



Great Lakes Research Consortium News



Photos: High res jpgs available online at www.esf.edu/glrc. Left to right: Dr. Jacques Rinhard, credit: SUNY Brockport; a harmful algal bloom, credit: Upstate Freshwater Institute; sampling mysid shrimp under red light on Lake Ontario aboard EPA Research Vessel Lake Guardian, credit: Lars Rudstam.

Press Release: June 14, 2016

Great Lakes Research Consortium Awards Grants to Investigate Vitamin Deficiency in Fish, Harmful Algal Blooms, DNA Testing of Aquatic Food Web

Syracuse, NY. The Great Lakes Research Consortium has awarded \$44,819.00 for research projects that will investigate vitamin B deficiency in Lake Ontario fish, analyze a dataset on harmful algal blooms in nearly 200 lakes in New York State, and test DNA-based barcoding as a way to more accurately analyze the Great Lakes food web.

The Great Lakes Research Consortium, based at the SUNY-ESF in Syracuse, NY, is awarding funds to The College at Brockport, Cornell University, the Upstate Freshwater Institute, and State University of New York College of Environmental Science and Forestry. Project collaborators include the New York State Department of Environmental Conservation, New York State Federation of Lake Associations, and U.S. Geological Survey Lake Ontario Biological Station.

Funding for the grants is from the New York State Great Lakes Protection Fund via the New York State Department of Environmental Conservation to the Great Lakes Research Consortium, an organization of 18 colleges and universities in New York state, plus nine affiliate campuses in Ontario, Canada, dedicated to collaborative Great Lakes research and science education.

The College at Brockport: State University of New York, Brockport, NY, will receive \$14,981.00 to investigate vitamin B1 deficiency impact in lake and steelhead trout and Coho and Chinook salmon and their prey fish: alewife, rainbow smelt and round goby. Lack of vitamin B1 is a cause of death in young and broodstock fish. Research areas include Lake Ontario waters near Hamlin Beach, Olcott, Oswego, and Rochester, and the Salmon River Fish Hatchery in Altmar. The U.S. Geological Survey Lake Ontario Biological Station at Oswego, NY, and the New York State Department of Environmental Conservation Fisheries Station at Cape Vincent, NY, will collaborate on the project.

The Upstate Freshwater Institute, Syracuse, NY, and **State University of New York College of Environmental Science and Forestry**, Syracuse, NY, will receive \$14,838.00 to investigate factors associated with the recent proliferation of harmful algal blooms, HABs, in waters of the Great Lakes basin. Since 2011, the Citizens Statewide Lake Assessment Program has tracked HABs in lakes across New York State, creating a large multi-systems database that offers a rare opportunity to advance understanding of the physical, chemical and biological factors that can trigger HABs. The New York State Department of Environmental Conservation Division of Water and the New York State Federation of Lake Associations, Inc. will collaborate on the project.

Cornell University, Ithaca, NY, will apply a \$15,000 grant to develop and test more efficient methods for analyzing the diet of mysid shrimp, a critical mid-level component in the freshwater food web. High-throughput DNA sequencing will be employed to identify algal and zooplankton taxa, or food groups, from mysid stomachs using a barcoding approach. Results will support more comprehensive research into the dynamics of the food web that supports the multimillion dollar sportfishery on Lake Ontario and in the Great Lakes.

“The Great Lakes Research Consortium is pleased to award funds for three distinct projects that will address critical needs and opportunities to advance Great Lakes science,” said Great Lakes Research Consortium Director Gregory L. Boyer, a chemistry and biochemistry professor at the State University of New York College of Environmental Science and Forestry, and a participating researcher in the study of harmful algae and algae-related ecosystem impact.

Learn more about the Great Lakes Research Consortium at www.esf.edu/glrc.

MORE INFO:

The principal investigators for the three 2016 Great Lakes Research Consortium-funded projects are:

- . The College at Brockport: Jacques Rinchar, Ph.D., Department of Environmental Science and Biology;
- . Upstate Freshwater Institute: David A. Matthews, Ph.D., Senior Scientist and Technical Director, with Kimberly L. Schulz, Ph.D., Department of Environmental and Forest Biology, State University of New York College of Environmental Science and Forestry; and
- . Cornell University: Matthew P. Hare, Ph.D. and Lars Rudstam, Ph.D., both with the Department of Natural Resources.

The Great Lakes Research Consortium seed funding allows investigators to test new ideas, complete small-scale projects, or to start projects to obtain preliminary data that can be used to request additional funding from larger programs such as the National Science Foundation and the basin-wide Great Lakes Protection Fund. The Great Lakes Research Consortium administers New York State Great Lakes Protection Fund small grants with support from the New York State Department of Environmental Conservation and New York Great Lakes Basin Advisory Council.

Great Lakes Research Consortium Director Dr. Gregory L. Boyer recently received a 2016 State University of New York College of Environmental Science and Forestry Chancellor's Award for Distinguished Service.

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