

# International Joint Commission Twelfth Biennial Report on Great Lakes Water Quality

## BIOLOGICAL INTEGRITY: IMPACTS OF AQUATIC INVASIVE SPECIES

September 2004

### Overview

In the **Great Lakes Water Quality Agreement**, the governments of the United States and Canada agreed “to restore and maintain the chemical, physical, and biological integrity of the waters of the Great Lakes Basin Ecosystem.” Under the terms of the Agreement, the two federal governments agreed “to make a maximum effort to develop programs, practices and technology necessary for a better understanding of the Great Lakes Basin Ecosystem and to eliminate or reduce to the maximum extent practicable the discharge of pollutants into the Great Lakes System.”

The **International Joint Commission (IJC)** is directed to make a full assessment of the progress toward achieving the objectives of the Agreement every two years. The **Twelfth Biennial Report on Great Lakes Water Quality** is the Commission’s most recent assessment of progress.

### The Twelfth Biennial Report on Great Lakes Water Quality

In September 2004, the International Joint Commission released its *Twelfth Biennial Report on Great Lakes Water Quality*. The purpose of the report is to assess the progress being made under the Agreement and highlighting issues we conclude need timely and focused attention.

The Commission does not report on all subjects of importance to the Great Lakes, but analyzes and makes eight specific recommendations regarding the Agreement’s goals of physical, biological and chemical

integrity leading to an ecosystem approach to ecological integrity.

**This information sheet is one of six that highlight important issues discussed in the report.**

### IMPACTS OF AQUATIC INVASIVE SPECIES

In 2001, scientists estimated that 162 invasive species had entered the Great Lakes from all pathways. Today, some scientists have raised that estimate to more than 170 non-indigenous fish, invertebrates, plants, algae, protozoa and parasites, and predict that one new non-indigenous species will be discovered in the lakes about every eight months. The impact of introduced species already in the system serve as harbingers of the economic and environmental costs to come if this crucial threat is not controlled.

The Great Lakes ecosystem is an uncertain, fragile environment subject to biological pollution by aquatic species that continue to enter the lakes from the ballast water of foreign, ocean-going ships and other means. The *Twelfth Biennial Report* lists nine possible actions to address ecological and economic costs of aquatic invasive species that have been discussed by both governments during the past two years.

### International Maritime Organization Convention (IMO)

The International Maritime Organization standards for ballast water discharge will become effective 12 months after ratification by 30 member states, representing 35

percent of the world merchant shipping tonnage. Even under the best scenarios, provisions of the Convention could take at least five to eight years to come into full force. Given the current rate of introductions, the Great Lakes could be at risk from 8 to 12 additional non-indigenous species during that time. Any one of these new invaders could prove to be as ecologically and economically destructive as those already in the system, if not more so.

There are limited points where controls are needed to halt aquatic invasive species from entering the Great Lakes. For instance, sea-going ships gain access by a single gateway, the St. Lawrence River Seaway, which the United States and Canada share. The provisions of the International Maritime Organization Convention recognize the need for regional cooperation, stating that a party may individually, or jointly with other parties, impose additional measures to prevent, reduce or eliminate the transfer of harmful aquatic organisms and pathogens through ships’ ballast water and sediment.

A binational, regional plan is essential if we have any hope of stopping this influx before the Convention is ratified and implemented.

### Creating a Regional Approach: What We Can Do Better

A Great Lakes solution to invasive species must be a cooperative effort focused on regional concerns that includes a biologically protective standard for all the Great Lakes; requires technology certification to

achieve the standard; requires enhanced measures of ballast management for ships carrying residual ballast water and sediment; promotes ongoing regional cooperation; and develops measures to ensure compliance.

### **Other Pathways**

The Commission continues to express its concerns about other serious potential invaders to the Great Lakes via pathways other than ballast water. For example, the Commission has expressed great concern about the threat posed by Asian carp entering the Great Lakes through the Chicago Sanitary and Ship Canal.

It also continues to support and work cooperatively with other federal, state and provincial agencies to help increase public awareness and discourage human activities that contribute to the invasive species problem in the Great Lakes, including the intentional or accidental release of bait, aquarium fish, and live fish sold for human consumption.

### **Conclusion**

The borderless nature of aquatic invasive species requires continuing cooperation and vigilance by federal, state and provincial authorities to review all related legislation and regulations.

The International Joint Commission is uniquely positioned to provide independent and objective advice to the Parties. The Commission believes that the Parties should direct the IJC to identify approaches that harmonize and coordinate binational efforts to prevent the introduction of aquatic invasive species to the Great Lakes.

### **Recommendations**

The IJC recommends the following measures to eliminate the threat and impacts of aquatic invasive species in the Great Lakes.

#### **Take immediate action to:**

- in the United States, pass the National Aquatic Invasive Species Act (NAISA) reauthorizing the National Invasive Species Act (NISA) of 1996;
- in Canada, implement the National Action Plan to address the threat of aquatic invasive species and finalize mandatory ballast water management practices; and
- ratify and implement the International Maritime Organization's Convention for the Control and Management of Ships' Ballast Water and Sediments, and pursue stringent measures and rapid timelines.

#### **Issue a reference to the International Joint Commission to:**

- help identify the most effective ways to coordinate binational prevention efforts and harmonize national plans, particularly those dealing with residual ballast water and sediment in ballast tanks;
- evaluate the effectiveness of current institutional arrangements;
- assist with the establishment of a regional standard stronger than the minimum required by the International Maritime Organization Convention;
- ensure that economic analyses carried out for projects with potential environmental effects include the environmental and societal costs of invasive species control, damage, and mitigation, and the costs and benefits of prevention measures; and
- assist with public education and communications.

### **Scheduled Review of the Great Lakes Water Quality Agreement**

This report triggers the much anticipated review of the historic Great Lakes Water Quality Agreement. The current Agreement was signed in 1978 and was amended in 1987. It has not been updated or changed in more than 17 years. During this time, technology and our scientific knowledge and understanding have grown

immensely. We need to keep pace with what we know and review the Agreement with an eye toward the future.

### **The International Joint Commission (IJC)**

IJC was established through the 1909 Boundary Waters Treaty of the United States and Canada. The Treaty recognizes that each country may be affected by the others actions in the lake and river systems along their common border; its purpose is to prevent and resolve disputes concerning these boundary waters.

### **For More Information**

Additional information regarding IJC's *Twelfth Biennial Report on Great Lakes Water Quality* can be obtained by contacting an IJC office:

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**Information about the IJC and this report can be obtained from the IJC web page at [ww.ijc.org](http://ww.ijc.org).**