



Water collection for mercury isotopes on Lake Superior tributaries. Photo Credit: U.S. Geological Survey

Mercury Research Lab

The U.S. Geological Survey (USGS) Mercury Research Lab used mercury stable isotopes as a tool to trace sources and pathways of mercury to Lake Superior and Lake Huron and bioaccumulation of mercury in the aquatic food web of these lakes. Within Lake Superior, a tributary and atmospheric assessment showed that mercury in tributary waters was derived from terrestrial soils and that mercury loads from tributaries were sensitive to changes in river flow. In addition, analysis of mercury in Lake Superior sediments revealed a pattern of declining industrial mercury sources in nearshore regions in comparison with previous studies. The analysis of Lake Huron samples is underway in 2023.

Share your thoughts on the Great Lakes and consider the following questions.

- 1 What species of Great Lakes fish, wildlife and plant resources are important to you?
- 2 What sources of information about risks and benefits of consuming Great Lakes fish and wildlife are you aware of? What would you like more information about?
- 3 What contaminants do you want to know more about?

Contaminants in the Great Lakes

Overview

Chemical contaminants are important stressors to monitor and assess in the Great Lakes. They can negatively impact ecosystems and pose a human health threat through consumption of resources from the lakes. The Great Lakes Restoration Initiative (GLRI) supports:

- Communication of consumption advice regarding Great Lakes fish, wildlife and harvested plant resources.
- Monitoring and assessment of priority contaminants in the Great Lakes.

Since 2020, under Action Plan III, work has included enhanced sharing of information on the risks and benefits of consuming Great Lakes fish, wildlife and harvested plant resources with the people who consume them. There has been a focus on targeting vulnerable populations, including subsistence fishers, and providing them with up-to-date advice on the risks and benefits of eating fish caught in the Great Lakes basin. For example, Wisconsin and New York developed new fish consumption advice messaging for vulnerable populations, including Hmong, Karen and Chinese communities.

GLRI federal agencies and partners have also been working on a multiyear assessment of emerging contaminants and their potential impacts on Great Lakes ecosystems. Additionally, monitoring and assessment projects are underway to examine the status and ecosystem impacts of priority contaminants, such as mercury, polychlorinated biphenyls (PCBs) and per- and polyfluoroalkyl substances (PFAS). For example, one project assessed pathways of PFAS introduction into the Great Lakes and advanced understanding of how PFAS accumulate in the aquatic food web.

Under Action Plan IV, GLRI federal agencies and partners intend to continue to monitor priority contaminants and assess their impacts on Great Lakes ecosystems, utilize effective communication tools to provide information to vulnerable communities on the risks and benefits of consuming Great Lakes resources and enhance our understanding of potential climate change impacts on priority contaminant inputs into the Great Lakes.



For more information visit,
[GLRI.us/Action-Plan](https://glri.us/Action-Plan)
Share your thoughts by email:
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