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White House Council on Environmental Quality
U.S. Department of Agriculture
U.S. Department of Commerce
U.S. Department of Health and Human Services
U.S. Department of Homeland Security
U.S. Department of Housing and Urban Development
U.S. Department of State
U.S. Department of the Army
U.S. Department of the Interior
U.S. Department of Transportation
U.S. Environmental Protection Agency

Executive Summary

The lands and waters of the Great Lakes are like no other place. In a world where fresh surface water is increasingly in demand, the region contains some 20 percent of it. At a time when people are not looking as much to faraway places for respite, the Great Lakes offer some of the most majestic natural shorescapes on the planet to accommodate them. As a result, people are reconnecting to their beaches, wide-open waters, petroglyphed bluffs, dune ranges and tumbling tributaries like never before. Likewise, these same resources have served as the raw material to build some of the Earth's most legendary cities, create jobs to support families, and contribute to the largest economy in the history of the world.

Still, our expectation that the Great Lakes will continue to meet these needs has resulted in lost flora, fauna, soil, and air and water quality to the point where the ecosystem is showing signs of severe stress and its ability to keep up with these demands is in doubt.

While in the past we have worked to minimize harm, public demand for a new standard of care is surging. That standard of care is that we must leave the Great Lakes better for the next generation than the condition in which V6KT DK'V,KK8TmDqV,'K9-T/q,78U8-TcDy-V6U879To8Dy,Vi879TrDy'V6U879T.DUVU7U9,q9TlD9V9qK

Understanding this, U.S. President Barack Obama and U.S. Environmental Protection Agency (EPA) Administrator Lisa Jackson, in collaboration with 15 other federal agencies, have made restoring the Great Lakes a national priority. Signaling a commitment beyond measure of past promises, in February 2009, President Obama proposed $475 million for a Great Lakes Restoration Initiative (Initiative). This Action Plan describes how the Initiative will be executed from 2010 through 2014.

The Initiative is not intended to be another grand statement about the Great Lakes; it is intended to operationalize those statements. It builds on countless hours by elected, agency, business, public interest and other leaders,

the likelihood of successful restoration at relevant scales. This will include engaging an independent scientific review panel to review the scientific credibility of the Action Plan so that the best available science guides efforts to restore the Great Lakes. Some of the distinct programs and projects in this Plan may also require a more specific peer review. These scientific reviews will be scaled as necessary to establish the scientific justification and credibility for the Action Plan's goals, objectives, and measures and actions The GLRI will also ensure that the rate of progress is scientifically validated, and scientific research will guide any revisions to restoration priorities as well as enable the Initiative to adapt and modify activities when necessary.

Flowing stream near the Chicago River

The following criteria and principles will guide selection of programs[5] and projects pursuant to this Action Plan. All agencies and p

Projects and activities must also meet standards for:

- best available science
- experience, ability, and authority of the funding recipient to properly perform the work;
- reasonableness of project costs; and
- measuring progress and success.

The Great Lakes Interagency Task Force used the criteria above to develop the focus areas of the Initiative, evaluate programs and projects, and create provisional funding allocations.

Work within each focus area will be accomplished th

(RFPs) and proposed project selections. Likewise, EPA would share its RFPs and proposed project selections to avoid duplication. To assist stakeholders in finding assistance opportunities pursuant to the Initiative in a single location, EPA developed and will periodically update the Task Force's Funding Guide. Grant issuing agencies will ensure that appropriate results and accountabi

cleanups in Areas of Concern, which may correspond to areas of potential environmental justice concern). While we do not anticipate creating a separate funding source for work in this area, special consideration will be given to efforts that address these important priorities.

Similarly, projected impacts of climate change on the Great Lakes have implications across all focus areas. Climate change impacts and the needs of the Great Lakes community to adapt to those impacts will be assessed and addressed by GLRI projects and programs where appropriate. To the extent that actions undertaken as part of this Initiative increase ecosystem resiliency, they will also help the Great Lakes ecosystem adapt to climate change.

Problem Statement

Although many point sources of pollution – discharges from discernible, often end-of-pipe conduits – have been reduced, legacy contamination remains. “Legacy contamination” is pollutants largely left over from past practices, but that continue to recirculate through the ecosystem. Such legacy pollutants, often persistent toxic substances (PTS), such as mercury and polychlorinated biphenyls (PCBs), continue to be present at levels above those considered safe for humans and wildlife, warranting fish consumption advisories in the Great Lakes, connecting channels, and Midwestern and New York interior lakes.

Urban communities living in or near these areas and indigenous communities that still live off the land in the basin are particularly at risk from disparate impacts on health from pollution in these areas, and from consuming contaminated fish. Continuing sources of persistent toxic substances include releases from contaminated sediments; industrial and municipal point sources; nonpoint sources including atmospheric deposition, agricultural and urban runoff, and contaminated groundwater; and cycling of the chemicals within the lakes.

Efforts to restore degraded conditions in the 30 U.S. Great Lakes Areas of Concern (AOCs) are underway using a variety of funding sources including those under the Great Lakes Legacy Act, Superfund and other tools, but much more needs to be done, including the remediation of an estimated 43 million cubic yards of contaminated sediments, which are the main cause of beneficial use impairments in the majority of the AOCs.

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ave been detected in the Gre

Objectives

Measure	Baseline/ Universe[12]	2010 Target	2011 Target	2012 Target	2013 Target	2014 Cumulative Target
4. Cubic yards (in millions) of contaminated sediment remediated in the Great Lakes (cumulative).[13]	Baseline: 5.5 million cubic yards (2007) Universe: 46 million cubic yards	6.3 million cubic yards	7.0 million cubic yards	7.2 million cubic yards	8.6 million cubic yards	9.4 million cubic yards
5. Pollution (in pounds)						

- Strategic Pollution Prevention and Reduction Projects – Prevent toxic and potentially toxic pollutants from entering the Great Lakes through a variety of new strategic actions, working closely with state, tribal and local governments. Initiate toxic reduction activities targeting mercury in emissions, products and waste, and expand Clean Sweep, and other collection programs and prevention practices to promote the safe disposal and elimination of pesticides, pharmaceuticals and other waste stream pollutants that can cause impairments.

- Protect Human Health through Safer Fish Consumption –

Problem Statement

Progress toward restoring the Great Lakes has been significantly undermined by the effects of non-native aquatic, wetland, and terrestrial invasive species. More than 180 aquatic nuisance species (ANS) now exist in the Great Lakes. The most invasive of these, including the well known zebra mussel, reproduce and spread, ultimately degrading habitat, out-competing native species, and short-circuiting food webs.

Sea lamprey. Photo: by Dave Brenner, courtesy of Michigan Sea Grant.

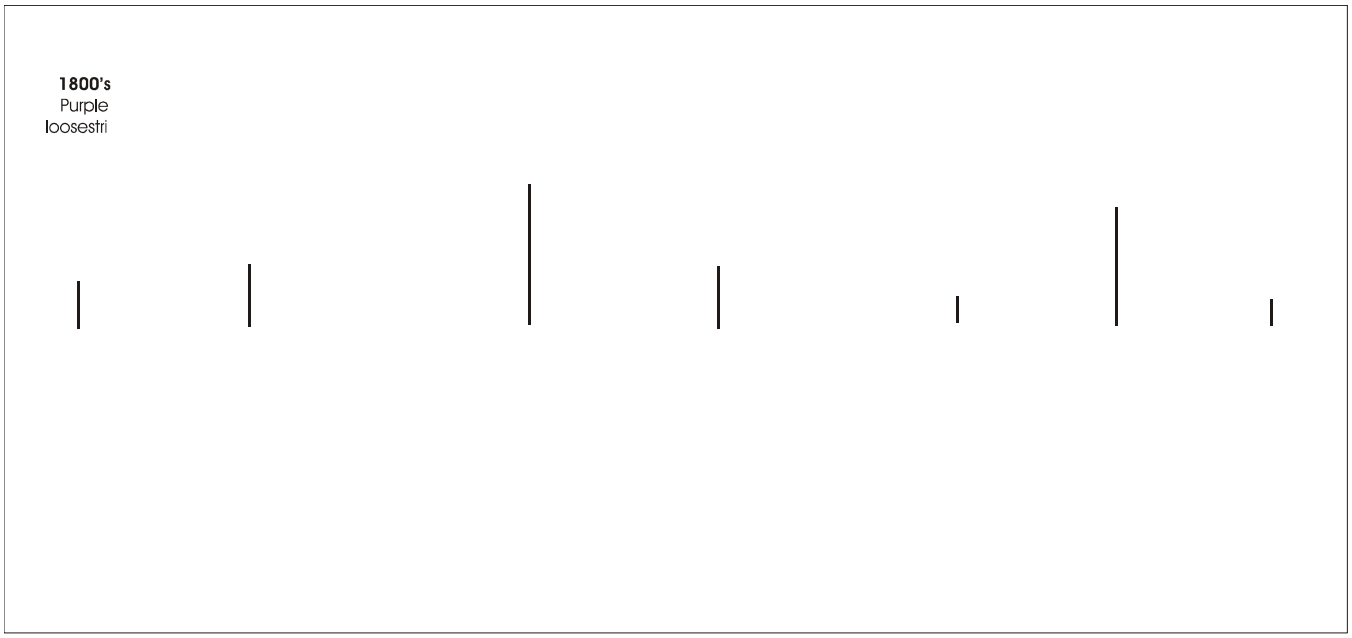
Prevention is the most cost-effective approach to dealing with organisms that have not yet arrived and could potentially threaten the lakes. New invasive species can be introduced into the Great Lakes region through various pathways, including commercial shipping, canals and waterways, trade of live organisms, and activities of recreational and resource users. Once invasive species establish a foothold in the Great Lakes, they are virtually impossible to eradicate; however, invasive species still need to be controlled to maintain the health of the Great Lakes ecosystem. Given that commercial shipping is a proven vector for invasive species transfer, advancing the development and use of ballast water treatment systems that are protective of fresh water is a high priority. Promising technology and innovative management practices that can significantly reduce the cost of control are under development. Control efforts will be accelerated in order to prevent the further spread of the organisms to inland lakes, the Mississippi River watershed, and beyond.

Managing ANS already in the Great Lakes

While efforts to date have been unable to eradicate the sea lamprey from the Great Lakes, an ongoing program coordinated by the Great Lakes Fishery Commission has been able to control their populations. In 2007, the Sea Lamprey Control Program focused on nearly 50 streams in the basin, using a lampricide to eliminate over 5.5 million larval sea lampreys. Each parasitic phase sea lamprey has the capability of killing upwards of 40 pounds of lake trout during its year in the lakes. The successful control program continues to ensure sport fish rehabilitation and protects a fishery valued at over $7 billion in annual direct and indirect benefits.

Long Term Goals

- Goal 1: The introduction of new invasive species to the Great Lakes basin ecosystem is eliminated, reflecting a “zero tolerance policy” toward invasives.
- Goal 2: The risk of introduction of species, which are imported for various uses, into the Great Lakes is minimized.
- Goal 3: The spread of invasive species, by means of recreational activities, connecting waterways, and other vectors, beyond their current range is prevented.
- Goal 4: A comprehensive program for detection and tracking newly identified invasive species in the Great Lakes is developed and provides up-to-date critical information needed by decision makers for evaluating potential rapid response actions.
- Goal 5: An effective, efficient and environmentally sound program of integrated pest management for invasive species is developed and implemented, including program functions of containment, eradication, control and mitigation.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- By 2014, approximately 10 million recreation and resource users will be educated on best practices that prevent the introduction and spread of invasive species.

Measures of Progress

The Initiative will significantly advance efforts to prevent new introductions of invasive species in the Great Lakes basin and to stop the further spread of invasive species in the Great Lakes basin.[15]

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Silver Carp on the Illinois River.
Photo: U.S. Fish and Wildlife Service.

- Establish Early Detection and Rapid Response Capability – Work with government agencies to initiate surveillance activities to detect new ANS and establish the capacity, methods and contingency plans for a rapid response. Joint planning will allow the mobilization of shared resources to create the best opportunity for eradicating species before they become established.

No effort to pursue these goals in the Great Lakes can ignore the rapidly changing situation involving Asian Carp. The migration of Asian Carp through the Chicago Area Waterway System is the most recent and most acute ANS threat facing the Great Lakes today. This species has wreaked permanent havoc on the Mississippi River Basin, where the fish's rapid expansion of population and range has overwhelmed the river ecosystem by consuming plankton, a vital part of the food chain. As large populations of Asian carp have become established, the cumulative effects of these species have reduced food for native fishes, caused risks to human safety, and created impacts to regional economies that rely on fishing and boating.

The fish is now threatening similar damage to the ecosystem of the Great Lakes, as well as significant economic damage to the Great Lakes sport fishing industry. The Great Lakes community faces an urgency to prevent this threat from materializing.

An inter-governmental Regional Coordinating Committee has been established to oversee the implementation of an Asian Carp Control Strategy Framework, which is a cooperative effort by local, state, provincial, federal and even binational entities. The Framework is intended to provide direction for implementation efforts to prevent the establishment of ANS from migrating through artificially-connecting waterways that exist in the Chicago area, as well as other parts of the Great Lakes watershed, and if already in the basin, to work to implement efforts that might prevent further migration into the system.

The federal partners are working quickly to incorporate Carp and other ANS control efforts into the Initiative. This work pursues the objectives and measures of progress described in this section.

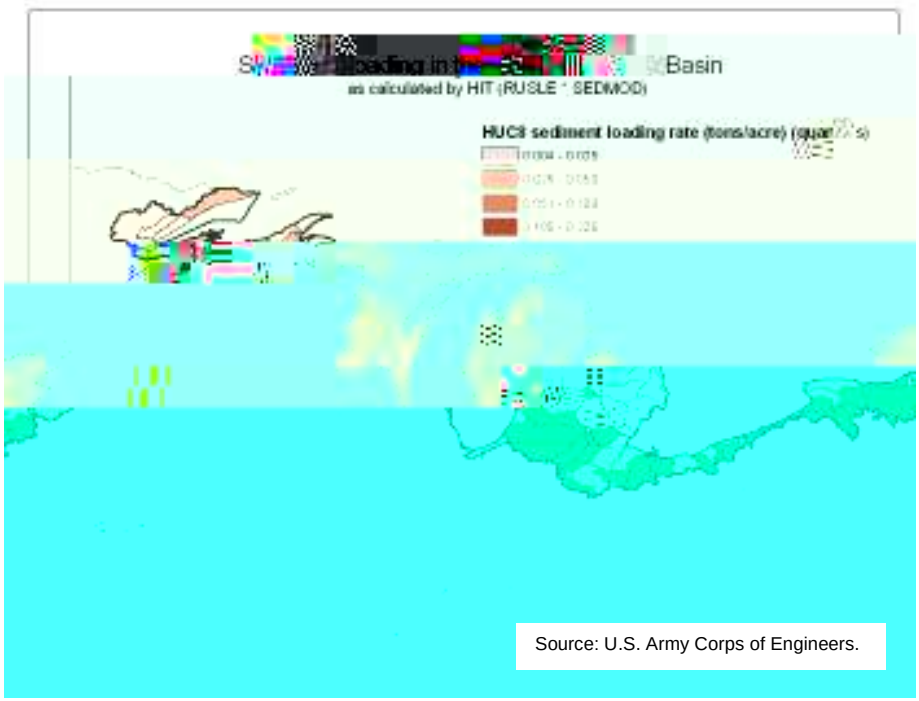
Problem Statement

Nearshore and open waters provide drinking water for municipalities and habitat for numerous species of i wn

stresses can be traced to failing septic systems, grey water pipes (pipes containing non-hazardous household

Objectives

- By 2010, EPA will compile and map the highest priority watersheds for implementation of targeted nonpoint source pollution control measures.
- By 2014, remediation, restoration and conservation actions in at least one targeted watershed in each Great Lake basin will control erosion, reduce nutrient runoff from urban and agricultural sources, and improve habitat to protect nearshore aquatic resources.
- By 2014, a baseline will be established for total suspended solids loadings from targeted tributaries.



Source: U.S. Army Corps of Engineers.

- By 2014, a measurable decrease will be achieved in soluble phosphorus loading from 2008 levels in targeted tributaries.
- By 2014, the causes of nutrient-related nearshore biological impairments will be better understood, and following local or watershed remedial actions, the number and severity of incidences of harmful algal blooms (HABs), avian botulism, and/or excessive Cladophora growth will be significantly reduced from 2008 levels.
- By 2014, a comprehensive nearshore monitoring program will have been established and implemented, including a publicly accessible reporting system, based on a suite of environmental indicators.
- By 2014, 50 percent of high priority[17] Great Lakes beaches will have been assessed using a standardized sanitary survey tool to identify sources of contamination.
- By 2014, 20 percent of high priority Great Lakes beaches will have begun to implement measures to control, manage or remediate pollution sources identified through the use of sanitary surveys.
- By 2014, rapid testing or predictive modeling methods (to improve the accuracy of decisions on beach postings to better protect public health) will be employed at 33 percent of high priority beaches.

[17] Beaches that the states identify as most frequently used and/or that have the highest risk. In 2008, there were 356 high priority beaches out of a total of 1,411 total beaches in the U.S. Great Lakes.

- By 2014, the area of agricultural lands in conservation and/or utilizing conservation tillage practices will increase by 50 percent over 2008 levels.

Measures of Progress

Problem Statement

The health of Great Lakes habitats and wildlife depends upon the protection and restoration of ecosystems: the Great Lakes, the coastline, wetlands, rivers, connecting channels and watersheds. Humans benefit from healthy ecosystems. Healthy Great Lakes, for example, provide us with clean drinking water; rare wildlife populate a variety of unique coastal habitats; wetlands help control floodwaters; rivers transport sediments, nutrients and

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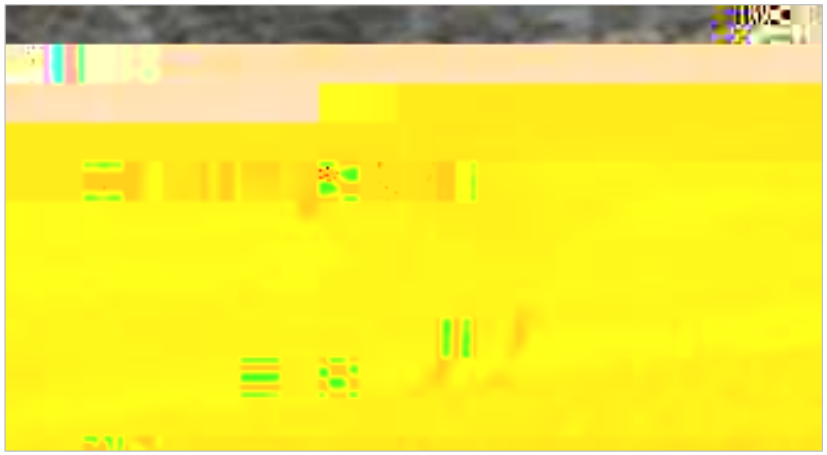
Measure[25]

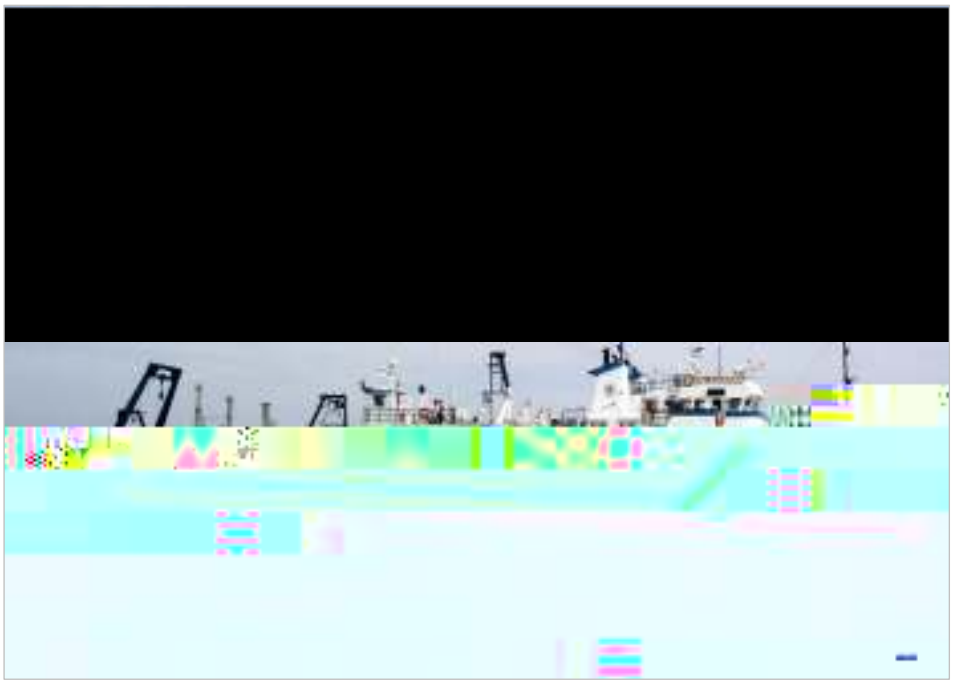
- Improve Aquatic Ecosystem Resiliency – Protect and restore aquatic habitats for fish and wildlife populations by reconnecting habitats through corridors to enhance biological diversity, reducing sediment and nutrient inputs, restoring natural hydrological processes, improving water quality, restoring ecosystem services, and increasing populations of native fish and wildlife through coordinated management actions.
- Maintain, Improve or Enhance the Populations of Native Species - Implement restoration actions identified in species recovery and management plans; quantify habitat needs for depleted migratory bird species; propagate lake trout, coaster brook trout, lake sturgeon and other similar fingerlings for suppressed fish populations, assessing fish populations; and protect and restore culturally significant species.



- Enhance Wetlands, Wetland-Associated Uplands, and High Priority Coastal, Upland and Island Habitats – Protect, restore, or enhance habitats by acquiring properties that are important to sustain fish and wildlife populations, restoring natural hydrological regimes, improving water quality, and restoring the chemical, physical, and biological integrity of ecosystems in each Great Lake basin.
- Identify, Inventory, and Track Progress on Great Lakes Habitats, Including Coastal Wetlands Restoration – Assess progress toward restoring Great Lakes habitats by establishing baseline conditions and tracking trends; highlight the importance of coastal wetland conservation and restoration by implementing a long-term coastal wetland monitoring program and enhancing the National

Wetlands Inventory.

- Restore Habitat Functioning in Areas of Concern – Improve habitats in degraded urban environments and Areas of Concern where beneficial use impairments limit ecosystem functioning by restoring habitats for native species populations and removing or isolating contaminants.



public friendly, timely and available on the Internet. Reports p. oelyn

- By 2014, timely data and information will be provided to decision makers at multiple scales within a framework of established baselines, targets, indicators of progress, and monitoring.

Deployment of towed sensor array on U.S. EPA research vessel. Photo: U.S. EPA Great Lakes National Program Office.

Progress will also be reported with and through the LaMPs on the Great Lakes as a whole, as well as on each of the Lakes and Connecting Channels, and public forums will be harnessed to assist with the transfer and dissemination of information to the public.

- Measure and Evaluate the Health of the Great Lakes Ecosystem using the best available science – Enhance existing programs that measure and assess the physical, biological, and chemical integrity of the Great Lakes, including the Connecting Channels. Develop and implement a statistically valid assessment, using a probability-based design, of Great Lakes water resources, coinciding with intensive cooperative science and monitoring efforts for the Lakes. Implement strategic components relevant for Great Lakes decision making of the U.S. contribution to the Integrated Earth Observation System and the Integrated Ocean Observing System as part of the Global Earth Observing System of Systems. Develop a coordinated federal approach to address on the key scientific priorities needed to fully assess the impacts climate change may have on the health of the Great Lakes ecosystem and better manage those impacts. Promote the development and

Conclusion

If we care for the Great Lakes, they will continue to care for us – economically, ecologically and socially. Study after study, however, shows a Great Lakes in peril. These studies point the way to how we can work to make the ecosystem more resilient over time by reducing toxic pollution and cleaning up Areas of Concern, instituting a zero tolerance policy toward aquatic nuisance species, rehabilitating fish and wildlife habitat, shielding nearshore health from polluted “nonpoint source” runoff, and enhancing these efforts through proper accountability mechanisms, education and other measures. By declaring Great Lakes restoration a national priority with the proposal for significant new resources to address these issues, President Barack Obama is encouraging federal, state, municipal, tribal and civic representatives – all of us – to unify for leaving the Great Lakes better for the

Acronyms

ANS	Aquatic Nuisance Species
AOC	Area of Concern
BUI	Beneficial Use Impairment
EPA	U.S. Environmental Protection Agency