Great Lakes Commission
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Water Infrastructure Priorities
for the Great Lakes Region

MARCH 2017

The Case for Rebuilding our Water Infrastructure

The Great Lakes Commission calls on the President, Congress and Canada to implement a large-scale initiative to rebuild and modernize the infrastructure that provides our region with safe drinking water, treats wastewater, manages stormwater, facilitates commercial navigation, and safeguards the Great Lakes and St. Lawrence River as environmental and economic assets. Sustained and strategic investments will help rebuild our cities, protect public health, support business growth, sustain agriculture and fuel the economy of our industrial heartland.

Abundant fresh water gives the Great Lakes region a unique, competitive advantage to attract new industries, promote economic development, and support growing cities and farm communities. The infrastructure to effectively manage our water resources is the platform for a strong economy and healthy communities. However, after decades of under-investment, failing water infrastructure threatens our region's future prosperity and the health of our citizens. Our national economy is at risk as well from vulnerability to disruption in the Great Lakes navigation system and its capability to deliver raw materials that are critical for our industrial base.

The Great Lakes states and provinces – Illinois, Indiana, Michigan, Minnesota, New York, Ohio, Ontario, Pennsylvania, Quebec and Wisconsin – recognize their significant water infrastructure needs and are prepared to address them in partnership with federal governments, local communities, utilities, and the private sector. Several states and provinces have developed plans and initiatives to invest in water infrastructure, so the time is right for federal leadership.

On behalf of the Great Lakes states and provinces, the Great Lakes Commission presents these priorities for rebuilding and modernizing our region's water infrastructure. Protecting our region's unique freshwater resources and leveraging them as economic assets are longstanding, bipartisan priorities which should help shape infrastructure investment proposals of the federal governments.

Drinking Water, Wastewater and Stormwater Infrastructure

Our access to safe Great Lakes water is threatened by failing water infrastructure, lead in drinking water lines, toxic algae, sewage overflows from overburdened wastewater systems, and impacts from extreme weather events. The Great Lakes Commission calls for increased federal investment to help states and local communities improve and manage all water infrastructure—drinking water, stormwater and wastewater.

Drinking Water Infrastructure: Ensuring safe and reliable supplies of drinking water is fundamental to the health of our communities and the strength of our regional economy. The Great Lakes hold 90 percent of our nation's supply of fresh surface water and more than 48 million Americans and Canadians depend on the Great Lakes and St. Lawrence River for drinking water. Upgrading and maintaining aging drinking water infrastructure is a costly challenge for many communities, including addressing threats to drinking water from lead in water lines and contamination of source water from toxins in harmful algal blooms. The 2014 closure of the drinking water system for the City of Toledo, Ohio due to toxic algae in Lake Erie, and the lead contamination of drinking water for the City of Flint, Michigan dramatically illustrate the magnitude and severity of these challenges. U.S. EPA data show that at least $384 billion will be needed through 2030 to maintain, upgrade and replace our nation's drinking water infrastructure and these costs will grow if needed investments are delayed. More than $100 billion – a quarter of the overall national need – will be required in the eight Great Lakes states.

Wastewater Infrastructure: The majority of our region's wastewater systems are between 50 and 150 years old and many municipalities are unable to meet rising costs to maintain and upgrade their systems. In 2014, 22 billions of gallons of untreated sewage and stormwater were released into the Great Lakes from outdated and aging infrastructure that remains prevalent in many of the region's largest cities and many smaller municipalities. These sewage discharges endanger public health, degrade water quality and damage local economies by closing beaches and discouraging recreation in rivers and lakes. In 2013, beaches in the Great Lakes region had the highest rate of sampled waters exceeding federal action values for *E. coli* bacteria of any coastal region in the country. Nearly a quarter of Michigan's beaches suffered closures in 2015; a single beach closure on Lake Michigan can result in economic losses as high as $37,030 per day. Preventing these and other impacts will not be cheap: U.S. EPA data show that at least $245 billion is needed to maintain and upgrade wastewater infrastructure, of which approximately $73 billion – nearly one-third of the national total – will be needed for the eight Great Lakes states.

Stormwater Infrastructure: Current stormwater infrastructure that was designed to function under historical conditions is becoming increasingly compromised by additional stressors including rising populations, increases in impervious surfaces from urban development, and human-caused changes to river systems. More frequent severe storm events further exacerbate this problem. These compounding factors often lead to increased runoff that can overwhelm stormwater systems and cause increased flooding, sewer overflows, and nutrient runoff that causes harmful algae blooms. As a result, managing stormwater from both rural and urban sources is a growing challenge for cities and towns in the Great Lakes region. U.S. EPA data show that communities need to invest $19 billion in stormwater infrastructure, with nearly $5 billion needed in the Great Lakes region.

Failure to invest in our nation's water infrastructure is impacting our economy now and will only worsen without action. For example, the American Society of Civil Engineers projects a $500 billion loss to our national economy and the loss of nearly 500,000 jobs by 2025 from not making needed investments in our nation's water infrastructure. In contrast, water infrastructure investments will create jobs and strengthen our economy. Every $1 million spent on water infrastructure is projected to generate nearly $3 million in economic output, and every new job created in the water workforce is estimated to add almost four new jobs in the national economy. Many states and provinces have successful infrastructure financing programs, so federal support will leverage and complement state and provincial leadership.

Recommendations:

- **Support the Clean Water and Safe Drinking Water State Revolving Funds (SRF):** These programs are invaluable financing tools that enable the states to assist communities in upgrading drinking water and wastewater systems. They have been highly successful and should be adequately funded and revised, where appropriate, to improve their efficiency and the ability to link with other financing options. These and other programs should prioritize assisting disadvantaged communities and those facing immediate risks to public health or the environment.

- **Fund and implement new approaches for financing water infrastructure:** New approaches are needed to secure the public and private financing required to meet our nation's water infrastructure needs. With a relatively small federal investment, innovative tools such as the Water Infrastructure Finance and Innovation Act (WIFIA) program can leverage private capital to support low-cost financing for infrastructure projects. For

example, the Office of Management and Budget estimates that a $50 million appropriation for WIFIA could leverage $3.35 billion in financing. Other innovative financing tools should be explored, such as infrastructure banks and public-private partnerships. Financing programs should be structured to enable communities to expedite water infrastructure projects.

- **Promote integrated water resource management:** Federal programs and policies should facilitate and provide incentives for state and local efforts to integrate drinking water, wastewater and stormwater infrastructure to improve efficiency, reduce energy use, conserve water, lower costs and provide environmental benefits for communities.

- **Support the use of green infrastructure to help communities manage stormwater:** Green infrastructure uses natural features, such as detention ponds, rain gardens and permeable pavement, to manage stormwater. This type of infrastructure can reduce the burden on existing "grey" infrastructure for drinking water, storm water, and wastewater and increase the effectiveness of existing water management systems. Green infrastructure also offers ecological benefits by restoring more natural flow regimes and filtering water so that cleaner water is returned to rivers and streams. Many types of green infrastructure also have recreational or scenic values that provide benefits such as increased property values and revitalization of urban areas. Green infrastructure is being coupled with urban renewal efforts in several cities in the Great Lakes region.

Commercial Navigation Infrastructure

The Great Lakes and St. Lawrence River maritime transportation system is vital to the economies of the United States and Canada and to our country's overall national security. The system links more than 100 U.S. and Canadian ports to the world economy, moves 181 million tons of cargo annually, generates more than 225,000 jobs, and supports industries such as manufacturing, steel production, agribusiness and power generation. However, the economic viability of the Great Lakes navigation system is threatened by insufficient funding for dredging, diminishing options for disposing dredged material and aging navigation infrastructure, including critical choke points such as the Soo Locks in Michigan, which link vital deposits of iron ore in Minnesota and Michigan with industries in other states. The Department of Homeland Security (DHS) has described the Soo Locks as the "Achilles' heel of the North American industrial economy" and emphasized their vulnerability to an unplanned closure, which would have "devastating consequences for industries … and the National economy." Currently, commercial navigation accounts for about 90 percent of global trade and is predicted to double by 2030. Maximizing the economic potential of commercial navigation on the Great Lakes will require maintaining and investing in harbors, ports, shipping channels, locks and related infrastructure, including regular dredging. The Conference of Great Lakes and St. Lawrence Governors and Premiers recently issued a comprehensive strategy that aims to double maritime trade, improve environmental performance and support the region's industrial core (*Strategy for the Great Lakes-St. Lawrence River Maritime Transportation System*, June 2016). It recommends actions to maintain and expand the maritime transportation system and establishes a regional committee to coordinate state and provincial efforts. Fortunately, the $9 billion surplus in dedicated funding in the industry-paid Harbor Maintenance Trust Fund can be utilized for many of these investments.

Recommendations:

- **Construct a new large lock at the Soo Locks in Michigan:** The Soo Locks are a vital part of the Great Lakes commercial navigation infrastructure. They connect Lake Superior with the rest of the Great Lakes and the world economy. Nearly 4,000 vessels pass through the locks every year carrying approximately 80 percent of the raw materials needed for U.S. steel production, coal for power generation, and grain for overseas export, among other cargo. However, 70 percent of the U.S. flag fleet and 90 percent of their cargo – which supports more than 3 percent of total U.S. GDP – are limited to the Poe Lock, the one large lock at the complex. Our sole reliance on this single, 50-year old lock puts our regional and national economies at risk. For example, the DHS projects that a six-month, unplanned closure of the Poe Lock would result in a nearly complete shutdown of regional steel production, 11 million job losses, a severe recession, and a $1.1 trillion decrease in *national* GDP. Planning has been underway for three decades to build a new large lock to provide needed

capacity and resiliency. A recent Treasury Department report identified a new Soo lock as one of 40 infrastructure projects of major economic significance for the nation. The study put the project's benefit-cost ratio at 2.0-4.0 – well above the level required to be included in the Administration's budget – and projected a net economic benefit of up to $1.7 billion. The Army Corps of Engineers is re-evaluating a previous, flawed benefit-cost report that has been contradicted by both the DHS and Treasury Department reports. This re-evaluation is scheduled to be completed in late 2017. Congress should provide funding to begin construction of a new large lock to safeguard our regional economy and national security.

- **Address system constraints and maintain waterways at their authorized depths:** The Great Lakes-St. Lawrence River navigation system is significantly under-utilized, with key components operating at only about 50 percent of their full capacity. Inadequate dredging has left waterways and ports clogged with 15 million cubic yards of sediment, preventing vessels from carrying full loads. An estimated $200 million is needed to remove this dredging backlog in federal channels and harbors and an additional $250 million is needed to repair failing breakwalls and other navigation infrastructure, which often are nearly a century old. The Army Corps of Engineers and the Department of Transportation should evaluate bottlenecks and constraints in the Great Lakes navigation system to help guide future public and private investments.

- **Ensure appropriation of all annual revenue from the Harbor Maintenance Trust Fund (HMTF):** These funds are critical for maintaining commercial navigation infrastructure, including shipping channels and dredging in the Great Lakes. However, revenue paid into the HMFT has not been fully spent and it now has a surplus of $9 billion. Water resources legislation passed by Congress in 2014 calls for 100 percent of annual HMTF revenue to be appropriated by 2025. Congress should comply with the direction in this legislation and ensure that appropriations from the HMTF are used as intended to support dredging and maintenance of navigation infrastructure in the Great Lakes and St. Lawrence River.

Infrastructure for Restoring and Managing the Great Lakes

The Great Lakes form the backbone of the culture and economy of our eight-state region. More than 1.5 million jobs and $62 billion in wages are directly connected to the Great Lakes, which are the foundation for a $52 billion recreational economy from fishing, hunting and boating. Recognizing their value, the past two presidents – with strong, bipartisan support from Congress – have made restoring the Great Lakes a national priority. The Great Lakes Restoration Initiative (GLRI) is implementing our restoration strategy with a focus on cleaning up toxic hotspots, controlling Asian carp and other invasive species, preventing polluted runoff that causes toxic algae, and restoring habitat for valuable fish and wildlife resources. Cleanup work under the GLRI is helping communities revitalize degraded or underutilized waterfront areas and develop new opportunities for recreation, business growth and other uses. For example, removing contaminated sediments from the Ashtabula River allowed the return of normal commercial navigation and recreational boating and sustained the economic viability of the Port of Ashtabula. Cleaning up the Kinnickinnic River south of downtown Milwaukee brought back boaters, revitalized existing businesses and stimulated new development. A large-scale shoreline restoration project on Muskegon Lake in Michigan created new recreation opportunities that are projected to attract 65,000 new visitors, generate more than $1 million in new spending and contribute $600,000 in new tax revenues annually. Fully implementing the restoration strategy is projected to generate $50 billion in long-term economic benefits. Continued funding, policies and management structures are needed to sustain this progress.

Recommendation:

- **Advance the Great Lakes Restoration Initiative in collaboration with Congress:** The GLRI has generated unprecedented progress in restoring the largest system of fresh surface water in the world. The Great Lakes Commission urges the President to request and Congress to approve $300 million for the GLRI in FY 2018. Continued funding for the Initiative will build on our investments and help the region advance long-term goals for a healthy economy, sustained by a revitalized ecosystem.