they should take in the event of spills.

(d) Biodiversity: Biologically diverse ecosystems support environmental services and ecological functions, provide economically valuable natural resources, are well adapted for resilience and resistance to disease, climatic stresses and invasive species and provide for ecosystem stability and aesthetic beauty. Biodiversity is threatened by land use changes and habitat destruction and degradation. The federal governments have a role to play in protecting biodiversity, but by and large the responsibility falls on a myriad of governmental and nongovernmental organizations at the regional and local levels. The Plan should coordinate these programs.

(e) Invasive species: The continued introduction of aquatic invasive species upsets the ecology of the lakes and imposes economic consequences. Prevention should be a hallmark of the Plan and address all pathways for introduction, including ocean-going vessels carrying ballast water and NOBOBs, canals, live food-fish markets, and aquarium and water garden trades. For invasive species already

established in the Great Lakes, the Plan should include actions for containment and control.⁹

(f) Hydrology: Protecting, restoring and enhancing natural processes, pathways and functional relationships are fundamental to ecological integrity. The Plan should address hydraulic change and connectivity between tributaries, groundwater and the lakes. The Plan also should address opportunities to restore shoreline hydrological processes to natural or near-natural conditions wherever practicable; the removal of unused or decommissioned dams on tributaries as well as other measures to restore the connectivity between the Great Lakes and tributary streams should be examined in this regard.

(g) Groundwater: Recent evidence indicates that groundwater is a larger input of water to the Great Lakes than previously recognized. The Binational Action Plan should have provisions for monitoring, research and assessment to better understand the impact of groundwater discharge on the quality and quantity of Great Lakes waters. At a minimum, the Plan should require standardization of mapping, sampling and analytical protocols for use in monitoring and reporting on contamination of groundwater and its effects on the pollution of Great Lakes waters. The Plan should also promote research on spatial and temporal variation in recharge of groundwater, the status of groundwater resources, and the role of groundwater recharge, storage and discharge in the Great Lakes basin ecosystem.

(h) Habitat: Uplands, shorelines, wetlands, islands and underwater reefs provide structure for meeting the habitat requirements for specific species and complexes of biological communities. Habitat protection, creation and restoration should be addressed in the Plan. Wherever feasible, soft engineering techniques, which use native plants, boulders and other materials rather than concrete breakwalls and steel sheet pilings, should be used on waterfront redevelopment sites. This would enhance aquatic habitat and soften the land-water interface, thereby improving shoreline ecological integrity.

(i) Climate change: Climate change, especially global warming, is already affecting the chemical, physical and biological integrity of the Great Lakes basin ecosystem. The timing and significance of possible impacts are not well understood, but any alterations in water levels and water quality due to climate change can affect to some degree the biological community, including humans, wildlife, fish and wetlands. The Plan should include development and implementation of a climate-change adaptation strategy.

(j) Atmospheric sources of pollution: Considerable progress has been made to better understand of the importance of air as a source of toxic contaminants to the Great Lakes under Annex 15 of the current Agreement. This work should be continued in the Plan and also include monitoring of nutrient loading from the airborne transport of contamination from remote locations. These nutrients should include phosphorus and nitrogen (particulate nitrate, nitric acid, ammonia and particulate ammonium).

(k) Shoreline development and urban sprawl: If current trends continue, the impact of future growth of urban areas within the Great Lakes basin will lead to continued shoreline development and urban sprawl, with or without increases in population. Both further degrade water quality by increasing runoff, air pollution, groundwater contamination, and reducing fish and wildlife habitat and wetlands. The Plan should specify programs and actions to, where necessary, protect and restore Great Lakes shorelines that will in turn protect Great Lakes water quality. The Plan should also take into account the consequences of relentless urban sprawl and develop strategies to address them.

(l) Nearshore waters: Nearshore waters are the critical ecological links between watersheds, tributaries and the offshore waters of the Great Lakes. Nearshore waters are also most visible and accessible to the public. However, the current Agreement focuses mainly on open-lake waters and specific Areas of Concern that are located mainly on tributary mouths, bays and connecting channels. Nearshore waters have

⁹ The Great Lakes Fishery Commission, established in 1955 by the Canada - U.S. Convention on Great Lakes Fisheries, is responsible for the control of sea lampreys, one of the invasive species.

been comparatively ignored, despite the fact that their condition impacts significantly on the quality of the offshore waters of the Great Lakes. The Binational Action Plan should include provisions for developing and implementing programs that target the nearshore waters.

Recommendation 7

The Commission recommends that, in developing the Binational Action Plan, the Binational Coordinating Committee should:

- *Make provisions for clear and achievable goals, accountability, binational coordination, program integration, adaptive management, data management, substantive reporting, research, monitoring and surveillance.*
- *Include activities to manage excess nutrients; address existing and emerging chemicals of concern; improve spills prevention and response; control and prevent invasive species; restore and preserve hydrological processes; understand and prevent impacts from groundwater pollution; protect, create and restore habitat; adapt to climate change; monitor atmospheric sources of pollution; reduce the impact of shoreline development and urban sprawl; and improve the condition of nearshore waters.*

As the Commission noted earlier, the Agreement should use watersheds as the operating framework for protecting and restoring the chemical, physical and biological integrity of the waters of the Great Lakes basin ecosystem. Insofar as the Binational Action Plan is concerned, this entails linking watershed planning, Remedial Action Plans (RAPs) and Lakewide Management Plans (LaMPs). RAPs generally deal only with the lower reaches of watershed units in the vicinity of harbors, tributary mouths and the connecting channels. Often, they have insufficient communication and cooperation with watershed planning in the upper reaches of watershed units or with LaMPs. The Binational Action Plan should improve the linkages between watershed planning, RAPs and LaMPs for faster and more effective results in reducing pollution on lands and in tributaries, thereby better protecting Great Lakes water quality.

The Commission is encouraged that several of the LaMPs have moved beyond a focus on critical pollutants and have adopted an ecosystem approach, including the watershed perspective, in their planning activities. In the context of accelerating progress in protecting and restoring the waters of the Great lakes basin ecosystem, LaMPs have the potential to be the core instrument for consolidating and integrating the components of the Binational Action Plan, and engaging a broader array of governments, agencies and programs to implement the Plan.

VII. ROLE OF THE COMMISSION

In the early 1970s, the Commission was the Parties' principal instrument for examining Great Lakes water quality issues, sharing information, and assessing the Parties' progress towards achieving the Agreement's objectives. Key individuals from federal, state and provincial agencies were made available for these activities. The overall effort helped the two countries move forward to consider and address Great Lakes water quality issues.

Since that time, government agencies have expanded, and legislation and regulations are far more comprehensive. The Parties have established new mechanisms — such as the Binational Executive Committee, the Binational Toxics Strategy and the State of the Lakes Ecosystem Conference — to carry out many of the functions previously assigned to the Commission. They have also made changes to reporting procedures. These developments have modified the role of the Commission.

The Commission's special utility largely arises from the charge in the 1909 Boundary Waters Treaty that it function as a binational rather than as a bilateral organization. In practice, this means that Commissioners seek to serve the best interests of both countries and make decisions by consensus, and that members of the Commission's advisory groups come from each country in equal number and serve in their personal and professional capacities rather than as representatives of their departments and agencies.

This distinctive working model enables the Commission to create venues where people from both countries — experts and public alike — can come together and contribute collectively to solving common problems. A key element that underpins this service is the Commission's ability to access



state-of-the-art scientific knowledge and public policy through its various advisory boards¹⁰, as well as its ongoing understanding of the public's concerns through its biennial conferences and other meetings. The outcome of these activities is reflected in the Biennial Reports on Great Lakes Water Quality and many special reports issued by the Commission and its boards, which provide progress assessments, problem analyses and recommendations for action.

Article IX of the 1909 Boundary Waters Treaty enables the two governments to refer issues to the Commission for study and report. Article VII of the Agreement is one such reference that not only mandates the Commission to assist in implementing the Agreement but also describes how this is to be done.

In addition, the Commission has also assisted the Parties by conducting special investigations at their request and pursuant to Article IX of the 1909 Boundary Waters Treaty, which enables the Parties

¹⁰ Currently, the Great Lakes Water Quality Board, the Great Lakes Science Advisory Board, the Council of Great Lakes Research Managers, the International Air Quality Advisory Board and the Health Professionals Task Force are the Commission's primary standing bodies that provide advice about the Great Lakes Water Quality Agreement.

to refer issues to the Commission for study and report. Since 1972, however, no specific matters relating to Great Lakes water quality have come to the Commission in this way.¹¹ The Great Lakes Water Quality Board, which is largely comprised of government officials, has recommended that the Commission receive a reference to assist the Parties in setting binational water quality objectives on a lake-by-lake basis, establishing indicators of change and progress, and providing coordination and review of work plans.

The Agreement review is an opportunity to take a fresh look at the various ways in which the Commission might be able to better assist the two countries in achieving their common goals. The Commission is of the view that it can be particularly helpful in addressing issues that the Parties find difficult to resolve, assisting them with developing coordinated programs, considering emerging issues and facilitating public consultations.

The Commission also believes that it could be of greater service to the Parties if they provided the information it needs to evaluate progress toward achieving the Agreement's goals. Although the current Agreement obliges the Parties to provide the Commission with such information, it has generally not been made available on a schedule or with the detail required by the Commission to effectively carry out its responsibilities. The new Agreement should fix this. In addition, for consistency with the schedules proposed for the Binational Action Plan, the new Agreement should direct the Commission to provide triennial rather than biennial reports as specified under the current Agreement.

For the Commission itself, there is a need to secure advice from a broader array of stakeholders, and to ensure that its advice to the Parties more comprehensively integrates science and policy. Following discussions with its advisory boards, the Commission has concluded that the boards that are specified in the current Agreement — the Great Lakes Water Quality Board and the Great Lakes Science Advisory Board — should be

continued with some adjustments. Among other things, their memberships need to be expanded and collaboration between them improved so that their different perspectives, background and expertise can be better used to develop timely, complementary advice to the Commission on specific issues. As is the case in the current Agreement, the two boards should be specified in the new Agreement. However, the Commission believes that, in cooperation with the Parties, it should develop the specific terms of reference for the boards rather than the terms of reference being appended to the Agreement, as is presently the case. This would provide the Commission with the flexibility to make changes to the boards as may be required by circumstances and issues. As in the past, the Commission would continue to establish ad-hoc or other advisory bodies as required.

The Commission is also of the view that it can contribute to the broader Great Lakes community. Currently a large number of different interests, ranging from industry and environmental groups to government organizations, are involved in Great Lakes issues. It is important that they be brought together from time to time in order to exchange information, identify potential synergies, develop collaborative action plans where prudent, take steps to coordinate their work and consult with each other. The Agreement should direct the Commission to facilitate such interaction on a regular basis through a variety of means, including stakeholders' conferences. Such conferences could be held on a biennial basis in order to distinguish them from other initiatives related to triennial reporting by the Parties, and to facilitate stakeholder collaboration and communication.

Since 1978, the Commission has held biennial meetings to, among other things, give the public opportunities to comment on Agreement progress and to inform the Commission's Biennial Reports on Great Lakes Water Quality. Since this function would be significantly enhanced by basinwide consultations on the proposed triennial progress reports, the Commission would change its existing biennial meetings to serve the purpose described above.

¹¹ Two References were identified in the 1972 Agreement. They related to pollution from land use activities and water quality in Lakes Huron and Superior.

Effective research and monitoring will, in large part, determine the success of the Binational Action Plan and the utility of its progress reports. The Agreement could direct the Commission to undertake ongoing assessments of research and monitoring needs.

Recommendation 8

The Commission recommends that the new Agreement assign to the Commission, pursuant to a new reference under the Boundary Waters Treaty, a strengthened role as follows:

- *The Commission should be mandated to submit a triennial report assessing progress in achieving the goals of the Agreement to the Parties, the proposed Great Lakes Water Quality Agreement Steering Committee, the proposed Binational Coordinating Committee and the public. This report should be in two parts: (a) a synthesis of the public's views, based on basinwide consultations conducted by the Commission, of the triennial progress reports under the Binational Action Plan, and (b) the Commission's independent assessment and advice.*
- *The Commission should continue to be authorized to issue special reports at any time on emerging and evolving issues that require attention, evaluation of research, monitoring and surveillance needs or any other matters related to the Agreement's objectives.*
- *The Commission should more frequently be requested by the Parties, using the reference procedure under Article IX of the Boundary Waters Treaty, to conduct special investigations on specific matters of concern to them and be provided with the requisite resources.*

- *The Commission should be mandated to convene a biennial stakeholders' forum to facilitate communication and cooperation among governmental and nongovernmental organizations in the Great Lakes basin.*

The Water Quality Board, the Science Advisory Board and the new biennial stakeholders' forum would be supported by the Commission's Great Lakes Regional Office. The Commission and the Parties should jointly determine what further functions the Commission could undertake to assist the Parties in achieving the objectives of the Agreement. Through its Council of Great Lakes Research Managers, for example, it could assist in implementing the research coordination strategy proposed for inclusion in the Binational Action Plan.

Within six months of the signing of the Agreement, the Commission would present to the Parties a detailed budget proposal, including organizational and operational plans required to fulfill the foregoing responsibilities. Because the Commission is recommending that the Agreement be endorsed by the U.S. Congress and the Parliament of Canada, it is of the view that its role should be set out in a formal reference pursuant to Article IX of the Boundary Waters Treaty, as is the case under the current Agreement.

VIII. CONCLUSION

It is the Commission's hope that the review will result in a new Agreement,

one that commits the Parties to providing the requisite resources for programs and initiatives in both countries designed to restore and enhance the health of the waters of the Great Lakes basin and the larger ecosystem, and that will serve as a beacon to guide action by the entire Great Lakes binational community.

In formulating its advice to the Parties, the Commission has been conscious of the need to strike a balance between protection of the Great Lakes and their resources, on the one hand, and use of them for social and economic benefit, on the other. In the Commission's view, human activity of a community, commercial and recreational nature is



as much a part of the basin ecosystem today as the natural environment itself. Thus there needs to be recognition that Great Lakes resources will be used for the benefit of society — but on condition that they be protected for future generations.

Signed this 11th day of August, 2006, as the International Joint Commission's *Advice to Governments on their Review of the Great Lakes Water Quality Agreement: A Special Report to the Governments of Canada and the United States*.

A handwritten signature in blue ink that reads "Dennis L. Schornack".

Dennis L. Schornack
Chair, U.S. Section

A handwritten signature in blue ink that reads "Herb Gray".

Herb Gray
Chair, Canadian Section

A handwritten signature in blue ink that reads "Irene B. Brooks".

Irene B. Brooks
Commissioner

A handwritten signature in blue ink that reads "Robert Gourd".

Robert Gourd
Commissioner

A handwritten signature in blue ink that reads "Allen I. Olson".

Allen I. Olson
Commissioner

A handwritten signature in blue ink that reads "Jack P. Blaney".

Jack P. Blaney
Commissioner

APPENDIX I

CONSOLIDATED RECOMMENDATIONS

- 1 *The Commission recommends that the current Agreement be replaced by a shorter and more action-oriented document that would be subject to comprehensive review every 12 years and that commits the Parties to develop a Binational Action Plan, separate from, but required by the Agreement, that is reported on and updated every three years, and reviewed comprehensively in conjunction with the 12-year Agreement review. The Agreement should also identify the means whereby full accountability will be ensured for implementing the Plan.*
- 2 *The Commission recommends that the new Agreement incorporate “protection” along with restoration and maintenance. This entails including protection as a goal in the purpose of the Agreement and ensuring that protection is articulated in the body of the Agreement and the Binational Action Plan.*
- 3 *The Commission recommends that the new Agreement and its implementation use the ecosystem approach, with a focus on water quality, by incorporating this into the purpose of the Agreement and ensuring that the Binational Action Plan provides for programs that address a broad array of stressors and conditions that impact the quality of the waters of the Great Lakes basin ecosystem.*
- 4 *The Commission recommends that the Agreement specify that watersheds be the geographic units to coordinate, integrate and implement programs called for by the Agreement and set out in the Binational Action Plan.*
- 5 *The Commission recommends that human health be defined in the Agreement, integrated within its goals and objectives and included in the Binational Action Plan.*
- 6 *The Commission recommends that the new Agreement:*
 - *Be signed by the President of the United States and the Prime Minister of Canada and endorsed by the U.S. Congress and Parliament of Canada in order to confirm it as an important instrument of binational environmental cooperation and to facilitate implementation.*
 - *Establish a political-level, binational Great Lakes Water Quality Agreement Steering Committee, comprised of the heads of appropriate federal departments and agencies, to oversee implementation of the Agreement.*
 - *Establish a Binational Coordinating Committee reporting to the Great Lakes Water Quality Agreement Steering Committee and comprised of senior federal, state, provincial and municipal officials, as well as representatives of Tribes and First Nations, who are designated to act on behalf of their respective organizations and sign operational agreements.*
 - *Provide that the BCC be co-chaired by U.S. and Canadian federal members, possibly on a rotating basis, and include its terms of reference in the Agreement.*

- *Require that the Binational Action Plan incorporate provisions for ensuring accountability through triennial progress reports using meaningful performance measures.*
- *Provide for progress reports to the Commission and the public, evaluation of these reports by the Commission and periodic oversight hearings by federal legislative committees in both countries.*

7 *The Commission recommends that, in developing the Binational Action Plan, the Binational Coordinating Committee should:*

- *Make provisions for clear and achievable goals, accountability, binational coordination, program integration, adaptive management, data management, substantive reporting, research, monitoring and surveillance.*
- *Include activities to manage excess nutrients; address existing and emerging chemicals of concern; improve spills prevention and response; control and prevent invasive species; restore and preserve hydrological processes; understand and prevent impacts from groundwater pollution; protect, create and restore habitat; adapt to climate change; monitor atmospheric sources of pollution; reduce the impact of shoreline development and urban sprawl; and improve the condition of nearshore waters.*

8 *The Commission recommends that the new Agreement assign to the Commission, pursuant to a reference under the Boundary Waters Treaty, a strengthened role as follows:*

- *The Commission should be mandated to submit a triennial report assessing progress in achieving the goals of the Agreement to the Parties, the proposed Great Lakes Water Quality Agreement Steering Committee, the proposed Binational Coordinating Committee and the public. This report should be in two parts: (a) a synthesis of the public's views, based on basinwide consultations conducted by the Commission, of the triennial progress reports under the Binational Action Plan, and (b) the Commission's independent assessment and advice.*
- *The Commission should continue to be authorized to issue special reports at any time on emerging and evolving issues that require attention, evaluation of research, monitoring and surveillance needs or any other matters related to the Agreement's objectives.*
- *The Commission should more frequently be requested by the Parties, using the reference procedure under Article IX of the Boundary Waters Treaty, to conduct special investigations on specific matters of concern to them and be provided with the requisite resources.*
- *The Commission should be mandated to convene a biennial stakeholders' forum to facilitate communication and cooperation among governmental and nongovernmental organizations in the Great Lakes basin.*

APPENDIX II

ORIGINS OF THE COMMISSION'S ADVICE

The Commission has benefitted from the views expressed by experts, stakeholders and members of the public at large during the various consultation initiatives undertaken in 2005 under a reference from the Parties. These consultations have informed the Commission's understanding of the issues and helped to shape its own recommendations to the Parties.¹²

In large measure, however, the Commission's position is based on research, analysis and advice by a number of its standing policy and technical boards which, in two-year cycles, focus their efforts on Commission priorities related to the Great Lakes Water Quality Agreement and, more recently, its review. These groups include the Great Lakes Water Quality Board, the Great Lakes Science Advisory Board, the Council of Great Lakes Research Managers and the International Air Quality Advisory Board.¹³

To supplement the foregoing efforts, the Commission established an ad hoc Health Advisory Group, composed of representatives from the Great Lakes boards and Council, the International Air Quality Advisory Board and the Health Professionals Task Force.¹⁴ The mandate of the Health Advisory Group was to determine whether and how human health should be better reflected in and addressed by the Agreement.¹⁵

The Commission's advice to governments about the Agreement review is also based on the results of several initiatives conducted by Commission Boards and staff in recent years, sometimes in collaboration with other organizations. Of particular relevance in this regard are the following special reports:¹⁶

- Practical Steps to Implement an Ecosystem Approach in Great Lakes Management (1995)*
- Protection of Great Lakes Water Quality from Atmospheric Contaminant Deposition (1999)*
- Protection of the Waters of the Great Lakes (2000)*
- Alien Invasive Species and Biological Pollution of the Great Lakes Basin Ecosystem (2001)*
- Review of Annex I of the Great Lakes Water Quality Agreement (2001)*
- International Joint Commission/Binational Executive Committee Review of Reporting Requirements under Annex 2 (2002)*
- Review of the Canada-United States Great Lakes Binational Toxics Strategy (2002)*
- Emerging Great Lakes Issues in the 21st Century (2003)*
- Status of Restoration Activities in the Great Lakes Areas of Concern (2003)*
- Climate Change and Water Quality in the Great Lakes Basin (2003)*
- Protection of the Waters of the Great Lakes (2004, follow-up on 2000 Report)*
- Science and the Great Lakes Water Quality Agreement (2004)*
- Principles for the Review of the Great Lakes Water Quality Agreement (2005)*
- Report on Spills in the Great Lakes Basin (2006)*

¹² The Commission's report, *Synthesis of Public Comment on the Forthcoming Review of the Great Lakes Water Quality Agreement*, is available at <http://www.ijc.org/en/activities/consultations/glwqa/synth.php>.

¹³ The activities and recommendations of these groups are described in the 2003-2005 Priorities Report, which is available at <http://www.canamglass.org/glwqa/files/prioritiesfullreport.pdf>. Reports for previous cycles are available at http://www.ijc.org/php/publications/biblio_library.php.

¹⁴ The mandate of the Task Force is available at http://www.ijc.org/conseil_board/health/en/health_mandate_mandat.htm.

¹⁵ The Group's report is available at http://www.ijc.org/conseil_board/health/health_pub.php?language=english#reports.

¹⁶ These reports and other relevant source documents are available at http://www.ijc.org/php/publications/biblio_library.php.

*Findings of An Expert Consultation on Strengthening
Science Under a Renewed Great Lakes Water
Quality Agreement (2006)*

*Water Quality Board Advice on Agreement Review
(2006)*

Groundwater/Annex 16 Recommendations (2006)

*Council of Great Lakes Research Managers Advice
on Agreement Review (2006)*

Finally, the Commission's Biennial Reports on Great Lakes Water Quality have been an ongoing source of information, analysis and recommendations that have influenced this special report. These reports are also available at the Commission's website.

