Tracking Health Threats in Great Lakes Waters

A plan to modernize monitoring of microscopic water quality threats

- **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.
- The common methods for detecting microbes that cause waterborne illness are outdated, creating an opportunity to use more advanced tools in Great Lakes monitoring and assessment.
- The IJC's **Health Professionals Advisory Board** is proposing a plan to more widely modernize Great Lakes water quality testing with its ***Implementing the Great Lakes Microbial Water Quality Assessment*** project.

Innovative technologies for assessing microscopic threats

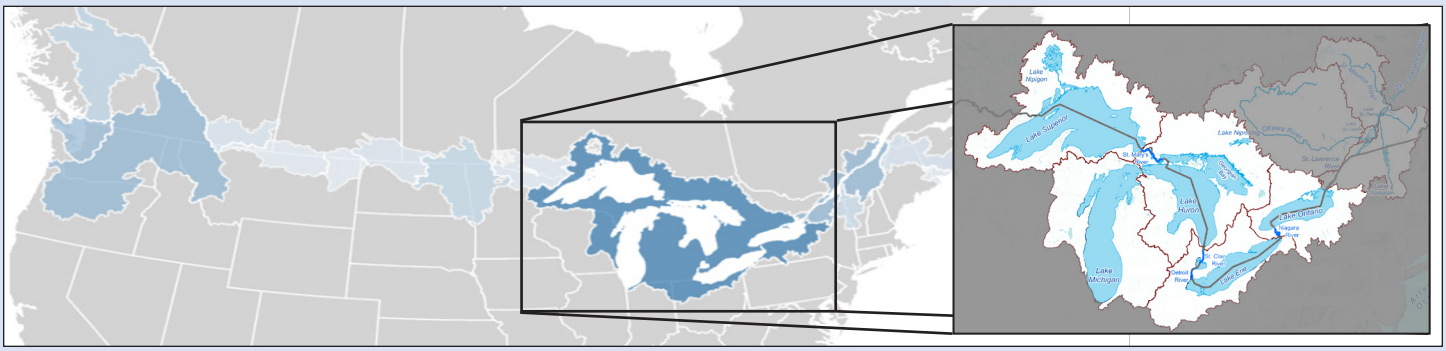
Modernizing water quality assessment to track pollution at its source

More than 38 million people rely on the Great Lakes as their drinking water source, and millions more use the lakes for recreation and cultural traditions. While treatment and control measures help ensure drinking water and beach recreation are safe for human health, beach closures, waterborne pathogen outbreaks, harmful algal blooms and boil-water advisories persist. Water quality threats, such as fecal bacteria that can sometimes cause waterborne illness, are often measured using methods that are many decades old. Recent technological advances present an opportunity to innovate Great Lakes water quality monitoring and assessment approaches.

The IJC's Health Professionals Advisory Board's ***Implementing the Great Lakes Microbial Water Quality Assessment*** project is developing a plan to implement modern microbial source tracking technology in more Great Lakes water quality monitoring systems. Leveraging new technologies to identify these microscopic threats will ensure Great Lakes residents will experience fewer negative health impacts.

Giardia, *seen under a microscope, can be found in water and causes gastrointestinal issues. Credit: US Centers for Disease Control and Prevention/Dr. Stan Erlandsen.*

Where will this work impact?



Implementing the Great Lakes Microbial Water Quality Assessment

Health Professionals Advisory Board

About the Project

The Health Professional Advisory Board's ***Implementing the Great Lakes Microbial Water Quality Assessment*** project outlines a plan for a large-scale basinwide study to deploy innovative monitoring technologies, including molecular and genomics tools, with the goal of modernizing and strategically planning for advancing microbial water quality assessment in three areas:

- microbial source tracking
- harmful algal blooms; and
- ecosystem/human health assessment.

The project looks at implementing newer technologies in more long-term monitoring programs in the Great Lakes, based on the monitoring strategies identified in the board's forthcoming ***Large Basin Microbial Water Quality Study*** project.

Scan for more about this project!

Contact the IJC about this project: rajesh.bejankiwar@ijc.org

The Great Lakes Water Quality Agreement

The Health Professionals Advisory Board assists the IJC in its role to report on the status of the Great Lakes and other boundary waters and investigate ecosystems and human health stressors and risks. The board's efforts to create a plan for modernizing microbial water assessment methods will improve the identification of Great Lakes ecosystem and human health risks.

About the International Joint Commission

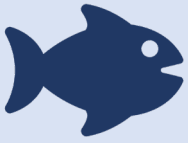
The IJC was established in 1909 under the Boundary Waters Treaty to help Canada and the United States prevent and resolve disputes over shared waters. The IJC's responsibilities include reporting on progress made by the governments under the 2012 Great Lakes Water Quality Agreement. The Health Professionals Advisory Board assists the IJC and its boards by providing advice on clinical and public health issues related to the transboundary environment.

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