

INTRODUCTION

The governments of Canada and the United States (the Parties or Governments) signed the first Great Lakes Water Quality Agreement (Agreement) in 1972. They created the present Agreement in 1978, revised it in 1983 and, in 1987, added new annexes through a Protocol. Today, the Agreement remains one of the most farsighted international agreements, and is a model of cooperative environmental research and ecosystem management.

In this *Twelfth Biennial Report on Great Lakes Water Quality*; the International Joint Commission (Commission), as required by Article VIII of the Agreement, assesses the Parties' progress in implementing the Agreement by highlighting issues we conclude need timely and focused attention. We do not report on all subjects of importance to the Great Lakes but analyze and make recommendations around the Agreement's theme of physical, biological and chemical integrity leading to an ecosystem approach to ecological integrity. The Great Lakes are a global treasure. As such, our two great countries have a responsibility to treat them with the utmost respect and care; to not be complacent in their care and protection; and to reflect our own countries' ecosystem integrity in how we treat this global treasure.

The concept of physical integrity is illustrated in this report by land use issues, with a focus on urban systems and the exacerbating effects of climate change on runoff and pollution. The threats posed by aquatic alien invasive species and pathogenic pollution portray the concept of biological integrity. The concept of chemical integrity is reflected in mercury pollution and its effects on human health. The changing composition of the waters and biota of Lake Erie illustrate the concept of ecosystem integrity.

The Commission points out two areas here which, while not discussed further in the body of this report, it considers extremely important and continues to call on the Parties for action: the Remedial Action Plan (RAP) Program, and major spills in the connecting channels from Lake Huron to Lake Erie.

The Remedial Action Plan Program was created under Annex 2 of the 1987 Agreement. In April 2003, the Commission evaluated the status of restoration in all remaining 41 Great Lakes Areas of Concern (AOCs) and issued a report in April 2003.³ We continue to call on the Parties, in cooperation with the jurisdictions and the communities, to provide the Commission and the public with precise and concise reporting about RAP accomplishments and challenges. Each of the AOCs is unique in scope, issues, and leadership. As such, there is no one solution to the problems faced by the AOCs and the organizations and individuals dedicated to remediate them. The Parties need to provide greater resources to undertake further remediation, wastewater and storm water treatment, habitat rehabilitation and protection, and other necessary actions. Documenting progress and future needs provides the public and elected officials with a better understanding of how government funding has contributed to restoring beneficial uses in the Great Lakes AOCs, and can achieve further goals. It would provide the evidence that previous investments have been worthwhile and that the substantial additional funding needed to fully restore ecosystem quality and beneficial uses for fish, wildlife and humans is worth the cost.

The Commission is seriously concerned that major spills in the connecting channel from Lake Huron to Lake Erie, particularly the St. Clair River section, have increased over the last two years. In April 2002, a very large oil spill (estimated at 378,500-1,000,000 litres / 100,000-264,200 gallons) in the Rouge River required the first full implementation of the Canada/U.S. Coast Guard joint response system (CANUSLAK⁴) that recovered 167,000 litres (~44,000 gallons) of oil during the response. In August 2003 a major regional power blackout led to not only several overflows from wastewater treatment plants, but also an unacceptable delay in Royal Polymer's reporting of a vinyl chloride spill in Sarnia. Less than six months later, on February 1, 2004, a leak in a heat exchanger at the Imperial Oil plant in Sarnia led to a discharge of methyl ethyl ketone and methyl isobutyl ketone into cooling water which was discharged into the river.

In April 2004, the Ontario Ministry of Environment appointed an Industrial Pollution Action Team of scholars and community leaders to evaluate measures that could reduce spills in the Sarnia area. On August 9, 2004, the Ontario Ministry of Environment released a report from the Industrial Pollution Action Team for a 60-day public comment period. The report contains 35 recommendations directed at government and industry.

Water treatment plant operators downstream are concerned about the frequency with which they have been closing their water intakes due to these spills, and the public is concerned about the safety of its drinking water. The Commission is exploring the issue, keeping abreast of investigations and proposed steps to prevent or mitigate future spills, and anticipates issuing a separate report on this issue as more information becomes available.

The Commission looks forward to a substantive response by the Parties to this report, in accordance with Article X of the Agreement and consistent with their commitments made under the Agreement.