

A Summary of  
**THE NEXT TWENTY-FIVE YEARS**  
FINAL REPORT  
ON  
**AN ENQUIRY FOR THE GREAT LAKES PROTECTION FUND-2015**

Conducted and Prepared for:

Great Lakes Protection Fund  
Evanston, Illinois

By

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## Background

The Great Lakes Protection Fund (“Fund” or GLPF) retained Tracy Mehan, an independent consultant and former board member, to ascertain the views of key Great Lakes leaders across a variety of topics including the most pressing priority issues or emerging challenges to the Great Lakes ecosystem and economy; to explore how the Fund might better prepare the region for those challenges; and, to assess how the Fund, its work and its impact are perceived. Mehan explored how basin leaders saw the challenges which the region is not yet prepared to address, how well the GLPF has increased its transparency over the last several years, how it might otherwise improve day to day operations vis-à-vis applicants and currently supported teams, and how it might better engage new bodies of knowledge or experts.

Fifty-one experts, practitioners, grantees, academics, government officials, scientists, as well as business, association and environmental leaders, mostly from within the Great Lakes region, were interviewed. Thirteen, open-ended questions were used to structure the interviews. The interviewees, the questions, and a brief background document can be found in the appendices. This work builds upon a similar 2010 enquiry, also conducted by Mehan.

## Emerging Priority Issues

Asking 51 interviewees to identify their top 3-4 significant issues, challenges, problems and emerging issues for which the Great Lakes region is not yet prepared yields, approximately, 150 to 200 items. There are many insightful suggestions as to the top candidates for attention. Several of them will be discussed below. However, a general pattern emerges as to the top tier challenges:

- 20 respondents identified *climate change*, both as to issues of mitigation and/or adaptation and resilience, as one of their top issues for the region
- 20 respondents identified *nutrients* as one of their top priorities with harmful algal blooms (HABs), agricultural nonpoint source pollution and food security also incorporated into this category
- 11 respondents placed *water infrastructure* in their list of coming challenges, many linking it to both traditional concerns about under-investment and more recent

concerns regarding intense precipitation events due to climate change

- 10 respondents mentioned *invasive species* as one of their top issues
- 9 respondents identified a constellation of issues, challenges, possibly opportunities, relating to *demographic and business shifts* in the Great Lakes Basin due to a variety of climate effects elsewhere such as western drought and rising sea levels

Beyond these top tier matters, most of the other priorities identified were in the middle to low single digits although some of the more insightful comments merit, and will receive, more discussion.

### ***Climate Change, Adaptation and Resilience***

The general tenor on this issue can be heard in the comment of one consultant, who is well familiar with the Great Lakes: "Climate change, of course." It is an issue whose time has come. This same interviewee noted, "Adaptation is now part of the daily discourse at least for local governments."

Many, not all, interviewees putting water infrastructure at the top of their list, connected the issue with climate change due to the impacts of increased precipitation events on combined sewer overflows, sanitary sewer overflows, stormwater runoff, sizing of pipes, etc. These "urban wet weather" challenges are issues for which "The region is not prepared," according to one environmental consultant interviewed. Dennis McGrath, Great Lakes Project Director for The Nature Conservancy, commented on the same issue faced by people in rural landscapes: "For instance, how will they effectively manage their drainage systems or their riparian lands in response to changing conditions?"

Brian Richter, the chief water scientist for The Nature Conservancy described the astonishment he and his colleagues have experienced regarding the magnitude of hydrological "surprises," due to climate change. A minor temperature change often yields a "cascade" of runoff, polluted or otherwise, from precipitation events. The pace of change is also startling. While not commenting on the Great Lakes Basin itself, his perspective is both international and national and provides a context for considering the situation here regionally. While there may be greater interludes between precipitation events, the intensity is much greater. This boom or bust situation can also be a threat to water supply security due to droughts and groundwater depletion. There are also serious implications for

infrastructure, urban wet weather management and the maintenance of anything like a natural or “desirable” flow regime in rivers and tributaries.

***Nutrients, Harmful Algae Blooms (HABs), and Nonpoint Source Pollution***

The first great cleanup of the Great Lakes was the result of regulation and federal financing of controls on point sources of pollution, i.e., the traditional discharge pipes in the water, under the Clean Water Act and related state statutes. However, the new challenge of nutrient over-enrichment is largely the result of unregulated sources-agricultural nonpoint sources of pollution or diffuse runoff, say, from row crops. The current state of Lake Erie, or Saginaw Bay, as well as the recent crisis that engulfed Toledo, Ohio, exemplify the crucial contribution of agricultural sources and the challenge of controlling nutrients in the Great Lakes. This problem is replicated in estuaries worldwide including the Gulf of Mexico and Chesapeake Bay.

Interviewees note that the intertwined issues of increased precipitation, nutrients and agriculture are national and international in scope. Thus, it is no surprise that Matt Ries, Chief Technical Officer at the Water Environment Foundation emphasized that, at least for the nutrient issue, “Agriculture is key.” Moreover, for a variety of economic, demographic and climatic reasons, “Agriculture will grow” in the basin, maintains William Rustem former Director of Strategy for the Governor of Michigan.

Nutrient over-enrichment is a problem that has been around for some time, one largely addressed primarily through voluntary initiatives or subsidies in the conservation title of the Farm Bill. Henry Henderson, Director of the Midwest Program for the Natural Resources Defense Council, believes that, while a regulatory response is justified, market-based solutions including “beneficiary pays” solutions, such as water quality trading, are necessary and the only politically feasible approach. Basically, utilities—water and wastewater—and their customers will have to begin paying for best management practices upstream. This may be an opportunity to re-introduce the concepts of “resource improvement” and “net benefit” which the Fund pioneered during deliberations over the new interstate compact on diversions.

Molly Flanagan, formerly of the Joyce Foundation and now Vice President at the Alliance for the Great Lakes, believes the issues of nutrients and HABs implicates “broader questions about the food system and agriculture” and “the way we eat.” The problem is just not the

polluted runoff itself, but everything from subsidies, ethanol, and farming practices, to the other policies that contribute to the problem. A “systems approach” to agricultural policy and pollution is necessary.

### ***Water Infrastructure***

Water infrastructure concerns many interviewees for a number of reasons. First, much of the regional and national infrastructure is ageing without adequate investment in replacement or refurbishment. The magnitude of this problem has been outlined in numerous reports over the last 15 years by EPA, AWWA and other organizations with very little to show for it in terms of revenues from either ratepayers or the federal and state governments. Some national estimates run as high as \$1 trillion required for drinking water investments over the next 25 years with an equal amount for wastewater. Even discounting these figures by half, it is a substantial amount.

The problem is not limited to big ticket items such as combined sewer overflows, as noted by Todd Ambts, former official with the Wisconsin Department of Natural Resources and now Campaign Director for Healing Our Waters-Great Lakes Coalition. It is a systemic one. And the problem is not limited to water, wastewater and stormwater infrastructure but includes basic maritime assets, transportation and rural drainage assets too. For general economic development reasons, infrastructure—of all kinds—is a “key issue,” as described by Kathryn Buckner, President of the Council of Great Lakes Industries. “A day of reckoning is coming,” predicted Tim Eder, Executive Director of the Great Lakes Commission. Michael Donahue, Vice President for Water Resources and Environmental Services for AECOM, and a well-known expert on Great Lakes issues, also believes that assets like the Soo Locks are “on life support.” “Hard decisions” must be made regarding these and issues such as dredging, the state of the St. Lawrence Seaway and the like.

With climate variability and the increasing intensity of precipitation events in many parts of the Great Lakes Basin, the concern with managing flows, floods, stormwater, sanitary and combined sewer overflows is moving up the priority list for utility and other water managers. Peter Annin believes the changing climate, flooding and resultant infrastructure failures reveal the need to redesign and upgrade pipes, culverts and bridges throughout the region. Another state official declared, “Water infrastructure is failing.”

Robert Zimmerman, a Michigan native who is also President of the Charles River Watershed Association in Boston, argues for a shift to “smart sewerage” that “abandons large systems” and restores nature, by which he means more natural flow regimes. He believes that “distributed systems design” should be the new goal even in densely populated communities. These new systems could be “mined” for energy as well as for more water for base flows and stream restorations. It is first necessary to understand the historic, natural hydrology and restore nature’s ability to handle floods via adaptability and interconnectedness. He believes you can increase flood control by as much as 400x through natural redesign.

The opportunities for reducing imperviousness (impermeable surfaces on roads, sidewalks, roofs, etc.) and implementing green infrastructure (GI) or low-impact development techniques (LID), at scale, to encourage infiltration, evapotranspiration and reuse throughout a sewer-shed are now evident. These practices reduce the volume, velocity and temperature of stormwater runoff as well as the cost of capture and treatment. GI and LID offer the possibility of managing urban wet weather flows cost effectively while generating numerous and various environmental and social benefits that enhance the quality of urban and suburban communities. “Urban greening” can provide habitat, cool and beautify a city. It achieves water-quality goals and regulatory requirements at a cost savings.

### ***Invasive Species***

The work of the GLPF on invasive species and ballast water discharges is an accomplishment almost universally acknowledged by respondents in this survey. Many suggest the issue continues to be important for the region. However, some interviewees speculated that it is time to for the Fund to move on from that issue and let the private sector and government carry the ball from now on. This view, expressed by less than 5 interviewees, was predicated on their view of the GLPF as a kind of venture capital fund in the world of policy innovation. Beyond this, the GLPF’s work with DNA testing for invasive species was also viewed as cutting edge work.

David Rejeski, Director of Science and Technology Innovation Program at the Woodrow Wilson Center, believes biology is key to the future of the Great Lakes; but invasive species are just part of it. Is the region prepared for a biological attack on the Great Lakes? Can we design plants that can fix nutrients? Will various pests or other disease-carrying species

show up as the climate gets warmer? He recommends framing this topic in a way that gets beyond just "traditional" invasive species problems.

### ***Demographic and Business Shifts in the Great Lakes Basin***

A number of interviewees were either intrigued by or worried about the possible demographic and economic changes the region will experience, again, from "climate refugees" due to drought, rising sea levels and even a warmer climate in the Great Lakes Basin. Bill Werick P.E., who worked as a planner for many years at the Army Corps of Engineers and is the former board chairman of the Great Lakes Observing System (GLOS), believes the region will "redevelop" and become the "most prosperous place in the U.S." It will be important "to connect prosperity with protection of the ecosystem."

Mark "Puck" Mykleby (U.S.M.C, retired), Co-director of the Strategic Innovation Lab Team at the Weatherhead School of Management, Case Western Reserve, also sees the region's water resources as a "significant opportunity" given the likely demographic movement "back to high ground." He sees the chance for the Great Lakes region to prosper again given it has fresh water, healthy soil and an industrial base to build on. He is optimistic the region can "knock off the rust," but it needs a sustainable development framework. "We need to think as a system," says Mykleby, "and invest in integrative projects" rather than discrete ones. Like Werick, he argues for learning, adapting and then "design anew." Of necessity, his approach implicates governance issues regionally. He is very keen on "complex dynamic systems modeling, data visualization and 'what if' scenarios."

Nearly all of the interviewees raising the topic of demographic and business shifts into the Great Lake Basin take it as a given that western states will not adapt to the drought through pricing, water markets, water reuse technologies or conservation and their populations will immigrate away. Sea level rise on the east coast was also assumed. Others are more sanguine. Joel Brammeier believes "we need to get real about population trends in the region." Are the efforts by states and local governments to sell themselves through the "blue economy" argument "realistic"? What, exactly, is the likely rate of future population growth?

John Carey, former Director General for Water, Science and Technology, Environment Canada and current chair of the board of the Great Lakes Observing System (GLOS) believes

future demographic trends are important in evaluating the adequacy of water quality standards and regulatory limits for point source dischargers.

Sam Passmore of the Mott Foundation offered a unique perspective on these matters. He believes demographic, ethnic and cultural changes will impact the size and nature of the conservation community in the region. There will be fewer outdoors types (hunters, fishers). How will these new constituencies be motivated to support Great Lakes protection?

### ***Other Noteworthy Issues***

Interviewees identified a range of other issues that the region is not prepared to address. These issues were raised by a handful of interviewees. The need for better data, information and monitoring at scale was raised as a concern. As governments disinvest in monitoring programs, and private actors generate more data on the status of water and other resources, the data landscape is changing and concerning to some. Some interviewees noted the absence of government data has made policy-making difficult. Others were concerned that the “explosion” of private data in sensors, smart infrastructure and prescription farming may actually limit the public’s right to know the state of Great Lakes resources.

Some interviewees raised concerns about the risks posed by transport of fossil fuels in the region: whether by truck, rail, ship or pipeline. Still others suggested that various government interventions in ecosystem health, such as invasive species controls, need upgrades or wholesale change.

While none of these issue sets resonated across large numbers of interviewees, they are worthy to track.

### **Potential Solutions**

Interviewees were asked for concrete ideas about testable solutions that respond to the issues they raised. As might be expected, given the scope and scale of the issues identified, interviewees offered few specific suggestions. As one state official commented, somewhat tongue-in-cheek, “If I knew what to do, I would have already asked for a grant.” Interviewees instead shared ideas for processes that might shape GLPF initiatives to effectively deal with these emerging challenges.



Those suggestions tracked the Fund's process of gathering expert advice, and assembling multi-disciplinary teams to test solutions.

The overwhelming majority of the respondents expressed faith in the ability of the GLPF to assess the situation, develop a process, and launch multi-disciplinary teams to explore innovative solutions to confront such daunting matters as adaptation to climate change, nutrient over-enrichment and the renewal of both green and gray water infrastructure. "The Fund is very good at this sort of thing," commented another former state executive.

## **The Fund: Strengths and Challenges**

### ***Impact of Supported Work***

The overwhelming majority of interviews also reaffirmed the findings of the 2010 Enquiry, especially as to the value of the GLPF's work and the traits of its most successful projects. Many cited the GLPF's leadership in ballast water technology, forging the legal and technical aspects of the Great Lakes Compact, and new work on green infrastructure and finance as especially strong programming.

Interviewees indicated that successful traits of GLPF projects included the collaborative nature of supported teams, an action orientation and the innovative approaches found in its work. They noted that the Fund did its best work when assembling and supporting multi-disciplinary teams testing new, sometimes risky, creative solutions. "A strength of GLPF is bringing together people that usually do not sit in the same room," said Bill Weeks. "The multi-disciplinary nature of the GLPF work is outstanding—innovation requires many diverse stakeholders and end users. There is not a lot of this out there," observed Matt Ries. "They're early in the game, solution-oriented and entrepreneurial—very strong," opined Timothy Brown.

### ***Fund Operations***

In 2010, interviewees did comment that the GLPF can appear "somewhat opaque," in what it supports and how it operates. Its teams and their work were seen as having too low a profile. Higher visibility of the projects and outcomes was perceived as good for the GLPF and would benefit the region as a whole.

Most of the interviewees, especially those who are (or want to become) engaged with the

Fund, have noted progress in this regard over the past four years. Most appreciate the website upgrades as well as support the “co-branding” or expanded communications in all projects. This requirement for enhanced marketing and outreach to interested stakeholders received many compliments.

However, several interviewees—some being prominent members of the Great Lakes community—whom do not seek out the website, or have not recently participated in a GLPF project, were not aware of the GLPF’s efforts to increase its transparency and visibility. Greater effort to “drive” or draw these key stakeholders to the website or to reach them in other ways is required.

Several interviewees also expressed frustration with GLPF’s review and approval process. There are high “transaction costs” associated with the Fund, even though no interviewees used those words. These interviewees note that applicant meetings are open-ended, the review process is long and outcomes are not certain. A quick “no” may be preferable than a protracted “maybe.”

While some of the tensions surfaced by a small number of interviewees is structural and inevitable—the GLPF was created with a specific niche in mind—more can be done in terms of furthering understanding, appreciation and transparency of the priorities and projects sought by the Fund. Greater attention to the “customer service” side of the enterprise could go a long way toward improving its brand image and the good will of the basin’s stakeholders.

## **Conclusion**

This enquiry revealed the current, broad-gauge priorities of the Great Lakes community of policy and practice. Those priority issues include: a changing climate, nutrient over-enrichment, invasive species, renewing traditional and “new” water infrastructure, and adapting to changing demographic and economic conditions in the region. The majority of the respondents have tremendous faith in the ability of the GLPF to assess the situation, develop a process and develop multi-disciplinary teams to explore innovative and creative solutions to confront the issues that the interviewees believe the region is not yet well prepared to address.

The overwhelming majority of interviews reaffirmed the findings of the 2010 Enquiry—that GLPF has had significant impact in advancing ballast water controls, slowing the introduction of invasive species, launching and supporting the process that led to the Great Lakes interstate compact and supporting the process with projects that advanced the science and practice of water resource management. Further, interviewees noted that recently supported work in green infrastructure, urban and rural runoff, and stormwater more generally, is strong and well received.

Interviewees also noted the value of the traits of GLPF's work and its most successful projects: innovation, an action orientation, team-based collaboration, and strategic risk-taking. Yet, a minority of those interviewed are concerned that such work or traits keeps potential grantees away.

There is more to be done in terms of furthering understanding, appreciation and transparency as to the priorities and projects sought by the GLPF. Greater attention to the "customer service" side of the enterprise could go a long way toward improving the brand of the GLPF.

The broader Great Lakes community of practitioners and policy experts has great expectations, fully justified by past experience and the outstanding track record of the GLPF.

#### Appendices:

- A. Interviewees
- B. Background Paper
- C. Interview Questions

## **Appendix A- Interviewees**

2015 Enquiry on the Great Lakes Protection Fund

Jon Allan\*

Director, Office of the Great Lakes

Michigan Department of Environmental Quality

Todd Ambs

Campaign Director

Healing Our Waters-Great Lakes Coalition

Dean Amhaus

President & CEO

Milwaukee Water Council

Peter Annin

Center for Aquatic Conservation

University of Notre Dame

Dr. Jon Bartholic\*

Director, Institute for Water Research

Michigan State University

Julie Metty Bennett

Senior Vice President

Public Sector Consultants, Inc.

Dale Bergeron

Maritime Extension Educator

Minnesota Sea Grant

Joel Brammeier

President

Alliance for the Great Lakes

Lynn Broaddus, Ph.D.  
President  
Broadview Collaborative

Timothy H. Brown\*  
President  
Wabashco, LLC & Partner, Forest Hill Energy, LLC

Kathryn A. Buckner, Esq.  
President  
Council of Great Lakes Industries

Allegra Cangelosi\*  
President  
Northeast Midwest Institute

John Carey  
Director General of Water, Science and Technology, Environment Canada (retired)  
& Board Chair, Great Lakes Observing System (GLOS)

Glen Daigger  
President  
One Water Solutions

Cameron Davis\*  
Senior Advisor to the Administrator for Great Lakes  
US EPA

Michael J. Donahue, Ph.D.  
Vice President, Water Resources and Environmental Services  
AECOM

Tim Eder\*

Executive Director  
Great Lakes Commission

Vicki Elkin  
Executive Director  
Fund for Lake Michigan

Harriet Festing  
Director, Water Programs  
Center for Neighborhood Technologies

Molly Flanagan  
Vice President  
Alliance for the Great Lakes

Dr. Marc Gaden\*  
Communications Director and Legislative Liaison  
Great Lakes Fishery Commission

Dr. David Garman  
Founding Dean, School of Freshwater Sciences  
University of Wisconsin-Milwaukee

Ed Hammett  
Former Board Member for Ohio  
Great Lakes Protection Fund

Henry Henderson\*  
Director, Midwest Program  
Natural Resources Defense Council

Chuck Hersey  
Senior Fellow  
Public Sector Consultants, Inc.

Lynne Kiesling  
Associate Professor of Instruction  
Northwestern University

Wendy Larson  
Associate Vice President  
LimnoTech

Sheila Leahy  
Consultant

Dennis McGrath  
Great Lakes Project Director  
The Nature Conservancy

Dr. Carol Miller  
Professor of Engineering  
Wayne State University

Peter Mulvaney  
Sustainability Specialist  
West Monroe Partners/Skidmore Owings & Merrill, LLP

Mark "Puck" Mykleby  
Co-Director, Strategic Innovation Lab Team  
Weatherhead School of Management  
Case Western Reserve University

David Naftzger\*  
Executive Director  
Council of Great Lakes Governors

Sam Passmore\*

Environmental Program Director  
Mott Foundation

Peter Plastrik  
Vice President  
Innovation Network for Communities (IN4C)

Jen Read  
Water Center Director, Graham Sustainability Institute  
University of Michigan

David Rejeski  
Director, Science and Technology Innovation Program  
Wilson Center

Brian Richter  
Chief Scientist, Water  
The Nature Conservancy

Matthew Ries  
Chief Technical Officer  
Water Environment Federation

William Rustem  
Former Director of Strategy  
Office of the Governor  
State of Michigan

William Schleizer  
Managing Director  
Delta Institute

Paul Seelbach\*, Ph.D.  
Supervisory Ecologist



U.S. Geological Survey

Craig Shaver

Former Board Member for Minnesota

Great Lakes Protection Fund

Sanjiv K. Sinha, P.E., Ph.D

Vice President, Water Resources

ECT/Environmental Consulting & Technology, Inc.

David A. Ullrich\*

Executive Director

Great Lakes and St. Lawrence Cities Initiative

Mark Van Putten\*

President

ConservationStrategy LLC

Marcus Quigley, P.E.

CEO

Opti/OptiRTC, Inc.

William Weeks\*

Director, Conservation Law Clinic

Indiana University

William Werick

Army Corps of Engineers, Retired

Former Board Chair, Great Lakes Observing System (GLOS)

Donald Zelazny\*

Great Lakes Program Coordinator

NY Department of Environmental Conservation & Great Lakes Commission

Robert Zimmerman  
President  
Charles River Watershed Association

\*Interviewed in 2010 Enquiry

## **Appendix B – Background Paper**

Background for Interviews  
Great Lakes Protection Fund Assessment  
Spring 2015

April 17, 2015

This background paper is provided as information for the benefit of interviewees for the enquiry being conducted by G. Tracy Mehan III, an independent consultant, for the Great Lakes Protection Fund. It is intended to provide context and factual background. It is not intended to bias responses, as interviewees will rely on his or her own judgment and independent experience. For additional background information, please see [www.glpf.org](http://www.glpf.org).

### ***Background***

The Governors of the Great Lakes states created the Fund in 1989 to help them protect and restore their shared natural resource. The Fund was created to be a “source of continuous innovation” to improve the health of the region’s waters. The Fund is the first private, permanent endowment created to benefit a specific ecosystem. It is a private corporation that supports teams that are: collaborative and entrepreneurial, that create tangible benefits for the Great Lakes ecosystem, and do work that supports a competitive regional economy based on abundant and healthy water resources. Its unique funding niche—financing collaborative innovation—is a feature of its corporate charter.

The Fund does three things to meet its charge.

1. Invest the member states’ \$81 million permanent endowment. Today those funds not only remain intact and unspent, but the Fund’s assets have grown to over \$130 million.
2. Return a share of earnings directly to the member states to use for their individual Great Lakes funding priorities. Those payments now total over \$47 million.
3. Finance collaborative teams that design and test innovative actions to benefit the entire ecosystem. The Fund has deployed over \$72 million to 259 regional project teams involving thousands of individuals testing such actions.

These collaborative teams have:

- Designed, deployed and evaluated the world's first ballast water filtration technologies, the first verification protocols, the first remote monitoring technologies, and the first protocols to assess the "hatch-out" of organisms that remain in ballast tanks after water is discharged. A global market for these technologies emerged as a result of this work.
- Created the technical, practical and legal foundations for the Great Lakes St. Lawrence River Basin Water Resources Compact and Regional Agreement, and sustained the forum that designed, and ultimately drove to the adoption of, those agreements. Those agreements now protect and require improvement of basin waters.
- Created, fine-tuned, deployed and exported tools to restore the flow regimes of basin waters including: cooperative relicensing strategies that restored health to over 1500 miles of basin rivers, pioneering dam removals in dozen locations, creating transactional tools to allow third party generation of flow restoration, and deploying the first large scale installations of rain barrels in the US.
- Designed, deployed evaluated and exported a water quality trading system that removed nutrients from Great Lakes and became the basis for the US policy on water quality trading.
- Designed, developed and launched 38 environmental grant making programs in basin Community Foundations that raised nearly \$10 million in funds to support coastal health in an all Great Lakes states and the Province of Ontario.
- Designed, tested and deployed a variety of new tools—including whole farm planning, nutrient and pesticide "yardsticks", rotational grazing strategies, BMP warranties, two-stage ditches, pay for performance systems, new advisory and crop rotation strategies—now used by hundreds of farms and agricultural retailers to remove sediment and nutrients from Great Lakes waters.

### ***Previous Findings- Strengths***

The Fund commissioned its last external review in 2010. The majority of those interviewed identified the Fund's investments to prevent the introduction of invasive species, to restore natural flow regimes, to better manage water resources, and other work related to the Great Lakes St. Lawrence River Basin Water Resources Compact as having the important impacts.

Those teams, not only drove changes in Great Lakes policy, but also changed practices that led, in turn, to better Great Lakes health. Interviewees identified the work of other Fund-supported teams—those that built grant making programs at Community Foundations, launched fields like pollution prevention, water quality trading and sustainable forestry—as important investments as well.

Important traits of successful work, according to those interviewed include the collaborative nature of supported teams, an action orientation, and the innovative nature of the work. Interviewees noted that when teams include multiple disciplines; involve a mix of practitioners, experts, and key stakeholders; bring “natural” adversaries together, and “get the whole system at the table”, their projects had significant impact on the region.

Interviewees also noted that successful teams took innovative action and learned by doing. Other traits of successful Fund-supported work included a focus on outcomes, creating cross-jurisdictional value, a focus on solutions, being “ahead of the curve”, and teams’ propensity to focus on innovation and scalability.

The Fund has maintained an emphasis on building those traits into the work it supports. It has maintained a focus on its unique niche in the community of Great Lake funding organizations, even as the topics evolve and change.

### ***Previous Findings- Opportunities***

In the last external review, interviewee’s also noted that the Fund can seem “somewhat opaque,” in what it supports and how it operates. Further, interviewees noted that the Fund, and its supported teams, have perhaps too low of a profile in their work, and should have somewhat higher visibility in the region.

The Fund has taken several significant steps to elevate the profile of the teams it supports, and the Fund itself.

First, project teams have been given extra financial support to promote their work and that of the Fund. Beginning in 2011, implementation projects have included supplemental communication funds to ensure those teams have the capacity to reach broader audiences than just the intended customers of their work. Those funds have led to more sophisticated

communication strategies, better reach, and new products that reflect well on the teams and the Fund.

Second, to address transparency concerns, the Fund has reworked its internet presence and now connects with stakeholders on several social media platforms, e-mail updates and has just launched its own blog.

Third, the Fund has produced a series of print and video collateral to help better tell its story.

Last, the Fund has been able to restore its staffing after a significant reductions during the recession. As its financial and human resources have recovered, the Fund is interested in feedback on the progress it has made, wants advice on what it can improve in its operations, and seeks input on those issues, strategies and products it should be pursuing.

### ***How You Can Help***

The Fund has engaged me to gather input on how the Fund can accomplish its mission better.

First, the Fund wants to know how it's doing. What's working, what matters, and importantly, why is what's working successful? What might the Fund do better?

Second, the Fund would like feedback on how well it is resolving concerns about transparency. While the Fund has taken a series of steps in direct response to the last external evaluation, all of those activities are works in progress. What can the Fund and its supported teams do better?

Perhaps most importantly, the Fund also seeks input on what it might do to be a better innovation funder. Are there people, topics, candidate solutions or other resources the Fund needs to use better? What issues should the Fund exploring, even before they're ripe for grant or loan support?

## Appendix C – Interview Questions

The Great Lakes Protection Fund (GLPF) has engaged me to interview a number of prominent thought leaders, practitioners and observers regarding its work and, more importantly, its future direction, priorities and investments. Your input will be most helpful as the GLPF looks to build on its strengths and create solutions for the emerging challenges affecting the Great Lakes ecosystem. Your help spotting the national and international developments, economic and demographic changes, development patterns, and issues related to climate change and variability with its concomitant effects on water, would be most appreciated. I encourage you to think broadly and boldly as you answer these questions.

My report will not quote you by name without your permission. This will be my last question.

1. From your perspective what are the 3-4 significant, but under-appreciated, issues facing the Great Lakes ecosystem-chemically, physically and biologically-and its economy in the coming decades? What new challenges surprise you? What is the region wholly unprepared for? You might try conceiving these issues in terms of an “emerging problem” to be solved for the benefit of the Great Lakes and its citizens as well.

2. Taking your priority challenges or issues listed above, what solutions might be sufficiently ripe for testing in future efforts by the GLPF (given what you know of its past work, corporate limitations, and strengths)? Please explain how the GLPF might deploy its expertise and resources in these areas to launch solutions that benefit for the Great Lakes ecosystem. If it helps, you might consider your answers in terms of a potential “design” of a GLPF initiative to solve important aspects of the challenges or problems mentioned. After you list them, I would ask you to put them in priority order with some explanation as to your thinking.

3. Again, when you consider these future problems and solutions, above, can you identify any bold, new ideas, fields of knowledge, expertise or experts which the GLPF should be accessing or with which or whom it should be engaging? Are there any really innovative thinkers or practitioners we should be involving in exploring or launching future work?

4. What has the Fund done particularly well- through its project teams, background research, or outreach activities? Where has it made a positive impact? What are the traits of that work?

5. Over the last few years, the federal government has spent billions of dollars through the Great Lakes Restoration Initiative (GLRI) on many clean-up projects throughout the basin. In light of this substantial infusion of funds into the basin, can you think of any Fund-supported strategies that have benefited from the GLRI?

6. Do you have any ideas on how the GLPF might target its forward-looking investments so they can be leveraged by future flows of funds? In other words, what new track, innovations or paradigm should the GLPF be that might be later funded by government or driven by the market? You might consider this in terms of new opportunities for the GLPF.

7. [This question should be used as a prompt, if the first few questions do not generate ideas]

I would like to list for you a number of topics or subjects to see if you have any thoughts on them relative to potential future activities or initiatives by the GLPF. Which lend themselves to tests of solutions not yet explored?

- \*food-water-energy nexus
- \*climate and agriculture
- \*rural drainage
- \*stormwater management and green infrastructure
- \*forests and water quality
- \*urban forestry at scale and brownfields
- \*embedded water in manufactured goods and crop exports
- \*water governance within the region
- \*synthetic biology, genes as pollutants, new life forms
- \*transportation
- \*water reuse/recycling/reclamation
- \*innovative financial tools or incentives
- \*green bonds, pricing mechanisms, social impact bonds



- \*better managing environmental and financial risk
- Others?

8. Can you think of any activities or projects that the GLPF is presently working on which it should stop working on? If so, please explain.

9. How might the GLPF improve its day-to-day operations? What could it do that advances its mission?

10. When I last conducted interviews for the Fund, some noted a sense of “opaqueness” around Fund decision-making and supported work. The Fund has taken steps toward a higher profile, but remains a relatively small player in Great Lakes funding. Have these steps mattered? How might the Fund, which provides about 1% of discretionary support in the basin, better tell its (and its supported teams) stories?

11. Let me revisit the very first question I asked you at the beginning of this interview (re-read to interviewee) and ask you to give it some more thought and amplify or change your original responses if you like.

12. Are there any final thoughts or observations you would like to make regarding the GLPF and its work-past, present or future?

13. Again, is there anyone we would benefit talking to as we conduct this enquiry as to future priorities for the GLPF?

14. Do I have your permission to quote you by name?

Thank you for your time.