

2016 Call for Proposals Great Lakes Research Consortium Small Grants Program

Offered by:

Great Lakes Research Consortium, NYS Department of Environmental Conservation
and the New York Great Lakes Basin Advisory Council

General Information

Program Goals: This small grants program provides seed funding for new, cooperative projects that improve our understanding of, and/or management of, New York's Great Lakes basin. The program supports collaborative projects and grant awards can be used for preliminary research, project planning, as seed money for pilot projects that will lead to larger projects, or to support small-scale projects consistent with the objectives below.

Money available: The maximum amount for an individual grant is \$15,000. The money for this program comes from the New York Great Lakes Protection Fund (NYGLPF). These are New York State-appropriated funds subject to all applicable state rules and regulations. No indirect costs are allowed. We expect to fund 2-4 projects through this solicitation. Award decisions are expected in February 2016 while funds are anticipated to be available for a March 1, 2016 through March 31, 2017 award period. Please note that no-cost extensions will not be available due to the termination date of the prime agreement.

Proposal Submission: Proposal submissions should be sent electronically as a single PDF file attachment to GLRC@esf.edu. Documents should be checked for viruses or malware prior to sending and any documents that fail the campus security screening will be deleted without opening. *Electronic versions of the proposals should be received no later than **January 9th, 2016**.* Prior to funding, all successful recipients will be asked to submit an original signed copy of the proposal to: Great Lakes Research Consortium, SUNY College of Environmental Science & Forestry, 253 Baker Lab, Syracuse, NY 13210. Questions may be addressed to Greg Boyer, Director of the GLRC, at GLRC@esf.edu or by phone to 315-470-6720.

Funding Criteria: The intent of the Great Lakes Research Consortium (GLRC) small grants program is to promote research that contributes to the protection and restoration of the health of the Great Lakes ecosystem. *Projects funded by this small grant program must meet one or more of the priority categories listed below, and must satisfy the following criteria:*

Appropriate: Project must be consistent with the goals and purposes of the New York's Great Lakes Basin: Interim Action Agenda (GLAA) and NYGLPF as described in this request for proposals.

Collaborative: Project must foster communication and cooperative action between New York's colleges and universities, state and local government, business and industry, and environmental or conservation organizations. Collaborative projects involving more than one institution and those providing support for internships working with local government and community organizations are strongly encouraged.

Effective: Proposals must demonstrate how the project will lead to measurable progress in achieving the goals and priorities of the NYGLPF.

Productive: The project must have defined outcomes. Those projects which clearly demonstrate the potential to grow into larger projects consistent with the NYGLPF goals and purposes are highly encouraged.

Relevant: Projects should describe their relevance to New York State Great Lakes efforts as described in the GLAA (<http://www.dec.ny.gov/lands/91881.html>). This action agenda brings together new priorities, as well as existing environmental, social and economic goals previously identified for New York's Great Lakes region, using an ecosystem-based management approach. Priorities include: (a) Virtually eliminate discharges of persistent toxic substances, (b) Control sediment, nutrient and pathogen releases, (c) Accelerate the delisting of New York's Areas of Concern, (d) Combat invasive species, (e) Conserve and restore fish and wildlife, (f) Conserve Great Lakes water supplies, (g) Enhance coastal resiliency and ecosystem integrity, (h) Promote smart growth, redevelopment and adaptive reuse, (i) Enhance recreation and tourism opportunities and (j) Plan for future energy development.

Projects from new faculty members at the GLRC member campuses, cooperative efforts with other funding programs, and projects in support of coastal resiliency and climate change impacts are especially encouraged. Applicants should look at the respective websites for the NYGLPF (<http://www.dec.ny.gov/lands/25582.html>) and the interim GLAA report (http://www.dec.ny.gov/docs/regions_pdf/glaai.pdf) for guidance on appropriate actions and desired outcomes. Projects should not duplicate existing programs or be used for base program support.

Purpose of New York’s Great Lakes Basin: Interim Action Agenda

The priority goals for the GLAA are:

- Clean Up Pollution Sources and Restore Beneficial Uses;
- Conserve Natural Resources;
- Promote Resilient Communities and Sustainable Development; and
- Other activities that cut across multiple goals (Cross-Cutting Priorities).

Examples of eligible projects and potential outcomes under the GLAA include, but are not limited to, the following:

Goal #1. Virtually eliminate discharges of persistent toxic substances to protect biological and human health.

Research Need:	Outcome:
Research on the sources and effects of emerging chemicals and other substances of concern (e.g., pharmaceuticals, microplastics) on NY’s Great Lakes people, fish and wildlife.	Understand the effects of emerging chemicals of concern on people, fish and wildlife.
Complete a basin-wide characterization of WWTP effluent to assess levels of legacy (PCBs) and emerging contaminants (PBDEs, pharmaceuticals, microplastics) that are discharged.	Quantify contaminant levels discharged from WWTPs.
Identify areas of contaminated sediments and groundwater, and quantify discharge to surface waters to direct remedial actions where needed and feasible.	Remediation of contaminated areas within AOCs .

Goal #2. Control sediment, nutrient and pathogen loadings so that water quality is protected, desired aquatic biotic communities flourish, humans and wildlife are protected from coastline health hazards, and natural processes are sustained.

Research Need:	Outcome:
Determine the impact of point and non-point sources of pathogens and nutrients on the closure of town, county, and state park beaches.	Prioritization of sources/beaches for remediation.
Develop a coordinated research program to understand, analyze and forecast harmful algal blooms.	Better understanding of causes, impacts, and solutions to proactively address HABs and the occurrence toxic blue-green algae.
Measure the impact on the recent bans of phosphorous in detergents and fertilizers.	Increased public support for nutrient regulations.
Measure the impact of land-based sources of nutrients and correlative parameters on the near shore zone of the Great Lakes.	Allow for the prioritization of watersheds with nutrient issues.

Goal #3. Accelerate the Delisting of New York's Areas of Concern (AOCs) by implementing actions focused on restoring beneficial uses impaired by pollutants.

Research Need:	Outcome:
Develop biological indicators to detect contaminant trends in water, fish, wildlife, and vulnerable human populations.	Enhanced tracking abilities in support of delisting of AOCs.
Identify the source and impact of toxics and contaminants of concern impacting the AOCs.	Allows for prioritization of remediation efforts for delisting the AOCs.
Assess management practices and biological indicators that can be used to document delisting of the AOCs.	Enhanced tracking abilities in support of delisting of AOCs.
Determine the appropriate ways to remediate contaminated sediments that are the most significant cause of BUIs in each AOC.	Removal of BUIs and delisting of NY AOCs.

Goal #4. Combat invasive species to sustain a healthy Great Lakes ecosystem and to maintain diverse economic and recreational opportunities.

Research Need:	Outcome:
Evaluate technical alternatives (i.e., <i>in-situ</i> barriers, boat lifts, etc.) and their potential legal/social/economic implications to ensure the region's canals and waterways are not vectors for spreading invasive species.	Development of enhanced management alternatives for canal system.
Measure the economic impact of invasive species and potential control strategies in New York State.	Understanding of economic impacts informs prioritization of control efforts.
Improve early detection and management protocols for invasive species (e.g., identification of likely pathways of invasion, seed-source trackdown, development of innovative control tools).	Improved detection and management capabilities.
Development of early detection, monitoring and control strategies for high-priority species such as hydrilla, European frog-bit, water chestnut, and phragmites.	Achieve near real time rapid-monitoring capability.

Goal #5. Conserve and restore native fish and wildlife biodiversity and habitats to achieve and sustain resilient ecosystems and vibrant economies.

Research Need:	Outcome:
Determine how epilimnetic zooplankton declines and changes in zooplankton community structure/distribution are affecting prey fish.	Increased understanding of lower food web dynamics.

Develop a rapid, sensitive, and inexpensive assay for the quantification of botulism toxin and define the toxin's transmission pathway through the aquatic food web.	Development of management practices to prevent and/or predict botulism outbreaks.
Determine the occurrence and ecological effects of endocrine disruptors in the Great Lakes ecosystem.	Understanding of impacts of endocrine disruptors on fish populations.

Goal #6. Conserve Great Lakes water supplies in a manner that recognizes the renewable but finite supply of the waters of the Great Lakes basin for the long-term sustainable use and enjoyment of the public.

Research Need:	Outcome:
Identify novel strategies to protect and sustain source waters, aquifers and critical water supplies.	Protection of water quality and quantity.
Evaluate the impact of climate change on the water resources of New York State.	Maintain hydrologic flows in tributary streams and groundwater systems that are consistent with ecological and human needs.
Develop tools that could be used to identify critical watersheds and aquifers in the Great Lakes basin.	Understand aquifer hydrology and implications for local water supplies.

Goal #7. Enhance community resiliency and ecosystem integrity through restoration, protection, and improved resource management.

Research Need:	Outcome:
Develop an environmental monitoring system to track and forecast hydrologic, climatic, biological and meteorological changes in the Great Lakes ecosystem.	Support adaptive management of St. Lawrence River/Lake Ontario aquatic resources.
Determine the impact of offshore artificial reefs and habitat-friendly breakwaters on restored beaches and dunes.	Reduced impacts from storm surges and wave forces on unprotected shorelines.
Identify "soft" shoreline protection techniques, and the economic and ecological costs/benefits associated with their implementation.	Understand which soft shoreline techniques are suitable for implementation on NY's GL system.

Goal #8. Promote smart growth, redevelopment and adaptive reuse to create a sustainable and vibrant economy in the Great Lakes ecosystem.

Research Need:	Outcome:
Identify and determine the benefit of novel strategies to reclaim or restore underused areas consistent with smart-growth principles (e.g., greenways, floodplain preservation, wildlife corridors and riparian buffers, etc.).	Urban green spaces benefit water quality, habitat, and community revitalization.
Identify those factors limiting the implementation of integrated local and regional plans and smart-growth principles in the Great Lakes region.	Reduce GHG emissions, enhance climate resiliency, and support sustainable economic growth.

Goal #9. Enhance recreation and tourism opportunities that capitalize on the rivers and lakes and the natural, cultural and visual resources that define the character of the Great Lakes – St. Lawrence River region.

Research Need:	Outcome:
Determine those factors limiting the recreational opportunities and tourism use of the Great Lakes Basin.	Determine priorities leading to increased recreational use.
Provide a better understanding of how the public perceives the value of Great Lakes resources.	Increase public appreciation and stewardship of GL natural resources.

Goal #10. Plan for energy development consistent with natural resource conservation and supportive of the state's energy and climate change goals.

Research Need:	Outcome:
Determine the impact that may result from new energy developments, including fossil fuels, wind energy, etc.	Identify least impactful and most feasible energy development options.
Develop mitigation practices to minimize the impacts from the siting, extraction, transmission, and efficient use of renewable and non-renewable energy resources.	BMPs reduce impacts to natural resources and maximize energy efficiency.
Develop tools to aid in the evaluation of the costs and benefits to shoreline communities, impacts on habitats and biota, visual aesthetics, recreational and submerged cultural resources by new energy developments.	Identification of least impactful energy development sites and/or corridors.

Proposal Review: The Great Lakes Research Consortium will establish a review panel to evaluate proposals based on technical merit. This technical review, with input from the Department of Environmental Conservation and the GLBAC, will evaluate how well each proposal furthers the goals and objectives of the NYGLPF and the GLAA. Based on this review and technical ranking a list will be forwarded for funding to the Department of Environmental Conservation for final approval.

Proposal Format:

A. Cover Sheet:

1. Project Title
2. Principal Investigator (Name, Affiliation, Address, City, State, Zip, Phone, Fax, Email)
3. Collaborator(s) (Name, Affiliation, Address, City, State, Zip, Phone, Fax, Email)
4. Amount Requested
5. Priority Category(s) (Identify the NYGLPF and GLAA categories addressed)
6. Institutional Signatures

B. Proposal: The text of the proposal should be no more than 5 pages, excluding coverpage, references and supporting materials. It must include the following elements:

1. **Nontechnical Abstract:** Briefly (no more than one paragraph, <300 words) summarize the project's focus and goal, scope of work, nature of collaboration, and significance to the priorities of the GLAA. This abstract will be used for distribution on the GLRC website.
2. **Statement of the project's focus:** State the issues that are to be addressed by the project and in a clear and concise manner how the project relates to the objectives and priorities identified in the NYGLPF and the GLAA.
3. **Scope of Work:** Describe the purpose and scope of work to be accomplished. Include the following: purpose of the project and specific objectives to be achieved; public benefits and implications for policy development; end-products of the project and how these products will be used to further develop the project and goals of the GLAA.
4. **Timeframe:** Provide a time-frame for completion of objectives and major milestones of the work.
5. **Personnel and Collaboration:** Describe the nature and degree of collaboration between those involved. Describe the personnel to be assigned to this project. Include resumes of all lead personnel. If an intern is involved in the project, list their major advisor or agency and describe how the intern will be recruited.

C. Budget and Justification: The budget justification should start on a separate page entitled "Budget Justification" and is not included in the 5-page proposal total. The budget must include the following items.

1. Total funds requested.
2. Matching funds. Matching funds are not required for this program however they are strongly encouraged. If matching funds are being used, show them in the budget. Only non-state funds are eligible to be used as a match.
3. Person-months. Person-months must be broken into GLRC-funded and contributed shares.
4. Fringe benefits. Appropriate Fringe benefits must be budgeted for all personnel paid through this project.
5. Permanent equipment. This is defined as items having a life of two or more years and/or a cost of \$2,000 or more. For items fitting this description, you should explain why this equipment cannot be obtained through loan or rental and detail what will happen with this equipment after the end of the project.
6. Supplies and non-permanent equipment. Indicate what consumable supplies will be required to complete this work.
7. Travel. Indicate all travel required for the project. If travel to a scientific meeting is required – you must explain why that meeting is essential for the completion of the project.
8. Indirect costs. Indirect costs are not eligible to be included in the GLRC portion of the budget but can be included in the Matching funds.

D. Notification and Reporting requirements:

Successful projects will receive written notification and a separate list of reporting requirements. These requirements include both mid-way and end-of-project reports. Send correspondence to:

Great Lakes Research Consortium

253 Baker Lab

SUNY College of Environmental Science and Forestry

1 Forestry Drive

Syracuse, New York 13210

Email: glrc@esf.edu