

# Microplastics: A Major Great Lakes Issue

## Determining impacts on human health and ecosystems

- 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.
- While identified as an emerging concern, plastic pollution is not currently assessed in the State of the Great Lakes report, produced triennially by the Canadian and US governments.
- The IJC's **Great Lake Science Advisory Board** is developing monitoring and risk assessment frameworks to better understand the impact of plastic pollution in the Great Lakes.

### An emerging concern for Great Lakes water quality

#### IJC Board exploring ways to assess Great Lakes health by measuring microplastics

Plastic pollution is increasing globally, and the Great Lakes are no exception. Growing evidence points to the negative ecological, human health and socioeconomic impacts of plastic. Yet, the Great Lakes Water Quality Agreement does not evaluate the status of plastic pollution.

The IJC's Great Lakes Science Advisory Board explored whether plastics could be assessed under the Agreement and identified gaps that hinder their monitoring and risk assessment. The board's *Microplastics in the Great Lakes* project is addressing these gaps and working toward the adoption of plastics as an indicator of Great Lakes health, which will help track environmental contamination and inform management and policy decisions.

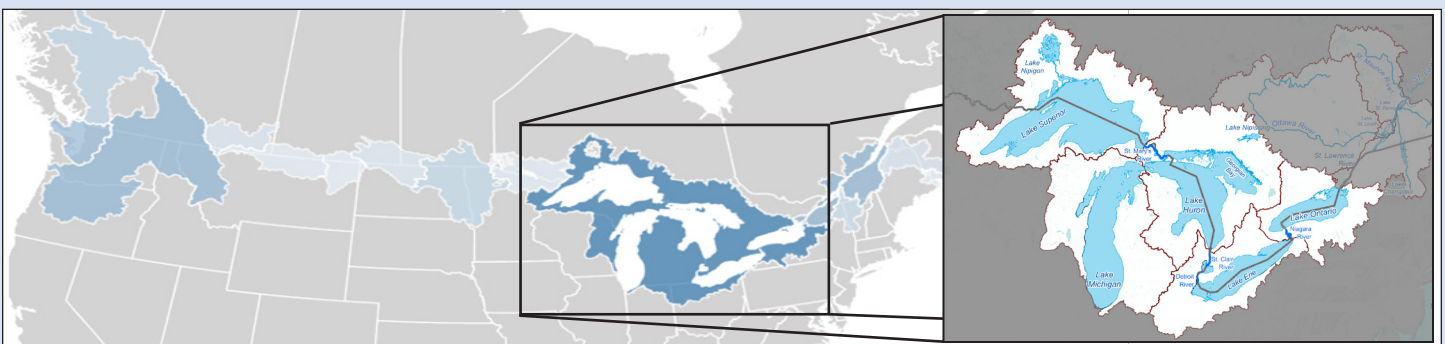
#### About the Project

The IJC's Great Lakes Science Advisory Board, in conjunction with researchers from the Great Lakes region and across North America, is developing:

- a framework for monitoring microplastics pollution that would support its use as a Toxic Chemicals sub-indicator in the State of the Great Lakes report, and
- a risk assessment framework for plastic pollution, focused on the ecological impacts to help contextualize the results of a monitoring program.

**Contact the IJC about this project:** [matthew.child@ijc.org](mailto:matthew.child@ijc.org)

#### Where will this work impact?



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# Microplastics in the Great Lakes

Great Lakes Science Advisory Board

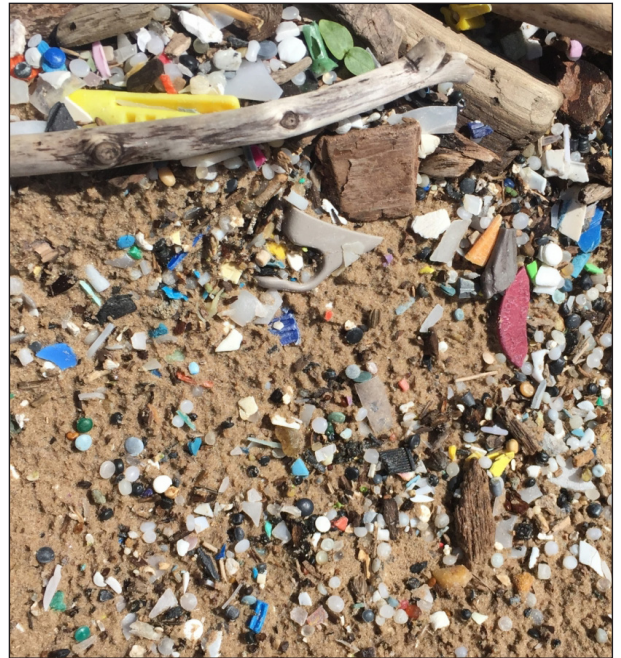
Improved and standardized monitoring of plastic pollution is needed to determine trends in environmental contamination and wildlife exposures over time. A risk assessment framework and quantitative risk assessment data are critical to inform management responses. While all plastic pollution poses a threat to the Great Lakes ecosystem, a risk assessment on microplastics is most feasible. This project will also consider macroplastics and nanoplastics where possible.

## The Great Lakes Water Quality Agreement

Through the Great Lakes Water Quality Agreement, Canadian and United States governments strive to achieve nine objectives to protect and restore Great Lakes water quality. Published every three years, the governments' State of the Great Lakes report uses nine indicators, supported by sub-indicators, to collectively assess the status of the Great Lakes ecosystem and track progress towards achieving the Agreement's objectives.

## 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 on research and scientific matters on Great Lakes water quality issues.



Plastic pollution accumulated on the shores of Lake Ontario. Macroplastics can break down into microplastics over time. Credit: Eileen Stegemann, via NOAA

Scan for more about this project!



## The Great Lakes ...



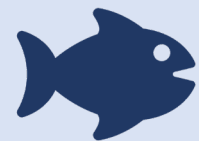
contain roughly 20 percent of the world's fresh surface water



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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