



THE FUTURE OF THE GREAT LAKES RESTORATION INITIATIVE

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the Northland College Water Summit

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EXECUTIVE SUMMARY

This White Paper reflects the discussions of a diverse panel of Great Lakes environmental policy experts who attended a Water Summit on Oct. 1, 2016 on Lake Superior's Madeline Island. Summit participants discussed the accomplishments, challenges, and future of the federal Great Lakes Restoration Initiative, which has invested \$2.2 billion into the regional economy and environment since 2010.

The Summit was convened by the Mary Griggs Burke Center for Freshwater Innovation at Northland College in Ashland, WI. The charge to Summit participants was to take stock of the GLRI and discuss the program's future. Themes from the conversation were synthesized into this White Paper which was provided to the 2016 presidential transition teams for planning purposes in the first 100 days of the administration and beyond.

The distinguished gathering consisted of leaders from a mix of state and federal agencies, Native American tribes, industry, nongovernmental organizations, and academia. The day's discussion was frank and open-eyed. Participants were assured confidentiality by the Burke Center for their remarks. The critique was thorough and differences of opinion about the future thrust of some aspects of GLRI's programs evident. Even so, participants largely agreed on a number of major issues.

The following is a summary of Northland College's conclusions from the discussion:

1. Due to the success of the Great Lakes Restoration Initiative and the ecological and economic benefits it has provided to the region, and because billions of dollars of restoration and preservation work remains to be done, there was widespread agreement among Summit participants that **funding of the GLRI program should continue.**
2. There was broad support among participants to **expand the GLRI's federal budget authorization from one year to five years, and to set the funding level at a minimum of \$300 million per year.**
3. The **cleanup of toxic Areas of Concern was seen as a major GLRI success story that should**

remain a funding priority. The GLRI should continue its extensive funding of AOC restoration work that has led to significant increases in the delisting of these notoriously polluted areas.

4. **Greater emphasis should be placed on research and monitoring** that quantifies GLRI's return on investment based on social, ecological and economic metrics.
5. Future iterations of the GLRI should **encourage more public-private partnerships** as a way to leverage federal and state taxpayer dollars.
6. Heightened effort should be directed toward **designing GLRI projects that leverage investments from Canadian partners.**
7. GLRI efforts should **continue to focus on reducing polluted runoff** to minimize the growth of harmful algal blooms. That work should complement and enhance existing efforts from the U.S. Department of Agriculture's Farm Bill.
8. GLRI projects should be designed to **take into account the potential impacts of climate change** and emphasize resiliency in the face of anticipated threats, such as increased erosion and runoff.
9. The **role of Great Lakes sovereign tribal nations in GLRI planning and execution should continue to be recognized and strengthened.**
10. More emphasis should be placed upon reinvigorating community-based collaboration. **Underserved communities need more attention and greater access to GLRI funding.**
11. The **control and eradication of invasive species should remain a priority** with increased emphasis on preventing the arrival of species whose spread is likely to be hastened by climate change.
12. While the GLRI has primarily focused on the restoration of a damaged ecosystem, **some Summit participants suggested devoting more program dollars to preservation** work that prevents ecological damage.



HISTORY OF THE GREAT LAKES RESTORATION INITIATIVE

GLRI Origins

The historic origins of the Great Lakes Restoration Initiative, an unprecedented \$2.2 billion effort to halt the decline of one of the world's most precious natural resources, began in the 1970s when the lakes—and the enormous swath of North America they sustain—were approaching an ecological tipping point. Time Magazine famously declared Lake Erie to be in danger of dying, and photographs of Ohio's burning Cuyahoga River became an iconic reminder of the damage wrought by decades of pollution and environmentally unsustainable practices from industry, municipalities and agriculture.

The ecosystem degradation was well-chronicled and scientifically described: extirpation and the decline of native fish and wildlife, a flood of invasive species, fouled coastlines, beach closures, lost wetlands and wildlife habitat, contaminated fish, and the continued decline of water quality as evidenced by tainted drinking water, the spread of harmful algal blooms, and Type E botulism in some fish and waterfowl.

A History of Nonpartisan Collaboration

By 2000, in the face of the mounting crisis, numerous studies and reports noted the slow pace of restoration and called for more collaboration and a less-fragmented approach to tackling Great Lakes threats. In 2004, President George W. Bush signed an executive order recognizing the Great Lakes as a “national treasure,” creating a federal Great Lakes Interagency Task Force. The order directed the U.S. EPA administrator to establish a “regional collaboration of national significance.”

On December 3, 2004, the nonpartisan Great Lakes Regional Collaboration was formed, and it included the eight Great Lakes governors, several Great Lakes mayors, the nine leaders of the federal Great Lakes Interagency Task Force, tribal leaders, and members of the Great Lakes congressional delegation. The group's work was supported by numerous industrial and environmental advocacy groups, including the Healing Our Waters-Great Lakes Coalition and the Council of Great Lakes Industries.

Between 2005 and 2007 under President Bush, the GLRC released a number of influential studies, including *The Great Lakes Regional Collaboration Strategy to Restore and Protect the Great Lakes*.

Continuing the nonpartisan history of Great Lakes restoration, in 2009, President Barack Obama launched the Great Lakes Restoration Initiative. In an historic move, he proposed a \$475 million budget for the program's first year.

Over the next seven years, \$2.2 billion was funneled into efforts that would begin to heal the land and waters of the Great Lakes. One such result was the delisting of three toxic Areas of Concern. This was a major change from the previous 25 years, when only one such area of toxic contamination had been delisted on the U.S. side of the international border.

As the work on the ground continued, evaluations and improvements helped heighten oversight of the GLRI as well as public involvement. In 2012, the Great Lakes Advisory Board (GLAB) was established to advise the administrator of the Great Lakes Interagency Task Force.

GLRI Action Plan II

In November of 2013, the GLAB released recommendations for the development of GLRI Action Plan II, which would set the program's agenda through 2019. The plan, released in September of 2014, identified five focus areas. These included toxic substances and AOCs, invasive species, polluted runoff and its impacts on nearshore health, habitat and species, and foundations for future restoration actions.

In its report to Congress and the President in June 2016, the Great Lakes Interagency Task Force cited unprecedented results for GLRI work. All told, according to the report, the GLRI has funded more than 2,900 projects to improve water quality, restore native habitats, clean up toxic sites, and stem the spread of invasive species.

Work has begun on the preparation of the GLRI Action Plan III.



INTRODUCTION

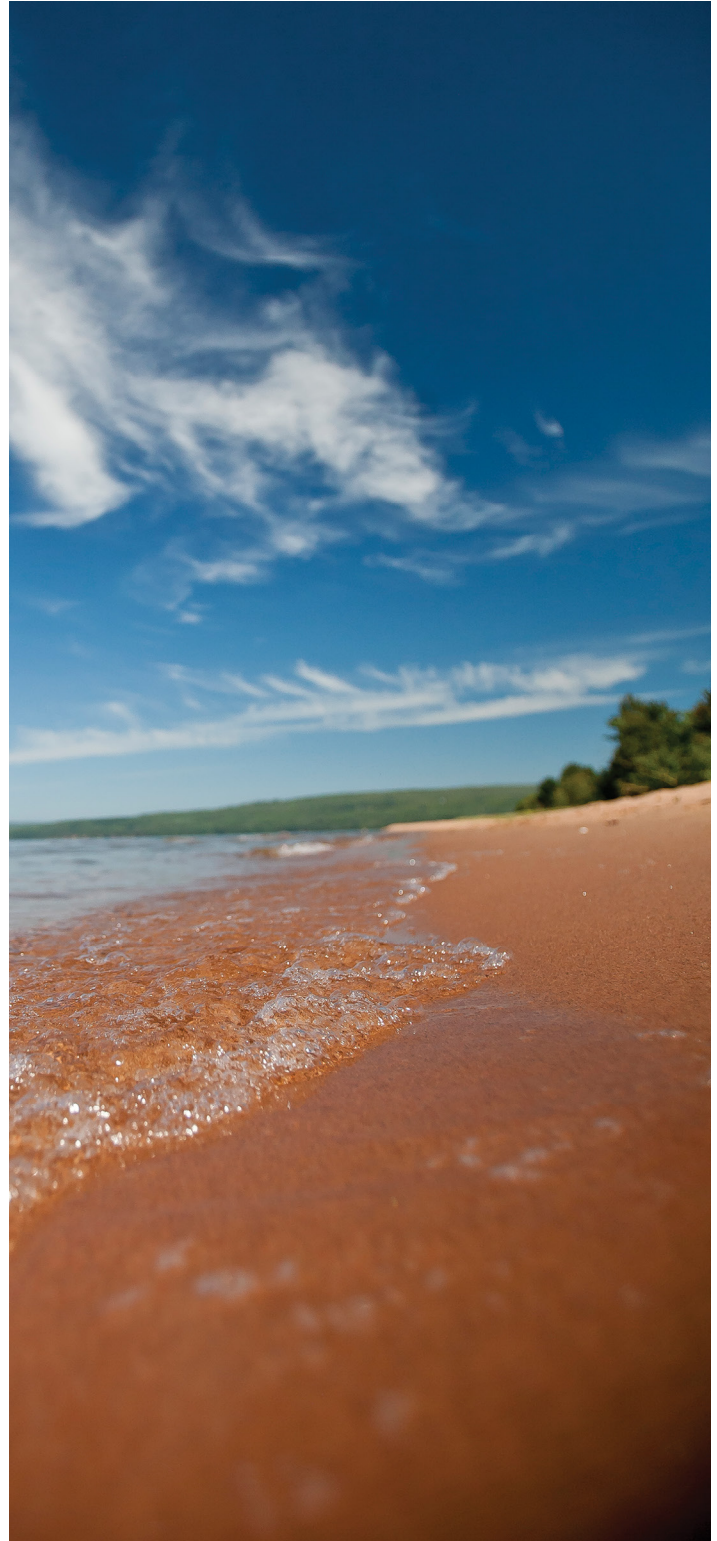
Formed just 10,000 years ago, the North American Great Lakes are a global treasure containing 20 percent of all the fresh surface water on earth—10 percent in Lake Superior alone. Water abundance drives the regional economy. The eight Great Lakes states, along with the provinces of Ontario and Quebec, are a \$5.8 trillion economic juggernaut. If the region were its own nation, it would be the third largest economy in the world.

Wide swaths of the upper lakes—Superior, along with northern lakes Michigan and Huron—remain quite pristine. Meanwhile, the watersheds of Lake Ontario, lower Lake Michigan and especially Lake Erie, have experienced extensive urban and/or agricultural development. They contain numerous areas where legacy contamination remains a significant concern. Lake Erie in particular continues to struggle with harmful algal blooms including one that shut down drinking water for 500,000 people in Toledo in 2014.

In 2009 President Barack Obama—with strong bipartisan Congressional support—launched the Great Lakes Restoration Initiative. But when presidential administrations change, programs can change too. They are revamped, renamed, reinvigorated, or discontinued. With a new President and Congress in 2017, there is keen interest about what the future holds for GLRI.

With that backdrop, the Mary Griggs Burke Center for Freshwater Innovation at Northland College convened a Water Summit on Oct. 1, 2016 dedicated to “The Future of the Great Lakes Restoration Initiative.” Experts from New York to Minnesota gathered on Madeline Island in Lake Superior to examine past successes and challenges of GLRI, and to have a frank and robust conversation about the program’s future.

This White Paper is the result of that Water Summit. It is designed to provide policy makers with context and analysis about The Future of the Great Lakes Restoration Initiative.



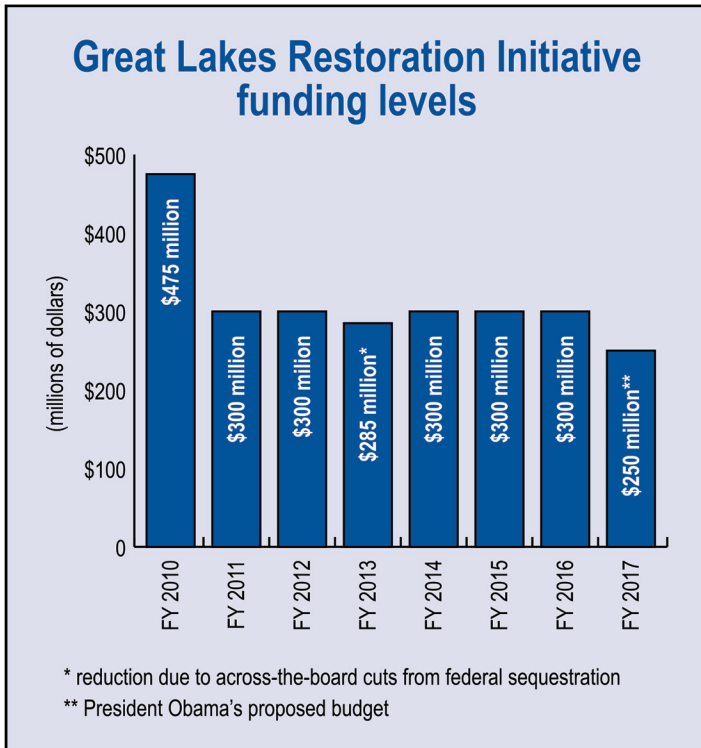


THE FUTURE OF GLRI: CONCLUSIONS

1. The Great Lakes Restoration Initiative is a highly successful nonpartisan program that has provided great benefit to the Great Lakes region and should be continued.

By numerous measures, GLRI has been a success. The program has made impressive progress toward halting and reversing some of the worst impacts from decades of abuse and neglect. Topping that list is the cleanup and delisting of three Areas of Concern.

But GLRI dollars have done more than clean up AOCs. According to the 2015 GLRI Report to Congress and the President, the GLRI has funded more than 2,900 projects. GLRI and partner dollars have targeted 100,000 acres to control invasive species, prevented an estimated 160,000 pounds of phosphorus from entering the Great Lakes annually, protected or restored more than 150,000 acres of wildlife habitat, and restored 300 miles of shoreline and 7,000 acres of wetlands. Beyond the numbers, the GLRI has commanded nonpartisan support at a time when political divisiveness is the norm.



Adapted from *The Council of State Governments*.

But the widespread conclusion of the panel was that much more protection and restoration work remains. A 2007 Brookings Institution report estimated the total Great Lakes restoration need at \$26 billion, and that every restoration dollar invested brings more than two dollars in economic return.

2. The federal budget authorization for the Great Lakes Restoration Initiative should be expanded to five years and set at a level of at least \$300 million per year.

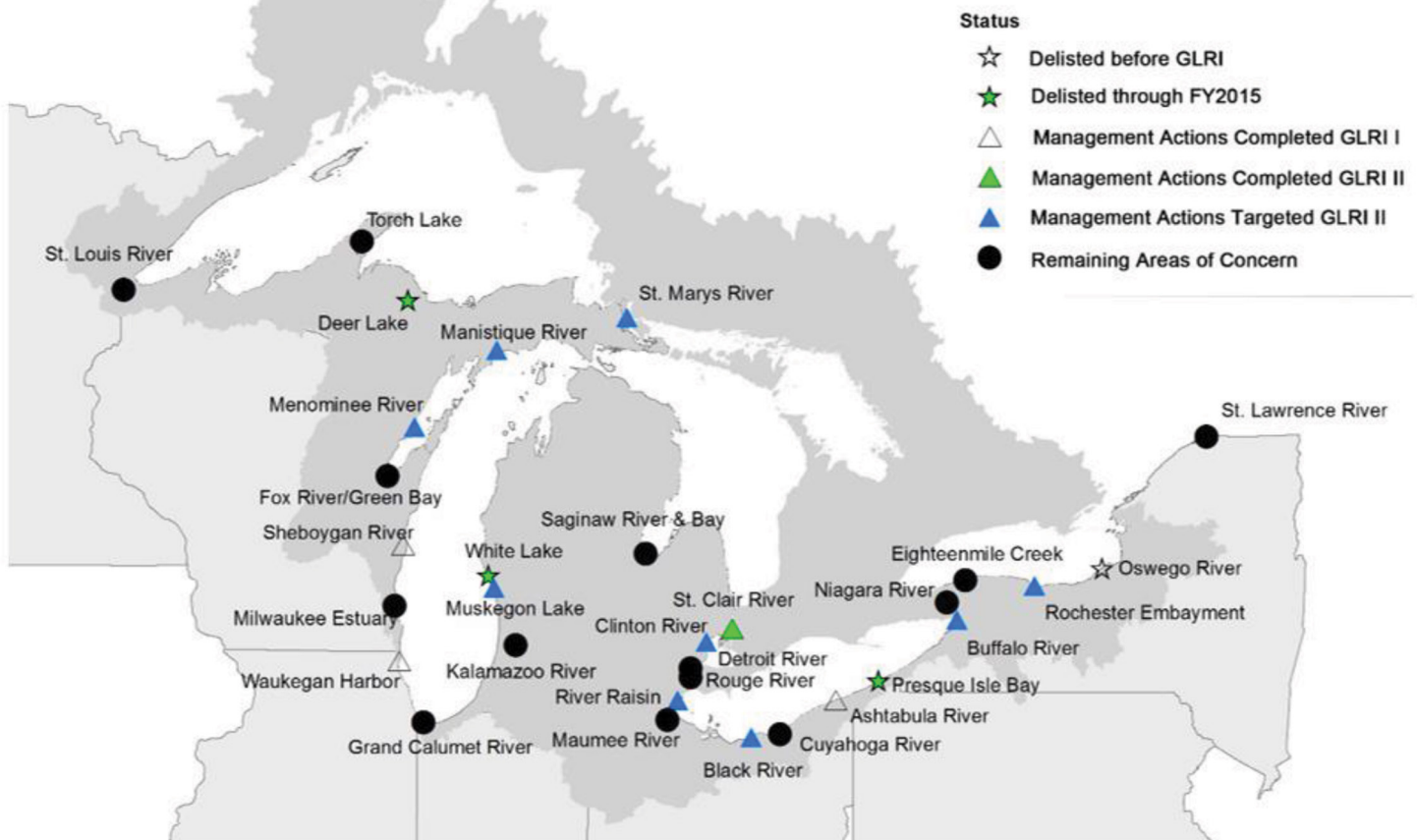
Many GLRI projects require planning and execution over multiple years. Because of this, there was widespread agreement among Summit participants that the one-year federal budget authorizations that have funded GLRI from the beginning were hampering the pace, depth and breadth of the program. They concluded that a five-year authorization period would bring more continuity and certainty to multi-year restoration projects. Establishing a predictable funding cycle will be critical for leveraging more private and local investment.

What's more, given that tens of billions of dollars in restoration work remains, it was widely agreed that the annual funding level should be set at a minimum of \$300 million. Legislation setting a 5-year authorization at \$300 million per year was under discussion on Capitol Hill as the Water Summit convened.

3. There was broad agreement among Summit participants that the clean up of severely polluted Areas of Concern has been a major GLRI success story. AOCs should remain a funding priority. The GLRI should "stay the course" that has led to significant increases in delisting of the notoriously polluted sites.

GLRI investments in cleaning up Areas of Concern are widely seen as a success story resulting in three AOCs being delisted between 2010 and 2016, with more nearing delisting, and other significant and measurable benefits having been recorded. In addition, aggressive work continues from New York to Minnesota on many other AOC sites that are years away from delisting.

Great Lakes Areas of Concern



GLRI Action Plan II.

An examination of these cleanups, accomplished through numerous partnerships, illustrates just how meaningful such efforts are at the local level, healing ecological damage and sparking economic revivals. Consider the Buffalo River AOC restoration in New York where \$170 million in GLRI money allowed federal agencies and their partners to remove nearly a million cubic yards of contaminated sediment from the river. The cleanup has completely revitalized Buffalo's waterfront.

Consequently there was broad agreement that much more AOC work remains to be done and that AOCs should remain a top GLRI priority.

4. Greater emphasis should be placed on the more effective use of science to support GLRI priorities and investments. Scientific work should focus on monitoring that quantifies the return on investment based on social, ecological, and economic metrics.

The need for more effective data that better measures the outcomes of GLRI projects was mentioned prominently in reviews of the Restoration Initiative in 2013 and 2015 by the U.S. Government Accountability Office. By 2015 the EPA had put in place improvements

to ensure heightened monitoring and reporting on GLRI projects, including the addition of data points to give a more complete accounting of outcomes.

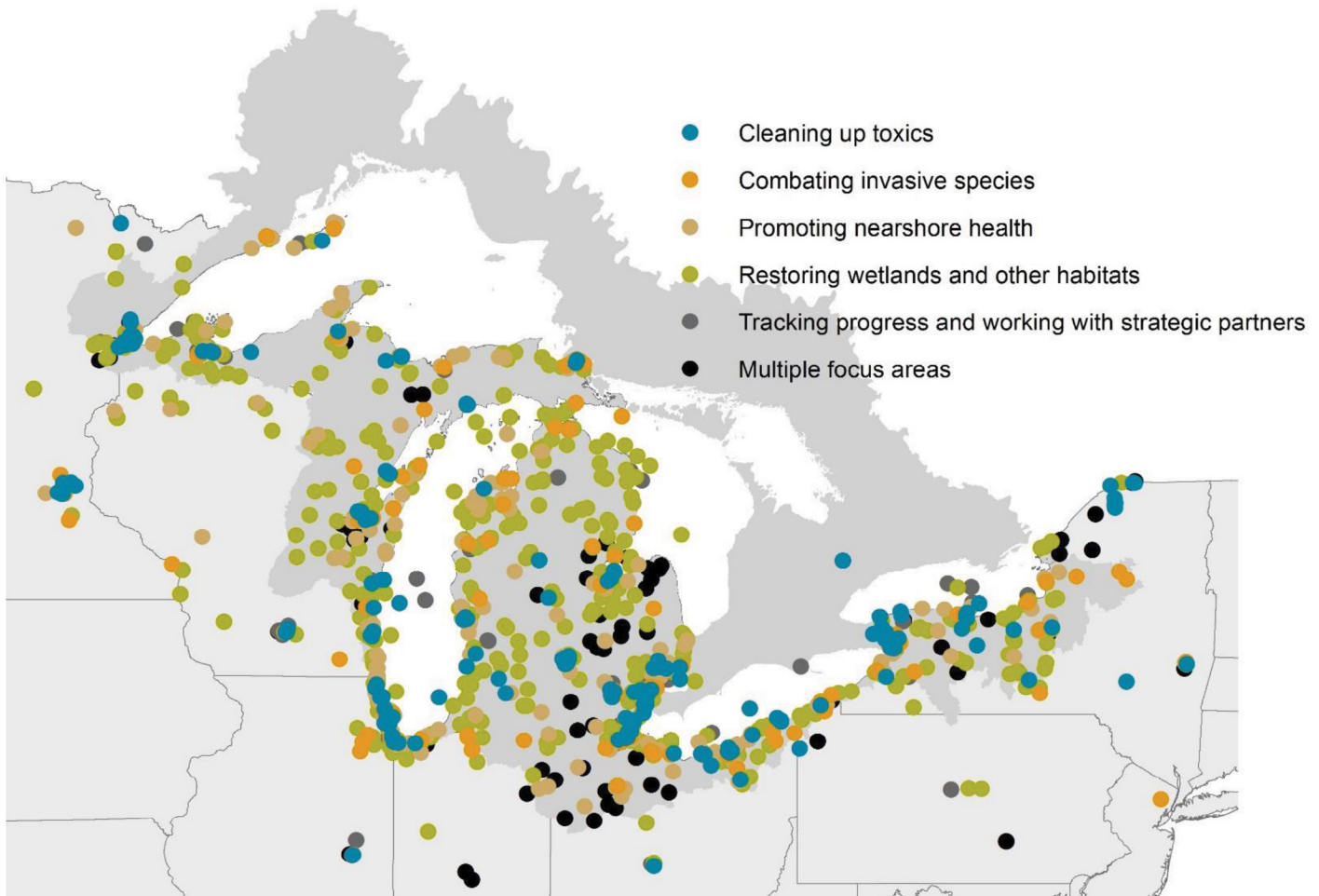
Many Summit participants acknowledged a need to devote even more GLRI dollars to collecting better data and providing more meaningful measurements of outcomes and outputs, such as water quality data, as well as economic and social metrics. Others suggested that increased monitoring would allow for more forward-looking decision making that anticipates and reacts quickly to growing threats.

Several participants also cited the need to make such data for decision-making more widely available and in a more timely fashion, perhaps by establishing a central GLRI data clearinghouse.

5. Future iterations of the GLRI should continue to emphasize leveraging state and federal and taxpayer dollars by encouraging more public-private partnerships.

Partnerships have been a hallmark of the GLRI from the outset. These efforts can be strengthened, many

Great Lakes Restoration Initiative Projects from FY 2010 – FY 2015



GLRI Action Plan II.

Summit participants agreed, by more aggressively seeking out and engaging in public-private partnerships that include matching dollars from the corporate, NGO and foundation communities.

Summit participants encouraged increasing efforts to engage the private sector in planning and executing restoration projects. These partnerships would not only attract more leveraged dollars but also increase social and collective impact. Such cooperation easily aligns with the goal of many large corporations with sustainability goals and departments.

6. Because the Great Lakes are a binational resource of global significance, heightened effort should be directed toward designing GLRI projects that leverage investments from, and collaboration with, appropriate Canadian partners.

The binational nature of Great Lakes management dates back to 1909, with the creation of the International Joint Commission, which was created, in part, to resolve transboundary water disputes between the U.S and

Canada. Building on that, in 1972 the Great Lakes Water Quality Agreement (GLWQA) committed both countries to a series of goals regarding the health of the Great Lakes.

Even though the GLRI is a U.S. federal program, Summit participants encouraged renewed attention to binational collaboration. They suggested more emphasis might be given to such cooperation through important linkages such as the GLWQA or perhaps additional agreements between states and provinces, sovereign tribes/First Nations, and local governments. Many Summit participants were supportive of pairing GLRI investments with similar restoration investments that might be happening, or that could be encouraged, on the Canadian side of the international border.

7. GLRI efforts should continue to prioritize projects that reduce polluted runoff to minimize the growth of harmful algal blooms. GLRI money for this work should be used to complement and enhance existing efforts undertaken through the U.S. Department of Agriculture's Farm Bill and the Clean Water Act to manage runoff from agricultural and urban lands.

Summit participants agreed that polluted runoff, especially from agriculture operations, is a growing threat that needs heightened attention. But many participants also generally agreed that care needs to be taken in how GLRI money is allocated to help address polluted runoff, including runoff from both urban and agricultural sources. Some described nutrient runoff as a management and regulatory issue rather than a restoration issue. Most agreed that the U.S.D.A.'s Farm Bill should be the primary source of funding for helping farmers better manage runoff.

Even so, most saw an important role for the GLRI (reducing polluted runoff is one of five focus areas in GLRI Action Plan II). Some suggested the GLRI money could be strategically used to monitor surface water quality and develop models that can guide the best use of Farm Bill and other funds.

8. GLRI projects should be selected and designed with greater resiliency in mind, especially in the face of a changing climate.

Participants agreed that future GLRI investments must be made with an eye toward ensuring that projects take into account how a changing climate may impact ecosystems in the future. By anticipating more severe storms and stormwater flows, for example, projects can be designed to account for increased erosion or runoff.

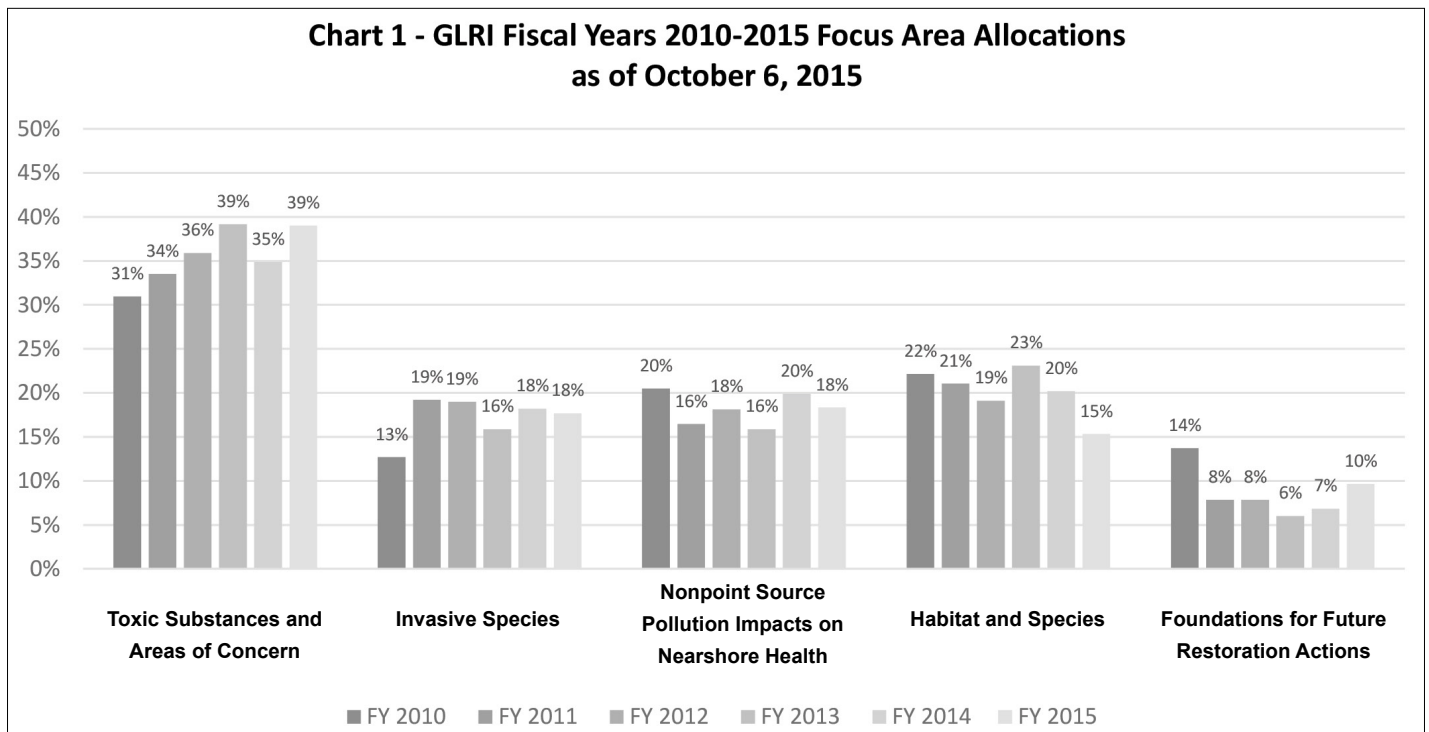
Participants largely echoed the approach to climate change recommended in the GLRI Action Plan II. The plan requires that all projects, starting in 2017, be planned and implemented to meet climate resiliency criteria.

Some Summit participants called for an even more aggressive effort to adapt projects to climate change, such as pushing planning horizons out to hundreds of years.

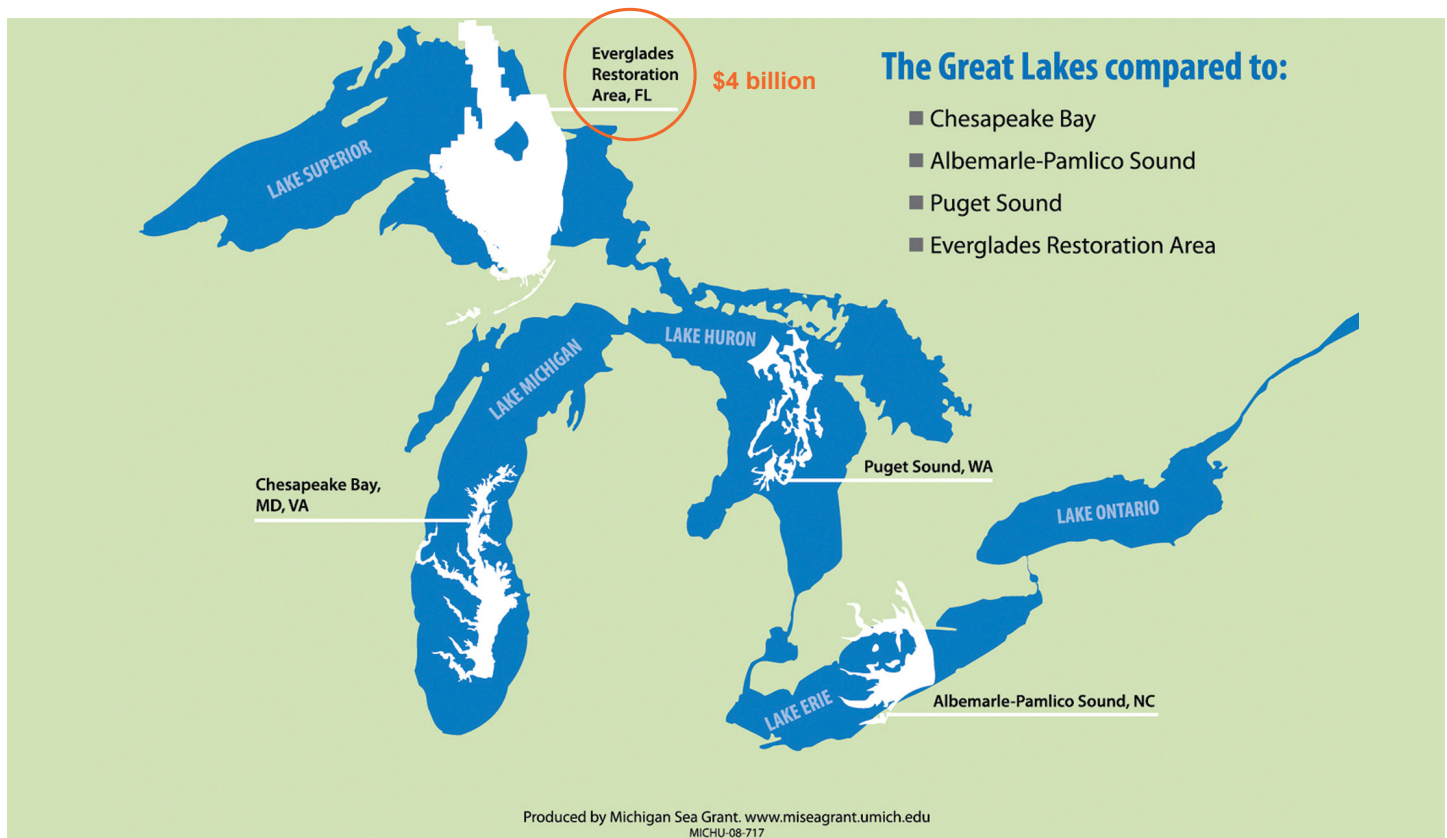
9. The crucial and necessary role of Great Lakes sovereign tribal nations in GLRI planning and execution should continue to be recognized and strengthened.

The importance of Native American tribal governments to the success of the GLRI across the Great Lakes basin was emphasized by several Summit participants. Most important, panelists agreed, is that the sovereign nature of these tribal governments continue to be recognized and respected.

These restoration issues are of special and unique significance to tribal communities because of their reliance upon the Great Lakes for subsistence and as the wellspring of their spiritual beliefs. One suggestion, which received support from some participants, was the creation of a distinct tribal funding program within GLRI that would allow tribes the independence and flexibility to develop programs that are of the highest priorities to their communities.



Great Lakes Restoration Initiative Report to Congress and the President, Fiscal Year 2015.



Adapted from Michigan Sea Grant; South Florida Ecosystem Restoration Program

10. There is a need to reinvigorate community-based collaboration. Underserved communities need more focus and attention as well as more access to GLRI investments.

Many Summit participants said that the GLRI has drifted away somewhat from its initial emphasis upon broad-based collaboration and toward a more top-down model. Some in the room voiced a special concern about underserved communities not being at the table and not benefitting enough from GLRI programs and dollars.

There was a robust discussion about how to more effectively reach those communities. Participants generally agreed, however, that GLRI community engagement activities and public participation in project planning, especially in underserved communities, should receive greater emphasis.

11. The control and eradication of invasive species should continue to be a priority with particular emphasis on preventing the arrival of species whose spread is likely to be hastened by climate change.

Invasive species have been a major focus of the GLRI and there have been successes. In 2015 there were increased efforts to prevent new species introductions by funding 15 early detection monitoring activities, which helped forestall the spread of bighead and silver carp.

Most Summit participants agreed that the GLRI's invasive species programs should emphasize proactive rather than reactive strategies. There was also strong support for more money being directed to research on sampling, detection and rapid response, especially for aquatic and terrestrial invaders whose spread is likely to be hastened by climate change.

12. While the GLRI has primarily focused on the restoration of a damaged ecosystem, some Summit participants suggested devoting more program dollars to preservation work that prevents ecological damage.

Many Summit participants mentioned that protection of Great Lakes water quality is vital to the success and sustainability of the water-rich ecosystem.

Numerous Water Summit participants mentioned that the most cost-effective economic development, by far, is marked by sustainable practices that do not leave legacy issues for future generations. Also, participants generally agreed that, in many cases, investments in preserving the Great Lakes ecosystem can be as important as restoring what has been lost. Several participants pushed for more GLRI dollars and effort to be spent on such activities.



CONCLUSION

The North American Great Lakes are continuing to recover from decades of pollution and neglect. Rapid industrial growth in the 1900s that was the envy of the world resulted in widespread toxic pollution. Short-sighted planning and development in urban and coastal areas, inadequate and improper municipal waste disposal, sewage overflows, and decades of neglect have degraded the ecosystem and reduced habitat and species diversity. The result has been an enormous ecological, social and economic burden for subsequent generations.

The Great Lakes Restoration Initiative was created to counter this legacy of pollution and neglect. Today, the GLRI is justifiably celebrated as one of the most collaborative and nonpartisan environmental programs ever undertaken, important attributes at a time when political differences stall societal progress on any number of fronts.

But this is not just an environmental story. As important as the ecological benefits of GLRI projects have been, the economic and social benefits are impressive as well. Economic analyses of Great Lakes restoration show that the projected need of \$26 billion in restoration investments will result in \$50 billion in long-term benefits to the national economy, and between \$30 billion and \$50 billion in short-term benefits to the regional economy.

Appreciation for the Restoration Initiative has been reflected in major newspapers throughout the Great Lakes region. Speaking from both extremes of the political spectrum, editorial boards have been nearly unanimous in their support of continued GLRI funding. *The Buffalo News*, for example, cited the cleanup and restoration of the Buffalo River as “nothing short of transformative.”

Or consider the case of the Fond du Lac Band of the Lake Superior Chippewa. For years, the band’s

rice beds in Minnesota’s St. Louis River have been in decline, almost to the point of disappearing, due to legacy pollutants. But the river and its environs have been the beneficiary of collaborative cleanup efforts by the State of Minnesota, the tribe, and the GLRI. Today, the Fond du Lac Band is planting rice once again in the same beds that were so cherished by their ancestors.

Now it is time for the next President and Congress to build the future of the Great Lakes Restoration Initiative, to glean from these first six years the knowledge of what has worked and what has not and to make those course changes that will create even greater progress in healing a wounded ecosystem. Not the least of these lessons is that such a remarkable and life-giving resource is best served by engendering an ethic that would elevate our responsibility to protect and to preserve rather than harm.

But perhaps the best lesson one can take from these six years of work is that change is possible. We can, through well-designed and properly supported programs, turn back the clock. We can restore health to a resource, even a resource that seemed as though it was nearing a point of no return. From that has grown so much good—stronger local economies, better places to live and work, clean water that we can safely drink, revived coastal wetlands that nurture wildlife and provide flood protection, and landscapes that are home to restored native species. These are the kinds of things that can and have changed the lives of individuals and communities.

As the agent of this change, the GLRI should be celebrated as an affirmative force of economic, social and environmental regeneration that will benefit the Great Lakes region and beyond far into the future.



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Water Summit Video: Northland.edu/watersummit

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Northland College integrates liberal arts studies with an environmental emphasis, enabling those it serves to address the challenges of the future.

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