



STATE OF THE STRAIT MONITORING FOR SOUND MANAGEMENT



A BINATIONAL CONFERENCE ON THE DETROIT RIVER ECOSYSTEM

Convened December 2004 by Great Lakes Institute for Environmental Research, University of Windsor, The Greater Detroit American Heritage River Initiative of Metropolitan Affairs Coalition, The Detroit River Canadian Cleanup, The Detroit River International Wildlife Refuge, The Detroit Water and Sewerage Department, and other organizations.

Cover photos: photos left and center (upper and lower): Recreational fishing in the Huron-Erie Corridor (lower center photo by Kurt Byers, Michigan Sea Grant Extension, courtesy of United States Environmental Protection Agency, Great Lakes National Program Office; other photos courtesy of OMNR); upper right: Scientist sampling water, benthic invertebrates and sediment in Lake Erie (photo courtesy of Environment Canada and University of Windsor); lower right: Longear sunfish (*Lepomis megalotis*) (photo courtesy of Nicolas Lapointe)

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3. KEYNOTE ADDRESS

MONITORING FOR SOUND MANAGEMENT

Monitoring environmental quality along the Detroit River watercourse and vicinity is essential to determine status and trends in water and habitat quality. In addition, monitoring is just as important for assessing the ecological health of fish and wildlife and the smaller biota in the food web that supports them.

Purpose

The importance of monitoring is recognized in Annex 11 (Surveillance and Monitoring) of the Great Lakes Water Quality Agreement. In a plan developed in 1975, the U.S. and Canada agreed to a joint, coordinated monitoring program called the Great Lakes International Surveillance Plan. The initiative was revised in 1980 and again in 1986, but despite the extensive planning process, budget constraints have meant that very little of the Plan has actually been implemented. Yet the purposes for monitoring outlined in the plan are still relevant today for the Detroit River and elsewhere in the Great Lakes. The elements of the Plan as stated in Annex 11 are:

- **Compliance** - To assess the degree to which jurisdictional pollution control programs are being met
- **Achievement of goals and objectives** - To determine whether there is a need for more stringent pollution control requirements and other programs to restore the chemical, physical, and biological integrity of the Great Lakes Basin Ecosystem
- **Evaluation of water quality trends** - To assess the effectiveness of remedial and preventative measures, assess enforcement and management strategies, and identify the need for further research and technology development
- **Annex 2 programs** - To provide monitoring support for Remedial Action Plans for the Areas of Concern (including the Detroit River) and Lakewide Management Plans

Dr. John E. Gannon is a Senior Scientist in the Great Lakes Regional Office of the International Joint Commission and serves as Secretary to the Great Lakes Water Quality Board. He has a wide range of experience in academic, research, and government sectors, and was a key leader in development of the Great Lakes International Surveillance Plan during the 1980s. His keynote address shared insights on monitoring for sound management that set the stage for the technical presentations and practical discussions that followed.

Challenges

In spite of widespread recognition of its importance, monitoring remains a perplexing issue. There seems to be a large quantity of data collected annually, but there are often questions asked about the quality and availability of the data. Moreover, questions sometimes arise as to whether the right kinds of data are being collected to report to policy-

makers and the public. The data are meant to indicate whether expensive pollution abatement programs and remedial measures are producing the anticipated ecosystem improvements. However, more and more, citizens are asking:

- Are the fish safe to eat?
- Is it safe to swim in the water?
- Is the water safe to drink?

To further add to the monitoring dilemma, agencies that have monitoring responsibilities struggle to balance the costs of sufficient monitoring against other competing priorities. Some scientists are reluctant to participate in monitoring activities because they get less professional recognition for their involvement in routine monitoring than if they participate in new research and development projects. Existing monitoring programs are often criticized for being “data-rich and information-poor” because disproportionately more time is spent planning and collecting data than evaluating and reporting on those data.

Status of Monitoring in the Detroit River

Although Detroit River monitoring programs currently are not sufficiently coordinated or comprehensive, the good news is that observations of status and trends for certain environmental and natural resource conditions are available and have been reported at previous State of the Strait and other binational Detroit River conferences, in the recently published book, *Honoring Our Detroit River: Caring for Our Home* (Hartig 2003), and at biennial State of the Great Lakes Ecosystem (SOLEC) conferences.

The status and trends information reported most often represent measurements taken as part of traditional water chemistry monitoring programs (e.g., concentrations of phosphorus, heavy metals, and organochlorine contaminants). In addition, it is encouraging that information from biomonitoring programs is being reported with increasing frequency. Biomonitoring includes assessing the diversity and condition of fish and invertebrates (e.g., insects and worms) in river water and bottom sediments; frogs and toads in wetlands; and hawks, eagles, colonial birds, and waterfowl that use the Detroit River watercourse for nesting and as a migratory stop-over for resting and feeding.

Most encouragingly, there is a rapidly growing “citizen science” movement in the Detroit River vicinity and elsewhere in the Great Lakes, whereby student and adult volunteers participate in environmental and natural resource monitoring activities through schools, regional watershed councils, and other organizations. Citizens are now contributing meaningful and important monitoring data on water quality, biota, and habitat that complements and supplements jurisdictional monitoring programs on both the U.S. and Canadian sides of the Detroit River. Moreover, participation in such volunteer monitoring programs allows citizens to learn about environmental science, gain a greater appreciation of their regional environment and natural resources, and take an active role in environmental stewardship and the state of their own environment.

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- *Are the fish safe to eat?*
- *Is it safe to swim in the water?*
- *Is the water safe to drink?*

Opportunities

There is a window of opportunity right now to improve monitoring of the Detroit River watercourse! The International Joint Commission issued its 12th *Biennial Report on Great Lakes Water Quality* in September 2004 that triggers review by the U.S. and Canadian governments of the operation and effectiveness of the Great Lakes Water Quality Agreement in 2005–2006. This is an opportunity to review Annex 11 and reach consensus on a revised Great Lakes International Surveillance Plan or its successor that would be coordinated bilaterally, comprehensively, and cost-effectively for the Detroit River and elsewhere in the Great Lakes.

Furthermore, both the U.S. and the Canadian governments have recently called for renewed program efforts to be undertaken on the Great Lakes. In the U.S., an Executive Order was signed in May 2004 creating a Great Lakes Interagency Task Force to improve coordination of programs to protect the environment and economy of the Great Lakes and surrounding communities (<http://www.whitehouse.gov/news/releases/2004/05/20040518-3.html>). In Canada, the Throne Speech by the Canadian Governor General in October 2004 called for renewal of the Canadian Great Lakes Program in order to build environmentally sustainable communities, and work with the International Joint Commission to protect and preserve the internationally shared Great Lakes and St. Lawrence River ecosystems (<http://pm.gc.ca/eng/sft-ddt.asp>).

Canadian and U.S. citizens in the Detroit River region can greatly assist by holding their governments accountable to their promises. The public also can take an active role in their communities by participating in volunteer monitoring programs and assuring that resource managers and policymakers are using jurisdictional and volunteer monitoring data in making sound decisions to improve the environmental quality of the Detroit River ecosystem.

The views expressed in this address are those of the author and not necessarily those of the International Joint Commission.