



New York Sea Grant is a joint program of Cornell University, the State University of New York, and the National Oceanic and Atmospheric Administration (NOAA).

New York State has 3,400 miles of diverse coastline and is the only state in the U.S. bordering both the Great Lakes and Atlantic Ocean. More than 85% of NY's population lives in a coastal region.



New York Sea Grant regional offices provide innovative research, technical assistance, and outreach on such issues as water quality, coastal resilience, marine & freshwater fisheries, invasive species, algal blooms, aquaculture & seafood, coastal literacy, and shoreline community development.

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NYSG Focus Area
for this project summary:
Environmental Literacy
and **Workforce Development**

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Lake Ontario Shipboard Science Workshop

15 teachers participated in NYSG's weeklong professional development workshop on Lake Ontario aboard the U.S. EPA R/V Lake Guardian

To create a community of Great Lakes-literate educators, students, scientists, environmental professionals, and community members, it is essential to increase educators' content knowledge, access to teaching resources, and competency to incorporate Great Lakes literacy into their teaching. The Shipboard Science Workshop, a program facilitated by the Great Lakes Sea Grant Network through a partnership with the U.S. Environmental Protection Agency (EPA), rotates to a different Great Lake every year and is designed to promote Great Lakes sciences while building relationships between researchers and educators.

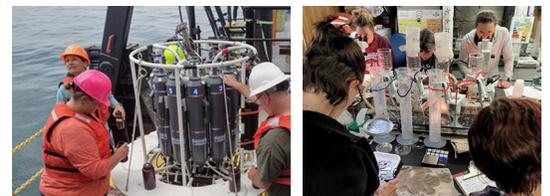
New York Sea Grant (NYSG) facilitated the 2023 Lake Ontario Shipboard Science Workshop that placed 15 educators aboard the U.S. EPA R/V *Lake Guardian* for a week to work with academic and government scientists on three research projects on the lower food web of Lake Ontario. Participants collected environmental samples from Lake Ontario, processed the samples in the onboard labs, and worked with researchers to interpret the data. The group also visited a number of land-based environmental resource sites. After the trip, participants brought the data they collected, a series of related lessons and activities, and their personal experience on the ship back to their classrooms and programs. NYSG educators will meet with each teacher twice throughout the school year to support the integration of this experience into their classrooms and nature center, museum and community programs.

Participants came from five Great Lakes states, including seven from New York; collectively, they work with more than 1,600 students annually. In pre- and post-workshop surveys, the participants reported gains in knowledge on the Great Lakes, Lake Ontario, and the workshop's research topics as well as increased confidence for explaining this knowledge to learners, using equipment, e.g., microscopes, and interacting with scientists.

See a Story Map of the 2023 *Lake Guardian* experience at <https://storymaps.arcgis.com/stories/bcdc052520c64e16bdccc860ed2b6d0a>.

Project Partners:

- Center for Great Lakes Literacy
- U.S. Environmental Protection Agency Research Vessel *Lake Guardian*
- Funding: U.S. EPA under the Great Lakes Restoration Initiative



Top: 2023 Lake Ontario Shipboard Science Workshop participants; above: collecting and analyzing samples; photos: NYSG, NYSG/N. Drag, C. Pratt