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Shared Policy Vision for the Great Lakes: A Workshop Report of the Great Lakes Water Quality Board, Toronto, Ontario, June 17 & 18, 1991

Great Lakes Water Quality Board

International Joint Commission
Commission mixte internationale

Vision Statement

The Great Lakes watershed is a clean, safe environment where life forms exist in harmony. People take pride in the Great Lakes. We share and live an ethic which recognizes that environmental integrity provides the foundation for a healthy economy. We are secure in the knowledge that the fish and wildlife are healthy to eat and the water can be enjoyed by all. We understand our responsibility for ensuring a self-sustaining Great Lakes ecosystem. This is the example we set for the rest of the world and the legacy we leave our children.

A Shared Policy Vision FOR THE GREAT LAKES

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Purpose

The Water Quality Board held this workshop on June 17 and 18, 1991 for the purposes of:

- obtaining consensus within the Board on the future desirable characteristics of the Great Lakes
- developing, from this consensus, a priorities statement for presentation to the Priorities Planning Group of the International Joint Commission (IJC)

Both of these purposes were achieved. The workshop agenda comprised a series of questions and three guest presentations for the Board. Staff from the Rawson Academy of Aquatic Science assisted the Secretary to the Board in preparing the agenda, facilitating the workshop and summarizing the results.

Background

Over the past two years, the context within which the Water Quality Board functions has profoundly changed. It is a change that was implied in the 1987 Protocol to the Great Lakes Water Quality Agreement (GLWQA). Since then, several publications have contributed to defining the new context, including the Great Lakes Water Quality Board Report, Appendix B; Great Lakes, Great Legacy? (Conservation Foundation/Institute for Research on Public Policy) and the 5th Biennial Report of the International Joint Commission.

The IJC's "Reconstituted Task Force on Commission Role and Priorities under the Great Lakes Water Quality Agreement" issued its final report on March 15, 1991. The Task Force recommended that the Water Quality Board be divested of its committee and subcommittee structure. At the Board's April, 1991 workshop in Washington, D.C., members noted that these changes had freed the Board from its supervisory role. This freedom should allow it to proceed with what it performs best: interpreting information and offering policy advice to the Commission.

As an initial step in this direction, the Board considered that it was important to develop a renewed consensus on desirable future characteristics of the Great Lakes and to establish some priorities to guide activities over the next two years. The Board held a workshop in Toronto to achieve these objectives. The priorities derived from this workshop should be considered at the next meeting of the IJC's Priorities Planning Group. The list of participants is provided in Appendix 1. This report summarizes the results.

A Context for the 1990's

"Toward the Future", Chapter 5 of the Water Quality Board's 1989 report, described how the Board "prefers to attempt to influence the future by preparing for it." This concept lies at the heart of sound environmental management and sustainable development. To prepare for the future, the 1989 chapter identified issues under seven headings: global considerations, advancing a toxic substances management strategy, environmental regulation and management, extension of technologies, infrastructure rehabilitation, the role of research, and the role of public education. This forecast of issues has proven to be largely correct. More recent data and scientific knowledge, however, enable the Board to redefine this listing. And its new policy role within the IJC should now allow the Board to provide leadership in moving the issues forward.

In looking to the future of the Great Lakes, there is no doubt that the presence of persistent toxic substances will continue to be a major issue. With the release, earlier this year, of the Government of Canada's report entitled "Toxic Chemicals in the Great Lakes and Associated Effects," it has become clear that:

- peak levels of critical persistent pollutants occurred in 1972 and decreased until about 1983, since when there have been no significant declines
- studies on wildlife have shown that reproduction in colonial fish-eating birds is now near normal; however, the incidence of defects in embryos is significantly elevated above the incidence in reference areas
- levels of chemicals in Canadian residents of the Great Lakes basin appear to be no higher than in other parts of Canada, but no long term studies have been undertaken on trends with time
- the major route of human exposure to toxic chemicals is through consumption of food and particularly fish and wildlife from the Great Lakes
- the incidences of cancer, mortality and adverse reproductive outcomes in the Great Lakes region are no higher than would be expected in any highly industrialized areas of Canada

• one series of epidemiological studies showed an association between the maternal consumption of fish from Lake Michigan and adverse effects in developing children

• exposure for the average population is generally below the "tolerable limits"

• sportsmen, fishermen and native peoples are more highly exposed

• fetuses and breast-fed infants are exposed to higher levels of contaminants than the general population; placental transfer and breast milk account for the higher levels, which occur during critical periods of development

• some human populations have already been affected by subtle, though not unimportant, effects

In addition, the workshop was able to benefit from the views and experience of three speakers, each of whom addressed specific issues or concerns. Dr. Theo Colborn argued the need to add a "forensic" approach to the regulation of toxic substances in the Great Lakes basin and elsewhere. Dr. Colborn explained how the weight of evidence now shows that new criteria are needed that take into account bioaccumulation, persistence, exposure potential and a broader range of toxic end points in addition to cancer, e.g. developmental effects in the offspring of exposed adults. This is a fundamental shift in paradigm for the 1990s, but it is a shift that can be accommodated under the GLWQA. The tradition of allowing the discharge of toxic substances in "non toxic amounts" and the determination of what is "toxic" is no longer ecologically supportable for those substances that are bioaccumulated and persistent. There is a serious risk to the developmental potential and functioning of offspring of adults exposed to "exquisitely small" doses of these substances. The assessment of injury has to be added to the traditional assessment of risk to account for the compromise to life potential.

The Honourable David Crombie's presentation to the workshop illustrated the practical application of the ecosystem approach for the 1990s, with particular emphasis on water quality. Mr. Crombie spoke from his experience as the head of the joint Federal/Provincial Royal Commission on the Future of the Toronto Waterfront. His presentation built on the Commission's August 1990 Interim Report, "Watershed", which explains how the concept of "everything being connected to everything else" was applied to the watershed known as the Greater Toronto Bioregion, using nine principles: clean, green, usable, diverse, open, accessible, connected, affordable, and attractive. One of the main challenges was to integrate environmental issues into planning. A major obstacle identified by Mr. Crombie was what he described as "jurisdictional gridlock." His Royal Commission is successfully dealing with the issue. That experience, along with the successes of the IJC in the same vein, have illustrated the ecological benefits of creative, common structures that cut across jurisdictions. Commissioner Crombie also reminded the Board that Canadians feel a "spiritual link" to water - something that will come to the forefront more and more in the decade ahead.

Mr. Henry Lickers, the Director of the Environmental Division of the Mohawk Council of Akwesasne, was the last guest speaker to address the workshop. He spoke about ecosystem health from an aboriginal perspective: the history of degradation of the Great Lakes - St. Lawrence River environment and the resulting "paradigm shift" experienced by aboriginal societies. He urged the Board to see how the same lesson could be repeated today. The social and economic repercussions of this experience on Native peoples await others if the environmental issues are not addressed. He described the need to have a shift from anthropocentric and egocentric to ecological, from technocratic and dictatorial to self reliant.

Vision Statement

The Board recognizes the need for a vision, a statement that captures the essence of the philosophy and purpose of the work of the Board and others in the Great Lakes basin. Several visions have been suggested over the past few years. The visions put forward by the National Wildlife Federation and the Canadian Institute for Environmental Law and Policy in "A Prescription for Healthy Great Lakes," and by the Rawson Academy of Aquatic Science in "Toward an Ecosystem Charter for the Great Lakes" were both instructive as the Board developed its vision.

The vision which the Great Lakes Water Quality Board has for the future of the Great Lakes is:

The Great Lakes watershed is a clean, safe environment where life forms exist in harmony. People take pride in the Great Lakes. We share and live an ethic which recognizes that environmental integrity provides the foundation for a healthy economy. We are secure in the knowledge that the fish and wildlife are healthy to eat and the water can be enjoyed by all. We understand our responsibility for ensuring a self-sustaining Great Lakes ecosystem. This is the example we set for the rest of the world and the legacy we leave our children.

Desired States

With the above vision, the Water Quality Board has identified characteristics that represent the ideal state of the Great Lakes watershed. In summary, these characteristics include:

- no warnings that fish are unsafe to eat
- a viable commercial fishery
- viable and diverse wildlife populations
- restoration of indigenous species and endangered spaces
- control of exotic species
- protection of natural areas
- swimmable beaches

Many of these characteristics are reflected in the "beneficial uses" described in Annex 2 of the GLWQA. In a broader sense, the Board sees the Great Lakes basin as a model of ecosystem management, a place where environmental technology is developed, where forestry, agriculture and urban development are practised in a sustainable fashion. The basin should also be a destination for international tourism. Cooperative interjurisdictional approaches are essential to ensure the future health of the basin.

Factors Affecting the Desired States

A vision, with a sense of the desired states that would be part of that vision, is necessary to provide the overall direction to any action plan. The workshop identified some of the major factors that could affect the achievement of the desired states in the basin. These include:

- increased economic and social value of clean water
- increased population pressures
- increased economic activity (e.g. globalization of the world economy)
- increased public awareness (e.g. eco-support)
- increased movement of goods, services and people
- increased focus on urban ecosystems
- better scientific methodologies for determining safety/toxicity
- increased multi-sectoral stakeholder decision-making
- increased command and control mechanisms (e.g. bans)
- climatic change
- aboriginal water rights
- new environmental technologies for cleanup and non-polluting manufacturing.

Issues to be Addressed

During the workshop, the Board identified issues that should be addressed to achieve its vision of the Great Lakes while accounting for the factors that would likely affect the desired states in the basin. The first three issues (see below) are to be recommended to the Priorities Planning Group, and could be addressed by the Board in the short term. Issues 4 and 5, which have short descriptions below, will be recommended by the Board for consideration over the next two years. The Board listed ten other issues (without assigning any priorities) that should be considered within the next decade to achieve the proposed vision statement. Overall, this listing represents the best current judgement of the Board. It will, over the coming months and years, be subject to revision and updates to reflect new perspectives and new information.

Three First Priority Issues

1. The next Great Lakes Water Quality Agreement to provide the Commission with advice for the Parties
2. Risk and injury assessment and management to start addressing the "paradigm shift" needed to more properly assess and manage toxic substances in the basin
3. Current and emerging regulatory regimes to compare and contrast the various regulatory regimes

Two Second Priority Issues

4. Integrated approaches to watersheds and shorelines management

The Board thinks that an ecosystems approach to the basin requires further definition and integration between and within jurisdictions. There seems to be a lack of consistent application of techniques. This situation needs to be rectified.

5. Groundwater management practices

The Board thinks that there is a need to study the management and preservation of groundwater systems in the Great Lakes basin.

Other Issues

• Role of municipalities, industry, agriculture and forestry in the management and cleanup of the Great Lakes

The Board thinks that it is necessary to involve all stakeholders in the management and cleanup of the Great Lakes basin. Municipalities, industry and the agricultural and forestry sectors were identified by the Board as major partners. A series of workshops with these sectors is envisaged to address water quality and broader ecosystem health issues.

• Evaluation of education and information policies and programs in the Great Lakes basin

Although the Board identified this as a lower priority than some of its other issues, it thought that there was a need to assess public education/information programs in communities surrounding the basin. Do people understand what an ecosystem is? what the ecosystem approach is? Do they know the role of the IJC and the Water Quality Board? What are current public perceptions and behaviors regarding water use, water levels, water quality in the region?

• Applying sustainable development in the Great Lakes basin

What is the definition of sustainable development in the context of the basin? How will it be applied? These are some questions that the Board thought should be addressed.

• Control options for out-of-basin loadings

What mechanisms can be used to control pollution that comes from imported sources, e.g. ballast waters? What systems currently exist? What new systems should be implemented?

• The real public health issues in the Great Lakes basin; are standards consistent?

What are the real public health issues regarding toxic chemicals and their effects on humans in and around the Great Lakes basin? How do these threats compare with other public health issues? Are the standards regarding public health consistent among the various jurisdictions surrounding the basin? If not, why not?

• Water quality - tourism and recreation in the Great Lakes basin

The Board is interested in becoming more aware of the effects of the quality of the Great Lakes on its potential as an international tourist destination. What is the relationship of the tourism industry to clean water? Is the industry dependent on clean water? Is the tourism industry another potential partner in helping to achieve the desired state?

• Fish and wildlife restoration - competing visions

The Board suggested that a workshop, jointly sponsored by the Great Lakes Fishery Commission and the Water Quality Board, would be useful in identifying areas where the Water Quality Board could assist in restoring "species and spaces."

• The relationship between water quality and water quantity

Are there current problems with quality/quantity issues? What might be the effects of diversion schemes such as the Grand Canal? What would be the effects of climatic change on the management systems of the Great Lakes? What policy changes will be necessary in order to ensure good water quality in the basin? These and other questions may be addressed in a report/workshop of the Board.

• Pollution prevention technology

The Board identified a need to address the issues of decommissioning and the treatment and destruction of persistent toxic chemicals. It also identified a requirement to perform a technical and policy overview of issues related to contaminated sediments.

Conclusion

This workshop was the first effort by the Board to adapt to its new role. The Board is, in a sense, learning by doing. It is clear already, however, that the Board can make an important contribution as a policy adviser.

The workshop resulted in the first statement of vision by the Board. That vision and the priority issues which it generated will guide the definition of work recommended by the Board over the coming years. No doubt, changes will occur. But the basic strategy is clear.

APPENDIX 1 - LIST OF ATTENDEES

Board Members

Peter Toft
Health and Welfare Canada

David L. Egar
Environment Canada

Robert M. McMullen
Department of Fisheries and Oceans

Gerald A.V. Rees
Ontario Ministry of the Environment

Tony Wagner
Environment Canada

Doug A. McTavish
Ontario Ministry of the Environment

James D. Rozakis
Pennsylvania Department of
Environmental Resources

Lyman F. Wible
Wisconsin Department of
Natural Resources

Salvatore Pagano
New York State Department of
Environmental Conservation

Kathy Prosser
Indiana Department of Environmental
Management

Valdas V. Adamkus
U.S. Environmental Protection Agency

Tim Scherkenbach
Minnesota Pollution Control Agency

Facilitators

Don Gamble
Rawson Academy of Aquatic Science

Julie Gelfand
Rawson Academy of Aquatic Science

Guests

David Crombie
Royal Commission on the Future
of the Toronto Waterfront

Theo Colborn
Conservation Foundation/
World Wildlife Fund

Henry Lickers
St. Regis Environmental Division
Akwesasne

International Joint Commission Staff

Edward Bailey

Michael Gilbertson