

WRITTEN TESTIMONY OF

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Chair Capito, Ranking Member Whitehouse, and Members of the Committee on Environment and Public Works: Thank you for the opportunity to provide testimony on the importance of the Great Lakes Restoration Initiative (GLRI). I serve as Director of the Ohio Sea Grant Program based out of Ohio State University. Ohio Sea Grant is one of 34 NOAA funding Sea Grant Programs located in each coastal state. I am also Director of Ohio State University's Stone Laboratory, the College of Food Agricultural and Environmental Resources' island campus on Lake Erie. In short, my work focuses on connecting Great Lakes research with real-world needs across local communities in partnership with decision-makers and state and federal agencies. I spend a great deal of time at the intersection of research, community needs, and on-the-ground implementation of projects, documenting how these efforts translate into real outcomes. Therefore, I feel uniquely qualified to speak to the success of a program that brings federal resources to local communities, and why continued support is vital to maintain the trust and momentum built over the last decade+.

Further, the Great Lakes are one of our nation's most vital natural assets - providing drinking water for tens of millions of people and underpinning a critically important regional economy. The Great Lakes, and the watersheds that feed them, underpin a USD \$3.7 trillion regional economy and a USD \$5 billion sport and commercial fishing industry; provide drinking water, recreational opportunities, and cultural identity to residents of the region and beyond; and sustain a wide range of globally significant ecosystems including forests, marshes, wetlands, dune and aquatic systems. The Great Lakes Restoration Initiative has been instrumental in protecting and restoring this resource (which defines the identity and resilience of the Midwest) and also stands as one of the most effective examples of coordinated federal environmental investment.

With all this in mind, being asked to testify about this hallmark initiative is an honor. GLRI, at its core, supports the following:

- Remediation, restoration, and revitalization to bolster coastal communities' economies and resilience
- The establishment of a broad, interconnected network of experts (agencies, universities, decision makers, etc.) to ensure the growth we've seen thus far continues
- Objective flexibility in funding to adapt to community needs while maintaining core objectives, minimizing mission drift
- The protection and sustainability of one of the world's most precious resources as well as the communities, cultures, and economies that rely on them

It is with firm conviction that GLRI is not only a true success of our federal system, but its continuation is more important now than ever. In the face of water stress, environmental uncertainty, and shifting/movement of US populations, maintaining a flagship initiative like GLRI is an easy win.

GLRI: A Proven Model of Remediation, Restoration, and Revitalization

The Great Lakes Restoration Initiative (GLRI) acts in two interconnected ways: 1. Supporting the remediation, restoration, and revitalization of key urban and industrial centers (called Areas of Concern; AOCs), and 2. Protecting and bolstering the Great Lakes region as a whole against large-scale threats, like invasive species, nutrient pollution, and continued decline in critical habitat. While a majority of GLRI funds are put toward AOC efforts, both parts of the GLRI model rely heavily on partnerships between local communities and state/federal agencies, universities, and decision-makers.

To give a more complete picture of the GLRI model, I want to break down parts more fully.

GLRI – Areas of Concern

GLRI's **Areas of Concern (AOC)** efforts, one of its core missions, are a model for future restoration, access, and economic growth actions that are needed across the country. GLRI has aggressively and efficiently worked to identify and address some of the most environmentally degraded locations in the Great Lakes, which they call AOCs, and are working to improve these locations in partnership with local communities. Across the

basin, there are 43 AOCs, including 26 in the United States, 8 of which have been delisted. The AOC efforts, and largely its successes, are built on three essential pillars:

- **Remediation** – addressing legacy pollution and long-standing environmental damage associated with our industrial past and shoreline communities that have unintentionally impacted the ecosystem that they have lived, worked, and recreated in.
- **Restoration** – rebuilding habitats, ecosystems, and natural processes that have been removed from the system or have been altered and impacted by our human activity.
- **Revitalization** – strengthening coastal economies and bringing communities back to neighborhoods, shorelines and bays that were too blighted and polluted to visit and call home. Simultaneously, growing public trust in federally supported restoration programs.

This integrated three-tiered approach has enabled measurable progress across the basin. Further, each delisting represents years of coordinated effort - federal agencies, state partners, local communities, researchers, and practitioners working together to remove impairments to resource use (e.g., presence of toxic chemicals) and to restore ecosystem attributes that ultimately return these blighted and broken areas to their desired beneficial use (waters that are drinkable, swimmable and fishable).

These are not symbolic victories; they are real outcomes. The USEPA, with many partners, looked across numerous impaired waters to identify common barriers to recreation and economic growth, which are called Beneficial Use Impairments (BUIs). USEPA developed 14 specific, legally recognized BUIs, which are used as standardized markers of success in restoration projects. Funds are used to remediate these impairments to meet local criteria for an area to be considered restored. Instances of success are numerous:

- Rivers in delisted AOCs now sustain fish that are safe to eat. BUIs addressed:
 - Restrictions on fish and wildlife consumption lifted
 - Tainted of fish and wildlife flavor addressed
 - Degraded fish and wildlife populations restored
- Toxic substances removed in delisted AOCs. BUIs addressed:
 - Fish tumors or deformities eliminated
 - Bird and fish reproduction restored
 - Restrictions on dredging activities lifted or reduced
- Restrictions on water use and access are eliminated in delisted AOCs. BUIs addressed:

- Drinking water consumption advisory (based on taste and odor problems) reduced
- Number of beach closings reduced
- Improved aesthetics
- Waterfronts able to support recreational and economic activity. BUI addressed:
 - Communities and businesses are reconnected with their natural resources

*Despite the above, hundreds of management actions within AOCs need to be deployed and priority watersheds are still actively trying to address impairments such as contaminated sediments, habitat loss, and degraded water quality. In 2026, six largescale remediation/construction projects are scheduled (the most ever in one calendar year). Further, the fact that many AOCs remain in need of assistance (not delisted) underscores the importance of sustained investment. **GLRI is working - but the work is not finished.***

Beyond AOCs: GLRI's Priorities and Funding are Flexible

In addition to AOC efforts, the GLRI also works to address the following four threats, which extend beyond any single community/area and must be managed at a larger scale to be effective:

I. **Invasive species impacts and threats**, addressed via:

- Increasing the number of acres controlled for invasive species to benefit natural habitats and native species.
- Actions that have significantly protected and promoted recovery of native populations (includes novel propagation techniques, stocking, development of fishery management plans, monitoring, etc.).
- Numerous efforts to halt the spread and impact of invasive carp (e.g., invasive species “strike teams”, identifying and closing invasives species routes of movement, etc.).

II. **Non-point pollution impacts** (with emphasis on nutrient runoff), addressed via:

- Utilization of green infrastructure to decrease the total volume of stormwater runoff entering the Great Lakes.
- Deployment and monitoring of conservation practice implementation to reduce the pounds of phosphorus entering the Great Lakes.

- Restoring and reconnecting acres of stream buffers and floodplains to treat and hold runoff.
- Nutrient monitoring and assessment activities (again, can't manage, protect, and enhance ecosystems) to adjust practice deployment.
- Supporting farmers looking to adopt conservation practices that are often cost prohibitive: (1) slowing and/or trapping water movement and erosion across farmer acres; (2) applying fertilizers in a manner that reduces risk of nutrient loss; (3) building soil health to hold nutrients and increase yield potential; and (4) deploying nutrient trapping technology.
- Targeting construction and restoration of wetlands within the upper watershed to: (1) trap the nutrients that can drive the harmful algal blooms (HABs) seen in numerous Great Lakes; (2) provide spawning and nursery habitat for commercially, economically, and environmentally important fish species; and (3) recharge groundwater resources.

III. Habitat and species diversity, addressed via:

- Restoring and protecting miles of Great Lakes shoreline, using nature-based solutions not simply hardening shorelines.
- Increasing the miles of biological connectivity available for aquatic species (biological connectivity = intact and ubiquitous in-stream habitat for aquatic species, which improves population size and resilience).
- Protecting and enhancing acres of coastal wetlands and nearshore habitats that are needed to support natural reproduction and survival of larval and juvenile fish.
- Supporting actions that have significantly protected or promoted recovery of populations, including propagation techniques, stocking, development of species management plans, monitoring, etc.)

IV. Adaptive monitoring to predict and prepare for future largescale threats.

Building a foundation for future restoration actions and adaptive management plans. Adaptive management plans developed under the GLRI not only address mistakes/ills of the past (e.g., AOCs, building in floodplains, inefficient water infrastructure, etc.), but will enhance the Great Lakes and their watersheds into the future:

- GLRI monitoring systems are not only improving our understanding of what remediation and restoration activities have worked, but to how to tackle future projects and efforts in an efficient and cost-effective way.

- GLRI has co-deployed interdisciplinary science projects to support GLRI and other Great Lakes wide efforts (e.g., Cooperative Science and Monitoring Initiative, lake-specific priorities identified with Lakewide Action and Management Plans, and the Great Lakes Water Quality Agreement).

GLRI Impact

Much of what I have highlighted thus far are why the model works, but I'd be remiss if I didn't showcase even a few of the many successes this initiative is responsible for. There are numerous reports, factsheets, and community touted achievements to support GLRI that I can provide if needed. Below, I look to the impact at a larger scale.

Protecting Communities: From Response to Prevention

The GLRI model not only supports community and aquatic restoration for the future, GLRI investments are also helping protect communities now. In 2014, harmful algal blooms in Lake Erie left more than 400,000 people in the Toledo region without safe drinking water for approximately 72 hours. NOAA's National Centers for Coastal Ocean Science Annual HABs Forecast was developed and occurs at Ohio State University's Stone Laboratory every year. In addition to projecting the annual bloom size prediction for Lake Erie, Ohio Sea Grant and Stone Lab use this opportunity to highlight recent research findings. The event gathers government and academic researchers to engage face-to-face with elected officials and media outlets and virtually with individuals affected by blooms (e.g., watershed residents, charter captains, small businesses, tourism bureaus, farming community, etc.).

Today, monitoring, forecasting, and coordinated response systems allow water managers to detect and respond to threats earlier - reducing the likelihood of crises at that scale.

Agencies and academics live by the adage, "You cannot manage what you don't monitor and understand." Because of GLRI, and numerous leveraged assets and resources, we can monitor movement of nutrients in the spring to forecast summer harmful algal blooms. We can forecast where blooms are moving to prepare beachgoers and water treatment plant operators so that municipalities can quickly adjust how they treat lake water for human consumption.

This is what success looks like: not just restoring ecosystems, but protecting people.

Federal Investment, Local Impact, and the Power of Partnership

GLRI succeeds not just because of what it funds, but because of how it leverages those funds. GLRI supports a full continuum of action:

1. Developing management plans and implementing management actions tailored to local communities.
2. Community engagement to (1) inform restoration effort decisions (2) build partnerships that often include leveraged funds, and (3) bring people back to once blighted shorelines, rivers and bays.
3. Tracking and verification of progress, largely through monitoring.
4. Transparent measurable outcomes, including AOC delisting.

Further, **GLRI is a federal program - but its success is fundamentally local. These federal investments are translated into action through partnerships across:**

- **Federal agencies (e.g., USEPA, USACE, USFWS, APHIS, BIA, NOAA, USGS, USDA).**
- **State and tribal governments.**
- **University and extension resources.**
- **Local communities and organizations.**
- **Agricultural producers and landowners.**

In my work, I see this most clearly when those groups are aligned - when a farmer, a state agency, and a researcher are all working from the same plan, each bringing a different piece of the solution. This coordination doesn't happen automatically or quickly - it is built over time through trust, shared priorities, and sustained investment.

In Ohio and across the Great Lakes region, GLRI funding works alongside state and federal programs to amplify impact - creating a more efficient and effective use of public resources.

Beyond restoration, remediation, research, and monitoring, GLRI is educating local communities to ensure strong stewardship of this globally important resource and to continue building support and appreciation for future remediation and restoration efforts. GLRI's efforts are:

- Growing the number of Great Lakes literate youth through education and stewardship projects.
- Enrolling farms in demonstration programs so that GLRI-supported management approaches grow via peer-to-peer mentoring.

- Growing the number of people trained through workforce development programs providing the skills needed to enter the Great Lakes environmental restoration and protection workforce and earning vocational certificates in trades aligned with restoration.
- Ensuring that agencies and communities are conveying the risks and benefits of consuming Great Lakes fish, wildlife and harvested plant resources.

This is what makes GLRI unique. It is not just a funding stream; it is a partnership-driven system that delivers tangible and impactful local results at scale.

Looking Ahead: Building on What Works

GLRI was designed to address the environmental challenges of the past - legacy pollution, degraded habitats, and long-standing impairments – with an eye toward the future. This work must continue.

At the same time, a strength of the GLRI is that it continues to build on what works - improving coordination, strengthening monitoring, supporting applied research that informs remediation and restoration best practices, and ensures that investments are targeted where they can have the greatest impact. Maintaining this progress requires a sustained and reliable investment.

The Great Lakes Restoration Initiative is one of the most effective coupled environmental and economic growth programs in the nation. This is not only because of what it has accomplished, but because of how it works. It brings together federal leadership and staff, state support and input, local implementation, scientific expertise, and community partnerships to deliver measurable results.

One recommendation for a GLRI of the future is to increase investments and programming that would help anticipate problems of the future. Much of the work of GLRI is geared toward addressing past Great Lake issues. GLRI, based on who is currently engaged, could also work to anticipate and prepare for issues of the future. This could be accomplished by increasing efforts in the forecasting, monitoring, and applied research spaces.

GLRI continues to demonstrate that environmental sustainability and economic growth are not competing priorities - these are deeply and fundamentally connected.

Continued support for GLRI is essential to:

- Complete the work already underway
- Protect the progress that has been made
- Undertake efforts that still need management activities and monitoring
- Grow science to inform effective remediation and restoration
- Ensure that these investments continue delivering both environmental and economic benefits for the Great Lakes region.

Thank you for the opportunity to testify today, Congresses' investment in a program of critical importance to the Great Lakes, and for your continued leadership. I am happy to answer any questions you may have.