



## **GREAT LAKES PROTECTION FUND**

**SUPPLEMENTAL REQUEST FOR PREPROPOSALS:**

**GROWING WATER—IMPROVING THE ABILITY  
OF THE GREAT LAKES BASIN TO SUPPORT  
FUTURE WATER NEEDS**

Preproposals Due: July 18, 2004

## **SUPPLEMENTAL REQUEST FOR PREPROPOSALS**

### **GROWING WATER—IMPROVING THE ABILITY OF THE GREAT LAKES BASIN TO SUPPORT FUTURE WATER NEEDS**

#### **SUMMARY**

The Great Lakes Protection Fund seeks preproposals for innovative projects that demonstrate how to improve the health of the Great Lakes ecosystem so that the basin ecosystem can support expected increases in the use of Great Lakes water. Projects should seek to change hydrology on the land, in surface waters and/or in tributary aquifers to enhance ecosystem health and create tools and approaches that allow such results to be replicated. Projects should lead to verifiable and quantifiable ecosystem improvements. The Fund expects to support a portfolio of complimentary projects.

The Fund welcomes preproposals in response to this initial supplemental request by Midnight, July 18, 2004.

#### **BACKGROUND**

The dynamic character of water systems drives their ecological integrity. In the Great Lakes basin, this character has been altered by physical modifications such as dams and levies, by water withdrawal, and by changes in land use. Water, biota and materials enter and move through the waterways at different times, at different rates, and in different amounts than they have historically because of the significant changes in the watershed they drain. Agricultural conversion, some forestry operations and urban development have caused higher peak flows, increased the amount of sediment movement in the stream, and disrupted the geomorphology of stream channels and flood plains. Nearly every change of how water moves—whether in residential, industrial, silvicultural and agricultural uses or landscapes—has the potential to alter the flow and material regimes of basin waters.

The better-known symptoms of these altered regimes include high peak stream flows, increased sedimentation, expanded stream bank erosion, decreased dry weather stream flows, habitat loss, separation of the tributary habitat from the open lakes, and lower water levels in tributary aquifers. The end result of these alterations has been biological degradation. The basin's water dependent natural resources have been harmed by the changes in flow associated with how the region's land and waters are used.

Because of ongoing threats to the basin's water dependent natural resources, the region's Governors and Premiers have committed to adopt a common standard for approving new water uses that will assure that the health of water dependent natural resources only improves with each new use. In other words, new uses must displace previous uses that impaired flow regimes. These restored flow regimes will lead toward improved ecological integrity, not just in tributaries, but also in the Lakes themselves.

In addition, the Congress is exploring how best to support efforts to restore the health and integrity of the Great Lakes ecosystem. Improved water resource management activities, even if not compelled by the requirements related to the commitments in Annex 2001, will inform, and may in turn be supported by, these new Congressional initiatives.

The significant amount of existing flow alteration is a hidden and largely untapped source of potential ecological value for basin residents. Repairing those alterations will allow the basin's waters to support a strong economic future. This request seeks projects to pioneer the most efficient means of converting present environmental damage into economic and ecological wealth.

The Fund is interested in exploring:

- how much value can be created by such restoration efforts: *ecological benefits* for the natural system, *water development benefits* for social and economic purposes, and *economic value* for the owners and managers of basin lands;
- how these different values relate to one another; and,
- what systems and strategies best maximize the total value created in any given project.

The Fund believes that these values will be maximized if all of them are explicitly considered in project design, if they are sufficiently transparent to all parties, and if project uncertainties are identified and well managed.

## **PROJECT CRITERIA**

The Fund wishes to support a portfolio of projects that develop tools to support changes on basin lands, and in basin waters, that improve the ecological integrity of the basin's water resources. The Fund is interested in developing the following categories of "tools," where possible in the context of on-the-ground projects, and where necessary in research and planning investigations:

***Resource improvement practices***—The on-the-ground and in-the-water actions that lead to the improved health of water dependent natural resources. These could include groundwater recharge augmentation, dam and structure removal, changes in vegetation, wetland restoration, development and drainage practice improvements, and other activities that generate ecological improvements to water dependent natural resources.

***Accounting systems***— Prototype methods that link investments to practices, and practices to ecological results. Such systems would allow the practices to be evaluated, to track predicted and generated improvements and link those improvements to the development of new water uses.

***Financing and Banking mechanisms***—Legal and financial arrangements that allow improvements to be developed before a user needs them and allow the capital markets to participate in the creation of resource improvements.

**Model transactions**—System-wide analysis that identifies the likeliest sources of resource improvements, the most likely public and private sector purchasers, and guidance about how beneficial transactions can be facilitated. In addition to a broad, system wide overview, high frequency and high value transactions should be reduced to sets of prototype contracts between producers, brokers and users of resource improvements that define performance, price and conditions of sale and use.

**Insurance and assurance products**—that identify, assign and mitigate the risks associated with project uncertainties.

Teams that design and run projects should possess scientific, transactional, financial and management expertise. The project team members should represent a range of institutions and individuals. As with all Fund-supported work, these teams would be collaborative in nature and represent the full suite of interests relevant to improving the health of water resources. Applicants must be willing to collaborate with other grantees, Fund staff, and others in the basin to capture and share the lessons from the supported projects.

The Fund wishes to encourage a broad array of innovative strategies to strengthen the health of the basin's aquatic resources to increase the capacity to meet future demands. As usual, The Fund will consider regional projects that target multiple sites, but with this supplemental request, the Fund will also consider supporting innovative local projects that add value to the larger body of work supported. Projects could be financed with outright cash grants, convertible grants, debt, equity or some combination.

Each individual project should:

- Identify a specific, testable hypothesis for growing water;
- Demonstrate an innovative and scalable strategy;
- Create one or more exportable tools or methods to replicate the project's success;
- Be a collaborative effort;
- Include sufficient monitoring to test the hypothesis and quantify project results; and
- Make maximum use of existing efforts and leverage Fund support as much as possible.

An ideal project takes actions to improve specific water dependent natural resources, adopts an accounting system that predicts and tracks resource improvements, creates contracts to convey "rights" in those improvements, and markets those contracts to willing buyers. Project teams would evaluate the success of each element: how effectively the changes on the land generate changes in the water, how well the prototype accounting systems function, how easily the improvements are captured in legal agreements, and what determines the value of particular transactions in the resource improvement market place. The Fund hopes to test approaches on the range of working landscapes present in the basin.

To illustrate the kind of ideas the Fund might be interested in supporting, a list of project ideas includes:

**Groundwater Farming:** A consortium of farmers alters existing drainage patterns so that groundwater storage increases, stream base-flow increases and the health of aquatic communities improves; model contracts are prepared and offered to likely purchasers of resource improvement.

**Restoration Forestry:** Recently harvested timberland is put into long rotation management to mimic pre-settlement landscapes and flow patterns. The team's scientific panel identifies likely improvements to water dependent natural resources over the life of the project and the team's transactional experts prepare contracts to offer improvements resulting from the succession of forest types at various times in the future.

**Water Improvement Trust:** A not-for-profit corporation acquires rights to lands/projects that adversely impact the health of the region's water dependent natural resources and markets the improvements that would result from their remediation. The trust secures financing, undertakes management activities and generates improvements to the health of water dependent natural resources. The trust would function as a not-for-profit holding company for resource improvement projects conveyed to willing buyers.

**Resource Improvement Certification:** A not-for-profit corporation creates watershed-based standards that improvement actions must meet, designs audit criteria that allow independent, third party audits of management activities. Activities that generate improvements of the watershed's water and water—dependent natural resources are certified as watershed improvements. Agricultural, silvicultural and other revenue generating operations that use or withdraw water can, if they desire, market their products at a premium because of the resource improvements they have generated.

**Banking Infrastructure for Publicly Supported Improvements:** A venture creates a system to identify, value and communicate the ecosystem benefits of publicly supported restoration projects. When federal, state or local governments undertake or subsidize actions that have the effect of improving the health of water dependent natural resources, a registry would measure the amount of improvement created and assist governments in assigning rights in those improvements to water development activities.

**Ecosystem Services Districts:** A specialized government entity to direct public investment into activities that enhance those ecological services that improve the condition of the district's water and water dependent natural resources. Such a district could take ownership of abandoned dams and finance their removal, raise additional financing to restore flow characteristics of regulated ditches and drains, or serve to finance and manage local projects that have positive regional consequences.

**Benefit Increment Financing:** A group of land owners issues debt to finance resource improvement opportunities in waters that drain from their land. The debt repaid with the income from sales of resource improvement credits. This project

would illustrate how to capture the present value of future revenue to fund improvement activities.

These ideas are provided as illustrations designed to stimulate thinking, not as a final word on what might work, or what the Fund might choose to support. Applicant teams are encouraged to think expansively and creatively about additional transactions that will improve the health of the basin's water dependent natural resources.

### **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 public funds.

### **CONTENT OF PREPROPOSALS**

Preproposals should include an [applicant cover sheet](#), no more than five pages of narrative (including the project budget), and a copy of the project manager's resume. No other attachments are permitted. The Fund prefers that preproposals be submitted via e-mail.

All preproposals must be delivered to the Fund's offices no later than Midnight July 18, 2004. The Fund will begin review upon receipt. In late August 2004, the Fund expects to request more fully developed project proposals from a subset of the teams submitting preproposals. Fund staff and other technical experts will review these full proposals prior to a funding decision.

Please address the following issues, in the order below, in your preproposal:

#### Environmental Outcomes

Identify the expected environmental outcome(s) of the proposed work. Be as specific as possible. The specific outcome should be presented as a testable hypothesis for the project's on-the-ground work. Also identify the likely impacts of the project's results on the Great Lakes ecosystem, and what must happen beyond the work proposed to ensure that these impacts occur. Explain why the specific project outcome and more general results are priorities for the Great Lakes ecosystem.

#### Proposed Work

Outline the work to be carried out. Include a timeline for the project that lays out when the work will be complete and the major interim objectives. Show how the work will lead to the expected environmental outcome identified above. Identify the specific exportable "tools" the project team expects to create. Identify how project

success will be measured. Identify target audiences for the project. Discuss how the exportable tools and other results, even if the projected environmental outcomes are not achieved, matter to the identified target audiences, and lay out a strategy to communicate those results.

#### Key Personnel

Identify the members of the project team (those supported by the request, by other funding sources and volunteers), indicating roles and responsibilities. The project team should reflect meaningful collaboration among all interests affected by the project. Briefly describe qualifications.

#### Financial Plan

Present the estimated costs of the proposed work in summary categories: personnel, equipment and supplies, travel, consultants, overhead, etc. The Fund will not support overhead costs in excess of 15% of the direct project costs (excluding travel and sub-contracts.) Identify the type and amount of support requested of the Fund. Identify how other monies will be raised to support the proposed work.

Submit six copies via mail, or a single copy via e-mail to:

[preproposals@glpf.org](mailto:preproposals@glpf.org)

Preproposal: Growing Water  
Great Lakes Protection Fund  
1560 Sherman Ave, Suite 880  
Evanston, IL 60201  
Voice 847-425-8196  
Fax 847-424-9832

#### **CALENDAR**

*June 2004*

Request for Preproposals

*July 18, 2004*

Preproposal Submissions

*August 2004*

Full Proposals Invited

*Autumn 2004*

Full Proposal Review and Revision

*December 2004*

Announcement of Awards

**THE GREAT LAKES PROTECTION FUND**

The Great Lakes Protection Fund is a private, nonprofit corporation formed in 1989 by the Governors of the Great Lakes States. It is a permanent environmental endowment that supports actions that improve the health of the Great Lakes ecosystem.

The Fund seeks projects that lead to tangible improvements in the health of the Great Lakes ecosystem, address the interdependence of ecological and economic health, and are innovative, creative, and venturesome. The Fund accepts preproposals at any time and in response to periodic supplemental requests for preproposals on specific topics such as this.



## **RESOURCES AND ADDITIONAL BACKGROUND:**

The Great Lakes Protection Fund

[www.glpf.org](http://www.glpf.org)

The Natural Flow Regime: A New Paradigm for Freshwater Conservation, BioScience, 1997

[http://www.snre.umich.edu/riverflows/flow\\_regime/naturalflow.pdf](http://www.snre.umich.edu/riverflows/flow_regime/naturalflow.pdf)

[Anthropogenic Impacts on the Hydrology of Rivers and Lochs, University of Dundee, 1999](#)

(493KB PDF file)

[GLPF Water Resources Roundtable, November 1998](#) (41KB PDF file)

Instream Flow Council:

[www.instreamflowcouncil.org/ifchome.htm](http://www.instreamflowcouncil.org/ifchome.htm)

Cooperative Research Centre for Freshwater Ecology

[enterprise.canberra.edu.au/WWW/www-crcfe.nsf/about?OpenNavigator](http://enterprise.canberra.edu.au/WWW/www-crcfe.nsf/about?OpenNavigator)

1985 Great Lakes Charter

[www.cglg.org/pub/charter/index.html](http://www.cglg.org/pub/charter/index.html)

Annex 2001 to the Great Lakes Charter

[www.cglg.org/1pdfs/Annex2001.pdf](http://www.cglg.org/1pdfs/Annex2001.pdf)

Protecting Natural Capital through Ecosystem Service Districts, Stanford Environmental Law Journal, July 1997

<http://www-1.gsb.columbia.edu/faculty/gheal/General%20Interest%20Papers/SELJ.pdf>

Protection of the Waters of the Great Lakes, International Joint Commission, 2000

[www.ijc.org/boards/cde/finalreport/finalreport.html](http://www.ijc.org/boards/cde/finalreport/finalreport.html)

Indirect Ground-Water Discharge to the Great Lakes, USGS, 1999

[mi.water.usgs.gov/pdf/glpf.pdf](http://mi.water.usgs.gov/pdf/glpf.pdf)

Importance of Ground Water in the Great Lakes Region, USGS, 2001

[water.usgs.gov/ogw/pubs/WRI004008/contents.htm](http://water.usgs.gov/ogw/pubs/WRI004008/contents.htm)

Ground Water and Surface Water: A Single Resource, USGS, 1999:

[water.usgs.gov/pubs/circ/circ1139/index.html](http://water.usgs.gov/pubs/circ/circ1139/index.html)

Ground Water in the Great Lakes Basin: the case of southeast Wisconsin, USGS, 2004

[wi.water.usgs.gov/glpf](http://wi.water.usgs.gov/glpf)