

An Early Warning System for Great Lakes Threats

Stopping future water quality problems before they start

- The **International Joint Commission (IJC)** helps Canada and the United States prevent and resolve issues over shared waters on 5,525 miles of boundary, including the Great Lakes.
- Unknown threats to Great Lakes water quality are challenging to anticipate and address before they become established problems.
- The IJC's **Great Lakes Science Advisory Board** is exploring how to coordinate and enhance the ability to anticipate and manage or prevent threats to water quality across the basin with their *Great Lakes Early Warning System* project.

Anticipate, manage and prevent emerging threats

An early warning system involving cooperation and commitment from agencies at all levels of government

The Great Lakes are exposed to a wide variety of stressors and threats. Emerging threats are often unanticipated or may go unaddressed until they become a crisis. As new pressures on the Great Lakes emerge, the ability to anticipate and prevent ecosystem damage is needed.

The existing early warning systems around the Great Lakes only focus on a single issue or threats that might appear within days or hours. The **Great Lakes Science Advisory Board's *Great Lakes Early Warning System*** provides a framework to monitor and respond to the full range of emerging threats across the Great Lakes basin.

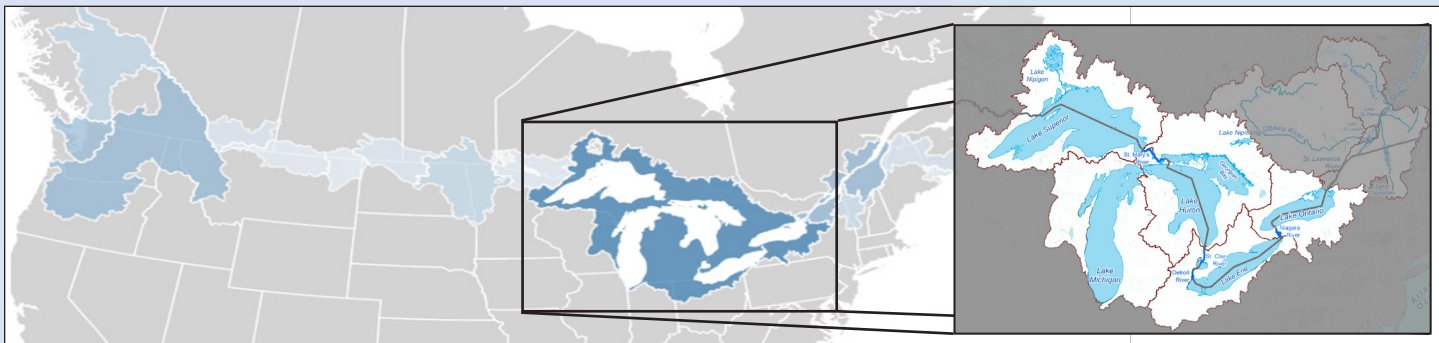
The *Great Lakes Early Warning System* project is examining how to coordinate and enhance Great Lakes science capabilities to anticipate and then manage or prevent potential water quality threats.

Contact the IJC about this project: antonette.arvai@ijc.org

Scan for more about this project!



Where will this work impact?



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Great Lakes Early Warning System

Great Lakes Science Advisory Board

In 2020, the Science Advisory Board issued a report identifying the necessary components of a *Great Lakes Early Warning System*, including:

- A framework for anticipating possible futures and assessing risk,
- A monitoring and warning system, including indicators,
- An information dissemination and communications plan, and
- Potential response actions.

In 2023, the board proposed a decision-making framework that an early warning system could use to assess threats, and determine which threats require action. The board is currently pursuing a pilot study of the *Great Lakes Early Warning System*.



A close-up image of a sea lamprey, an invasive species in the Great Lakes. Credit: T. Lawrence, Great Lakes Fishery Commission.

The Great Lakes Water Quality Agreement

The Great Lakes Water Quality Agreement charges the IJC, supported by its Great Lakes advisory boards, with identifying emerging issues facing the Great Lakes. To help fulfill this responsibility, the IJC's Great Lakes Science Advisory Board has undertaken this project to develop a warning system to enhance the ability to anticipate and react to threats to Great Lakes water quality.

About the International Joint Commission

The IJC was established in 1909 under the Boundary Waters Treaty to help Canada and the United States prevent and resolve disputes over shared waters. The IJC's responsibilities include reporting on progress made by the governments under the 2012 Great Lakes Water Quality Agreement. The Great Lakes Science Advisory Board provides advice and guidance on scientific research to the IJC and the Great Lakes Water Quality Board.

The Great Lakes ...



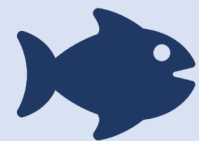
*contain roughly
20 percent of the world's
fresh surface water*



*support a
US\$6 trillion (CAD\$7.5
trillion) regional economy*



*are a source of
drinking water for
36 million people*



*are home to
4,000 species of
plants and animals*



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