

International Field Year for Lake Erie – 2005

Rapid-Response Funding Opportunity

Jointly sponsored by:

National Sea Grant College Program

Ohio Sea Grant College Program

New York Sea Grant College Program

and

NOAA's Great Lakes Environmental Research Laboratory

The National Sea Grant College Program of the National Oceanic and Atmospheric Administration (NOAA), in collaboration with the Ohio Sea Grant College Program, the New York Sea Grant College Program, and NOAA's Great Lakes Environmental Research Laboratory (GLERL) announce a **rapid-response opportunity** to obtain funding (up to \$325,000) to join in a large-scale, international, multidisciplinary field-research program on Lake Erie during 2005. NOAA-GLERL has obtained NOAA funds for chartering research vessels. The U.S. Environmental Protection Agency has agreed to match these funds with additional ship time so that the program will support approximately 90 days (\$900,000 value) of research vessel time aboard the EPA's [Lake Guardian](#) from May through September on Lake Erie. In addition, the NOAA [R/V Laurentian](#) and R/V Cyclops also will be operating full-time in Lake Erie to support this large-scale Lake Erie research endeavor during May through October.

In response, 1) National Sea Grant College Program has made available a total of \$250,000 to support investigators who can contribute significantly to this research and who would benefit from free access to large research vessels; 2) Ohio Sea Grant will provide up to \$25,000 for Ohio investigators to support small grants of up to \$7,500 each; 3) New York Sea Grant will provide half of the funds (up to a total of \$25,000) for New York investigators who propose successful projects; and 4) NOAA-GLERL will provide up to an additional \$25,000 to support successful projects. Other collaborators in this effort include the Cooperative Institute for Limnology and Ecosystems Research (CILER) at the University of Michigan, as well as the Ontario Ministry of Natural Resources, Michigan Department of Natural Resources, Ohio Department of Natural Resources, Pennsylvania Fish and Boat Commission, New York State Department of Environmental Conservation, and U.S. Geological Survey, who will provide additional vessel support. Ohio Sea Grant/Stone Laboratory also has agreed to provide free access to the *Gibraltar III*, *BioLab*, and *Erie Monitor* in the west basin, in addition to reduced meal and housing rates for investigators staying at Stone Laboratory. Environment Canada (NWRI) also has partnered with NOAA to deploy 15 moorings across Lake Erie.

This integrative research program seeks individuals whose research would complement NOAA's efforts to understand and forecast 1) periodic low-oxygen (hypoxic/anoxic) events in Lake Erie's central basin, and 2) the influence of physical factors (e.g., oxygen availability, temperature, lake

circulation) and food web (trophic) structure on fish production and/or invasive species persistence (and vice versa). Novel research concerning the formation of Harmful Algal Blooms (HABs) in western Lake Erie also is encouraged. This research program is based upon a number of scientific planning efforts undertaken by the Lake Erie Millennium Network, NOAA-GLERL (e.g., [Lake Erie Science Planning Workshop](#)), Ohio Sea Grant, and the Lake Erie Commission and is designed to:

- Describe food-web dynamics and spatial coupling of food webs in Lake Erie's west, central, and east basins, including how trophic interactions have been altered by exotic species or other perturbations to the system;
- Determine if and how central basin hypoxia during late summer influences the spatiotemporal distribution and productivity of both native and exotic species across all trophic levels, including their trophic interactions;
- Better understand the exchange of water, sediments, nutrients, and carbon among basins, including its effect on oxygen availability in the central basin, via analysis of sediment/water chemistry and/or modeling; and
- Describe and forecast the development of harmful algal blooms in Lake Erie, including quantifying overall primary production across the lake and effects of its products.

Ultimately, the information obtained through this collaborative, multidisciplinary research program would be used to enhance the ability of resource managers to understand and forecast variation in fish production, invasive species impacts, and hypoxia/anoxia in Lake Erie, and thereby improve decision-making. Research supported by this program is expected to focus primarily on three of the National Sea Grant College Program's 11 thematic areas: fisheries, ecosystems and habitats, and aquatic invasive species. This program also will address four of the Great Lakes Governor's nine priorities: protecting human health, non-point source pollution, aquatic invasive species, and restoring and protecting fish habitat.

Although novel, relevant research investigations, regardless of discipline, are welcomed, we especially seek investigators with expertise and interests in:

- 1) Nutrient dynamics (e.g., Detroit River loading impacts, watershed effects on nutrient availability, sediment-water nutrient flux),
- 2) Microbial ecology (including microzooplankton),
- 3) Phytoplankton production,
- 4) Benthic-pelagic coupling, especially as this is affected by introduced species,
- 5) Impacts of hypoxia/anoxia on the lower food web,
- 6) Food-quality effects on biological production and dynamics,
- 7) Ecosystem modeling and the relationship between physical and biological dynamics, and
- 8) Sediment accumulation and resuspension dynamics.

Investigators funded by this program will be involved in the research-planning process of this investigation, including hypothesis development, cruise sampling design, and data synthesis, beginning with an all PI meeting in late March/early April. All data collected will be centralized in a NOAA-GLERL Lake Erie database to facilitate data sharing among participating

investigators. All reporting will be done through an Ohio Sea Grant electronic reporting system to minimize time requirements for principal investigators and to enhance our education and outreach efforts by allowing easy access by other investigators, the general public, managers, students, and the media.

Additional background information about this program, including 1) a more detailed description of the conceptual research framework for this project, 2) a list of planned NOAA-GLERL Lake Erie projects for 2005, and 3) a description of the jointly planned NOAA-Environment Canada Lake Erie buoy (moorings) program, can be found at NOAA-GLERL's Lake Erie Project website (<http://www.glerl.noaa.gov/res/Programs/erie/>).

PROPOSAL PROCESS

APPLICATION DEADLINE

Proposals must be **received** (not post-marked) by Ms. Laura Newlin, c/o Lake Erie Program, NOAA-GLERL, 2205 Commonwealth Blvd., Ann Arbor, Michigan 48105 **by 5 p.m. on Monday, March 14, 2005.**

WHO MAY APPLY

Individuals, institutions of higher education, nonprofit organizations, commercial organizations, State, local and Native American tribal governments, foreign governments, and international organizations are eligible. Foreign investigators are encouraged to have an American collaborator. Federal employees may participate as collaborators, but they may not be included in the budget. Federal employees and institutions are *not* eligible for compensation or budget items of any sort, and their contributions cannot be considered a source of cost-sharing.

FUNDING AMOUNTS

Applications may be made for Federal funds of up to \$50,000. Allocation of **non-Federal** matching funds, equal to at least one-third of the total budget (i.e., at least 50% of the Federal request; a \$50,000 Federal request would require a \$25,000 non-Federal match), must be specified. Matching funds, including in-kind hours, are encouraged. Small funding requests (less than \$10,000) are strongly encouraged, and we also encourage investigators, both Federal and non-Federal, to apply who might simply need free access to a vessel.

HOW TO APPLY

Applicants must adhere to the proposal and budget formats outlined below. This RFP also will be posted at <http://www.glerl.noaa.gov/res/Programs/erie/>.

PROPOSAL AND BUDGET FORMAT

Margins must be one-inch on all sides, and a Times New Roman 12-point font should be used.

The following elements must be included in the proposal package:

1. Cover Page (1-page maximum; include the following)

- a) Project Title:
- b) Principal Investigator: (With contact information, including address, email, phone, FAX):
- c) Co-Investigators: (Provide affiliation, address, email, and phone)
- d) Executive summary of project rationale

2. Scientific Rationale (7-page maximum, including figures, images, tables, & literature cited)

Include the following subsections:

- a) Project Description: (Background information, hypotheses, questions addressed, etc.)
- b) Project Objectives:
- c) Project Approach/Methods:
- d) Project Relevance: (Describe how this project links with/complements the overarching Lake Erie program objectives, per the information in this RFP and at NOAA-GLERL's Lake Erie Project website: <http://www.glerl.noaa.gov/res/Programs/erie/>).
- e) Collaboration/Other Project Linkages: (Describe how this research links with/complements proposed research by NOAA-GLERL investigators and/or other Lake Erie/Great Lakes investigations. **Contacting GLERL and Sea Grant scientists ahead of time regarding potential collaborations is strongly encouraged.** To see a complete list of proposed GLERL activities in Lake Erie, as part of this project, see <http://www.glerl.noaa.gov/res/Programs/erie/docs/GLERL-PI-plans.pdf>).
- f) Governmental/Societal Relevance: (1-2 paragraphs describing why this research is relevant to management, to the public, and/or the scientific community in either short- or long-term application.)

3. Project Timeline (List significant dates for project activities/products. The project duration can be two years long, but all fieldwork must be conducted in 2005. It is imperative, that some products/data are generated during the first year to help secure similar ship support funding for future years.)

4. Budget Request

- a) Attach a completed spreadsheet. Please include the following sections:
 - i. Personnel Costs: (Identify salary requests, % time (% FTE) requested, & fringes)
 - ii. Supply Costs: (all materials that cost less than \$1,000 individually)
 - iii. Contract Costs: (if subcontracting to process samples, for example)
 - iv. Equipment Costs: (individual items that cost more than \$1,000)
 - v. Travel Costs: (For travel to and from field sites, scientific meetings, and/or planning meetings at NOAA-GLERL. **Note: access to vessel time includes FREE meals and housing while on the vessel.**)
 - vi. Indirect costs:
- b) Budget justification: (Briefly, but sufficiently, justify all funds requested. Budget justifications will be examined carefully.)
- c) Matching Fund Description: \$_____ (Describe nature of **non-Federal** matching funds.)
- d) Other in-kind support: (Briefly describe any additional, external resources that you would bring to the program to support your research, or perhaps the broader program.)

5. Projected Vessel Time Needs

- a) Vessel type(s) needed: (Large vessels such as the Laurentian or Lake Guardian and/or small vessels for nearshore work or simultaneous sampling with large vessels.)
- b) Vessel time needed: (Approximate number of days needed; also identify if there are particular months, weeks, or days you need to sample. Both large & small research vessels will likely be available at least 14 consecutive days per month during May through September, while only the Laurentian & small vessels will be available during October.)

- c) Special Vessel Needs: (Are there particular vessel equipment/resources/facilities that would be needed such as A-frames, wet labs, winches, GPS, compressors, etc?)
- d) Vessel Space for Field Personnel: (How many people would be needed at any one time to carry out your sampling? This information will help with cruise planning.)

6. Please Answer the Following

- a) Will this project involve the use of radioactive/hazardous materials? If yes, what materials, at which facility, and who will use them. Also, will this project involve the transport of these materials to the field? If so, please specify what materials will be transported, who will transport them, and how/where they will be used.
- b) Will this project generate hazardous waste? If yes, did you budget for its disposal?

7. Curriculum Vitae (2-page maximum for each PI involved)

8. Current and Pending Support (Describe all current and pending financial/funding support for all principal and co-principal investigators, which relate to this project.)

PROPOSAL EVALUATION

A panel of NOAA-GLERL and Sea Grant scientists will evaluate proposals. Proposals will be judged primarily on scientific merit and how well the proposed research contributes to the overall research program objectives. Scientific productivity of PIs also will be considered.

LAKE ERIE PROJECT TIMELINE

March 14, 2005 – Proposals Due by 5 PM

March 21, 2005 – PIs notified about fate of proposals

Late March/early April – Research/sampling planning. An all PI meeting will be scheduled for the last week of March or first week of April.

Mid- to late April – Cruise plans developed for the Lake Guardian and Laurentian

May through October – Field sampling

November – All PI meeting to evaluate the 2005 field season and begin planning for 2006

DEADLINE AND CORRESPONDENCE

Five (5) copies of the proposal must be received **no later than 5 PM on Monday, March 14** by:

Ms. Laura Newlin
c/o Lake Erie Program
NOAA-GLERL
2205 Commonwealth Blvd.
Ann Arbor, Michigan 48105

To verify that your proposal has been successfully delivered on time, contact Laura Newlin at Laura.Newlin@noaa.gov. All components of the proposal must be received before the March 14 deadline to be considered for this competition.

For general information regarding this RFP or the Lake Erie Program, contact Stuart Ludsin (Stuart.Ludsin@noaa.gov), or visit NOAA-GLERL's [Lake Erie Program](#) website, which will be frequently updated. **We also encourage contacting NOAA-GLERL scientists ahead of time to discuss potential collaborations. [Frequently Asked Questions](#) will be posted as they come in.**