



NOAA GLRI Webinar - Project Fact Sheet

Project Title	NOAA Support for CSMI
Project Lead	Lead PIs: Henry Vanderploeg, Ashley Elgin Co-PIs: Reagan Errera, Doran Mason, Steve Pothoven, Mark Rowe, Steve Ruberg, Ed Rutherford, and Craig Stow
Funding amount (\$) and years funded	FY16: Lake Huron 2017 = \$318,400 FY17: Lake Ontario 2018 = \$73,000 FY18: Lake Erie 2019 = \$500,000 FY19: Lake Michigan 2020 = \$610,000
External partners, collaborators and/or sub-awardees	Godwin, Johengen (Cooperative Institute for Great Lakes Research); Karatayev, Burlakova (Buffalo State College Great Lakes Center); Carrick (Central Michigan Univ); Bunnell, Kennedy, Schaefer, Weidel (US Geological Survey); Hinchey-Malloy, Nettesheim (US EPA); Biddanda, Steinman (Grand Valley State Univ); Denef (Univ of Michigan); Kashian (Wayne State Univ)
GLRI Focus Area	5 – Foundations for Future Restoration Actions
GLRI Action Plan Primary Measure	Objective: 5.2 - Conduct comprehensive science programs and projects
	Measure of Progress: 5.2.1 - Annual Great Lakes monitoring conducted and used to prioritize GLRI funding decisions
Brief project description	NOAA GLERL contributes a substantial research portfolio to the CSMIs, adapting plans in each year to address the priorities set by the Lake Partnerships. GLERL primarily studies changes in the food web as caused by major stressors. GLERL also conducts field and laboratory experiments to complement observations made in the field and assists with the whole-lake benthic surveys (which produce updated maps of invasive dreissenid mussel distributions). GLERL’s research is done in close collaboration with researchers from the Cooperative Institute for Great Lakes Research and several other agencies and institutions (listed above). Describing the current state of the food web is paramount to facilitating our understanding, management, and restoration of the Great Lakes ecosystems.

Highlighted activities:

Lake Huron 2017: Spatial surveys in May, June, July, and September to provide detailed seasonal information and spatio-temporal connections of the entire food web (including microbial) and movement of nutrients from nearshore to offshore in the Saginaw Bay and Thunder Bay regions.

Lake Huron 2017 and Lake Ontario 2018: The GLERL Benthic Ecology Lab conducted year-long multi-depth quagga mussel growth experiments in two regions of Lake Huron and one region of Lake Ontario (the latter in collaboration with the USGS Lake Ontario Biological Station).

Lake Erie 2019: Research activities focused on harmful algal blooms, phytoplankton production and succession, nutrients, and hypoxia. New experiments and surveys revealed the distribution and fate of manganese, which affects drinking water quality, in response to hypoxia. GLERL also partnered with USGS to continue the long-term Western Lake Erie Mayfly and Mussel Survey.

Lake Michigan 2020: GLERL and partners will conduct spatially and temporally intensive sampling in the southeastern region. Biophysical modeling will aid in the collection and interpretation of field data. Research priorities include: fish recruitment bottlenecks; dreissenid mussels (with a focus on veligers); the lower food web from nearshore to offshore; nutrients; and productivity 'hot spots'.

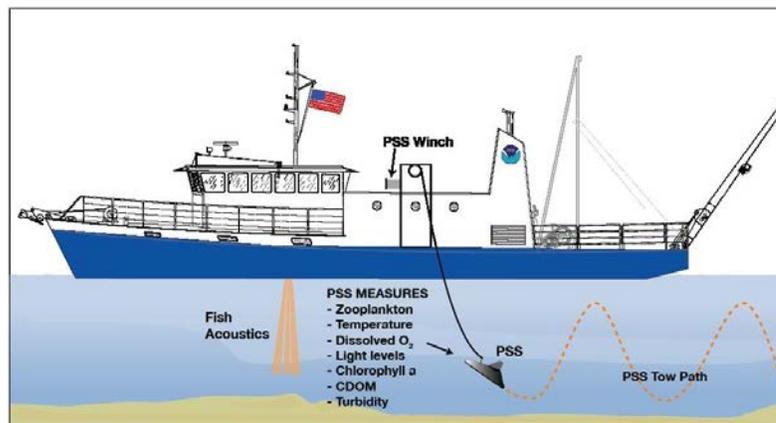


Diagram showing the GLERL research platforms used to conduct spatial food web studies.