



# Reimagining Great Lakes Water Systems: A Call for People, Ideas and Projects

## SUMMARY

The Great Lakes Protection Fund is looking for new ideas, new projects and new cohorts of people to catalyze a transition to a new era of water systems. “Water systems” are the built infrastructure, the natural landscapes, and the operating rules that govern how water moves, what moves in water and what moves on water. Improved water systems will better solve a range of problems that vex our current systems, including: **reducing nutrient-driven harmful algae blooms, better handling of large rainstorms, being adaptable to changing economic and demographic conditions, and providing better value for the money we will invest in them.**

In this new era, we envision water systems that will increasingly:

- **employ natural design principles**, coupling built and natural systems seamlessly,
- **be valued as community assets** by the people that pay for and benefit from them,
- **be smarter**, enabled by technology to be integrated and interoperable, and
- **be future proof**, attracting creative ideas and entrepreneurial talent to meet the needs of changing demographics, new uses, new users and new stresses.

The Fund has already invested in teams working to pilot strategies to drive some of these changes. We want to expand that portfolio, adding efforts that, for example, test new solutions to urban storm water and rural drainage, integrate water management, test watershed approaches, prototype new ways to manage coastal processes, and demonstrate other strategies to create the building blocks for the next generation of water systems in the basin. We want to find, and fund, people to lead the way. The Fund is interested in your best ideas, even if you feel they may not be preproposal ready.

We are looking for project teams that will try a new approach to managing water that, when successful, will cause others to change how they manage their water. Teams are encouraged to try something new, by people who have never teamed up before, to rework the system in a way that makes better sense to everyone. Showing how these strategies can be implemented, in real places, is more powerful than desktop research, policy analysis, or planning activities alone.

If you are interested in participating in a project, being an expert reviewer, or offering advice to the Fund, click [here for our short survey](#). If you want to explore an idea or discuss a potential project, email us at [startaconversation@glpf.org](mailto:startaconversation@glpf.org). Conversations are encouraged in advance of submitting preproposals.

Preproposals of up to three pages are due by 8:00 AM CDT, July 25, 2016. Early submittals are strongly encouraged as the Fund will begin review upon receipt. In early August 2016, selected project teams will be invited to submit a more detailed full proposal that will be due in September 2016. Funding decisions stemming from this RFP will be made in December 2016.



## BACKGROUND

Water systems are the things that not only affect how water moves, but what moves in water, and what moves on water. Water systems are far more than just our constructed infrastructure of pipes, pumps and tanks, built “green” infrastructure, rural drainage systems, and port and river mouth developments. The scope of water systems includes **natural landscapes**, and anything else that affects water including the following:

**design standards** and specifications

**supply chains**

**institutional frameworks**

**contractual arrangements**

**belief systems** that shape and drive our  
individual and shared connection with water

**operating rules** (e.g., SCADA systems; asset management systems; accounting systems; revenue streams; capital structures; underwriting practices; local, state and provincial rules that govern utilities and land use)

Those things can be reimaged, rebuilt, removed and/or reconfigured in the Great Lakes region.

Our existing water systems are ill-suited for the more frequent and extreme rain events resulting from climate change. The amount of rain from large storms has increased 37-71% across the Great Lakes region. Regular flooding in cities, increased nutrient run-off from agricultural areas, harmful algal blooms, beach closures, and deteriorating stream health demonstrate that our existing systems are not working. A next generation approach must be more robust and resilient.

Further, the institutions that provide drinking water, treat sewage, maintain storm sewers, and service drainage ditches in rural settings are largely a legacy of past circumstances and may have difficulty meeting the needs of the environment and populations they now serve. These institutions emerged in an era of abundant federal subsidies, a tightly focused and prescriptive regulatory environment, and were designed to solve discrete, well-defined and well-understood problems. They have largely been successful at addressing their original goals, but our circumstances have changed.

Last, the region has not reinvested in its existing traditional infrastructure. For example, the EPA estimated that there were \$23 billion dollars of waste and storm water infrastructure needs on just the US side of the Great Lakes region in 2008 (2008 dollars). Estimates were updated in January 2016, identifying \$77.4 billion in need for region’s states (2012 dollars), but have not yet been broken out for the basin specifically. This is an enormous challenge. However, it also presents a tremendous opportunity to reimagine the type of built infrastructure that would best serve our region for decades to come, including how it can be capitalized, operated, maintained, retrofitted, repurposed and managed.

In short, the state, scale, scope and inter-relationships of our existing water systems are not up to the job of restoring and maintaining ecosystem health; our institutions are not positioned to function well as climate, demographics and economic systems change; and the entire system is undercapitalized. Our region needs to raise money, put it to better use, reform our institutions and redefine what they do and how they do it.



Virtually all of the water resources in the Great Lakes basin have been altered physically, chemically, or biologically. A challenge for our region, therefore, is to continue to increase the ability of the system to respond to new future stresses and support the next generation of ecological and economic uses.

The Fund wishes to support a set of new projects that design, test, and deploy prototype water management initiatives that pioneer new ways to create a healthier Great Lakes ecosystem.

### TRAITS OF DESIRED PROJECTS

The Fund hopes to build a set of projects, where each project team is testing an action in a specific place (or places). Projects may undertake activity anywhere that affects the Great Lakes' health. Local teams, tackling regionally significant issues, are encouraged to apply for support. These projects will add to the Fund's current project portfolio, and will likely include complementary and competing strategies.

We will look for projects that will drive our water systems to increasingly:

**Use nature as a model for managing water.** Water systems should increasingly put nature to work for our benefit to make them less expensive, more effective and more resilient. Projects should test new ways to mimic natural processes to manage rain, move water over and through the landscape, remove contaminants, recover value, and link upstream and downstream interests.

**Be better at creating recognized social, economic and community value.** The region's water systems have created an astonishing amount of wealth and social good. That value is not always recognized by the region's population, who have paid for and benefited from those systems. The region now needs substantial new investments in our water systems. Projects should explore how our institutions can better target and engage the populations they serve, identify unmet needs, develop new products, provide new and improved services, and communicate the value that they create for the basin. Projects should intentionally engage business, community and elected leaders to design, prototype and deploy ways to use water as the foundation for the region's future. Water systems need to better integrate the social, cultural and economic features of our region.

**Be intelligent, integrated and interoperable systems.** Projects should show how water systems will become increasingly self-aware as a result of being connected to devices from within its own system (be it a collection, drainage and/or treatment system) and to outside devices (i.e., rainwater harvesting equipment, green infrastructure, the power grid, weather information, upstream sources of water, downstream users of water). The technology should bridge the historic institutional divisions of labor to supply, distribute, use, collect and treat water. Teams should actively work to disrupt the fragmentation of water management and explore new institutional and operating models.

**Be future proof.** Water systems should anticipate the new uses, users, and economic value of water; be better able to adapt to the changing precipitation and water use patterns; and, be more financially self-sufficient. Projects could explore how to create systems that will secure our water for the next century, without unnecessarily locking into expensive, long-lived hard infrastructure, rigid intuitions or outdated contractual relationships. Projects could explore how capital or institutional investments can be flexible, even reversed, if circumstances require that.



The Fund will also evaluate individual projects to ensure that each of them:

**Has regional consequence.** The Fund supports regional actions, even if the work is prototyped in one location. The action being tested should have clear regional value. Teams should articulate the expected regional impact of the work proposed, and seek the support necessary to engage key regional audiences in designing and executing pilot activity, as well as embedding the lessons learned in practices throughout the region.

**Uses ecological health as a driver.** Projects should be focused on the health of the Great Lakes ecosystem, and the practices or strategies being tested are a means to achieve some type of ecological improvement. It is important for the project team to identify, as clearly as possible, the ecological improvement that will result from the proposed project. The Fund will look for projects that take such a systems approach to the work proposed. Key elements of such an approach could include: embedding the work in a watershed context, a focus on hydrologic alterations, creating resilience in natural systems, consideration of modularity and reversibility, and focusing on ecological improvement rather than (or at least in addition to) behavioral or volumetric changes as the driver for the work.

**Is a team-based collaborative.** The Fund supports multi-institution and multi-sector project teams. Teams that design and run projects should include the full range of people relevant to their project's expected outcome, work plan, and strategy. These might include engineers, hydrologists, aquatic ecologists, biologists, management professionals, government agency staff, and individuals and institutions that will test the prototypes developed. Teams will also include community leaders, property owners, and others to ensure diverse and deep connections to the solutions and to the communities that will adopt the results. (It is at the full proposal stage that the Fund expects to see commitment from all the institutions that will be involved in the work.)

Project teams should not only include “product” users in demonstration or pilot settings, but also actively include those who will use the results of those pilots. This strategy has proven to be the most effective way that project teams influence behavior across the set of actors necessary to affect the health of the basin. Projects that rely on a “create and disseminate” approach—developing an analysis without the involvement of the basin-wide community of potential users and then distributing reports, software or samples—are not encouraged.

Projects could be financed with outright cash grants, convertible grants, debt, equity or some combination.

## ELIGIBILITY

The Great Lakes Protection Fund can support a wide variety of applicants. Non-profit organizations (including environmental organizations, trade associations, and universities), governmental agencies, individuals, and for-profit businesses are eligible for Fund support. Successful applicants must maintain open access to certain project data, records and information.

All applicants must show that the proposed work has clear public benefit and that any related financial benefits will accrue to the public good. Government agencies must show that Fund support is not being



used to replace or duplicate funds. The Fund will not support advocacy campaigns, litigation or compliance obligations.

## CONTENT OF PREPROPOSALS

We strongly encourage you to start a conversation about your project idea prior to submitting a preproposal by calling Stephanie Lindloff, Project Development Manager, at 847-425-8193 or by sending an email to [startaconversation@glpf.org](mailto:startaconversation@glpf.org).

Preproposals should include an [applicant cover sheet](#), three pages of narrative (including the project budget), and a copy of the project manager's resume.

All preproposals must be emailed to [preproposal@glpf.org](mailto:preproposal@glpf.org) no later than 8:00 AM CDT, July 25, 2016. The Fund will begin review upon receipt. In August 2016, the Fund will request more fully developed project proposals from a subset of teams submitting preproposals. Fund staff and other technical experts will review these full proposals prior to a funding decision by the Fund's board of directors.

In your preproposal, please address the following issues:

### **What you hope to achieve**

Describe what innovation you will create and identify the new action or behavior you expect to pilot. Detail how you will take the lessons learned in the pilots to drive regional impact and how you expect to have your strategy/innovation adopted elsewhere. Discuss what will change during the course of the project and how the Great Lakes will be improved when you or others take the work to scale. Detail the audiences your work is intended for (emphasizing those beyond your pilot location) with specifics about why your audiences see value in the work and how the team will actively engage those audiences.

### **How you plan to do the work**

Outline the work to be carried out. Discuss why you believe that approach will work. Include a project timeline that contains the major interim objectives. Show how the work will lead to the expected outcomes identified above. Describe who will use the strategies you're testing and identify their role in designing the test of the innovation you will create.

### **Who you will involve**

Identify the project team members (those supported by the request, by other funding sources, and volunteers), and indicate their roles, responsibilities and qualifications. By the time a full proposal is submitted (and ideally before) the team should reflect meaningful collaboration among all interests affected by the project, especially non-expert audiences, and include members from entities that will ultimately use the tools and approaches developed.

### **What resources you will require**

Present the estimated costs of the proposed work in summary categories: personnel, equipment and supplies, travel, consultants, overhead, etc. The Fund will support overhead costs at a maximum of 15%



of project costs. Identify the type and amount of support requested of the Fund. Identify how other monies will be raised to support the proposed work. Identify any other resources you require to do the work.

Submit a single pdf file with all of the materials to [preproposal@glpf.org](mailto:preproposal@glpf.org).

Visit the Fund's website to find [Frequently Asked Questions and Additional Resources](#).

## CALENDAR

*May 2016*

Request for Preproposals

*July 25, 2016*

Preproposal Submissions Due

(Note—Preproposals will be reviewed as received. Early submissions are strongly encouraged so that Staff may provide feedback on project ideas, team membership, etc.)

*Late August 2016*

Full Proposals Invited

*Late September – Late October 2016*

Full Proposal Review and Revision

*December 2016*

Announcement of Awards

## About the Great Lakes Protection Fund

The Fund's mission is to identify, demonstrate and promote regional action to improve the health of the Great Lakes ecosystem. It is the nation's first ecosystem endowment and was created by the governors of the Great Lakes states in 1989. The Fund provides financial support to teams that undertake collaborative projects in support of its mission. The Fund makes grants, issues debt and can take equity positions in those projects. The Fund does not support lobbying, litigation, advocacy, public works projects, or compliance obligations. The Fund has invested over \$75 million in 265 projects, involving over 1000 collaborating institutions. More at [glpf.org](http://glpf.org).