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March 31, 2014

US Army Corps of Engineers, Chicago District  
231 S. LaSalle St. Suite 1500  
ATTN: GLMRIS Comments, Dave Wethington  
Chicago, IL 60604

Re: Comments regarding the Great Lakes and Mississippi River Interbasin Study (GLMRIS)

Dear Mr. Wethington,

Please accept these comments submitted on behalf of all our organizations, as well as our hundreds of thousands of members across the Great Lakes and Mississippi River basins and nationwide, regarding the U.S. Army Corps of Engineers' (Corps) Great Lakes and Mississippi River Interbasin Study (GLMRIS).

The undersigned organizations appreciate the opportunity to comment. While we have several specific recommendations moving beyond GLMRIS, which are highlighted below, we would like to first express that the overarching goal for the Corps and key stakeholders regarding the transfer of aquatic nuisance species (ANS) in the near term must be immediate risk reduction and the swift identification of a permanent solution to this ongoing crisis. Indeed, the urgent need for protective measures now and decisive movement towards a long-term solution is only amplified by the recent alarming evidence of breeding grass carp in the Ohio basin, as well as another invasive species of carp (black carp - *Mylopharyngodon piceus*) moving closer to invading the Great Lakes. The only permanent and sustainable prevention method to this problem is hydrologic separation of the Great Lakes and the Mississippi River basin (outlined as the most effective method in GLMRIS as option 6 - which also closely mirrors the natural divide) at the basins' only direct and continuous connection. Very simply, if water does not flow between the two great watersheds, aquatic plants, animals and diseases will not be able to migrate actively or passively between the two.

While we recognize there were constraints on what the Corps studied due the agency's understanding of its charge from Congress, we believe there are areas where research needs to be expanded. Some of this research could be accomplished by the Corps, but other projects will likely need to be accomplished through partnerships with other entities or with other entities in a leadership role. Primary among the research needs is identification and scoping of broader benefits to the region. In many ways, the Chicago Area Waterway System (CAWS) is in dire need of restoration and revitalization to meet today's demands. Effective and efficient investment into changes in the CAWS must look at preventing the spread of ANS in a manner that helps meet the broader needs of the CAWS. If done right, hydrologic separation will leverage viable, well-planned investments to establish upgraded treatment of

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wastewater and storm water, as well as potentially new, globally-competitive transportation infrastructure. The result can be a revitalized waterway system that not only closes the highway for aquatic nuisance species, but also creates local and regional jobs, introduces economic efficiencies across the region, and improves water quality, tourism, and recreation.

### **Hydrological Separation is the Only Option that Truly Prevents**

The GLMRIS report displays the shortcomings of many hypothetical control technologies. The effectiveness of hydrologic separation stands in stark relief against these makeshift, piecemeal control measures. None of the other options examined in GLMRIS achieve complete prevention of invasive species transfers through aquatic pathways in the CAWS. Given this contrast, we urge the Corps to focus its attention moving forward on these solutions that fully prevent against the two-way transfer of all ANS organism types and species. This is consistent with the mandate provided by Congress in the 2007 authorization for GLMRIS.

### **Background on Current Conditions and Projected Use of the CAWS**

As the GLMRIS report and other similar reports have set forth, the CAWS constitutes a very small part of the Greater Chicago region's overall freight system, transporting a tiny percentage of overall commercial freight, both in terms of tonnage and value. The past decade has seen this small percentage fall even further. While some of the bulk commodities that move on the water are important inputs to businesses along the waterways that benefit from the lower costs of water shipping, the dynamics of what is moving on the water is changing significantly, due in large part to changes in the regional demand for petroleum coke and coal. Indeed, it appears that some of the more recent shifts of business along the CAWS away from these fossil fuels – such as the closure of two major coal plants – are not fully accounted for in the data used in the current analyses of waterways goods movement. While projections indicate that levels of cargo on the CAWS generally could increase somewhat from the current low volumes, they do not show a large uptick in the use of waterways for shipping moving forward.

A good deal of this trend is likely due to the current state of and inherent limitations on the CAWS infrastructure for goods movement. As GLMRIS notes, infrastructure along the CAWS is crumbling; investment lags significantly and has for decades. The GLMRIS report also highlights numerous limitations on the CAWS' inherent capacity, from narrow and winding portions to low bridges that limit clearance to lack of docking areas. Moreover, the report notes that even the current capacity of the CAWS is underutilized. Clearly this is not a robust and modern transportation mode, but one in need of serious rethinking.

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The GLMRIS report also supports anecdotal information that we have heard that there is little direct interaction between laker traffic and barges. Goods do not move via a seamless, integrated and interdependent high-volume system among Great Lakes states and the inland waterways system of the Greater Chicago area and on to southern destinations or vice versa, but instead move in smaller amounts via a more limited intersection of these waterways.

Finally, what GLMRIS omits but our own research shows is a broadly shared desire to re-envision the CAWS for multiple uses, increasing public access and amenities. Due to the Corps' charge to treat waterways as trade/navigation corridors, the GLMRIS report is inherently limited in its ability to consider how the waterways might better serve the needs of today's urban and surrounding communities. Residents of Chicago and other communities along the waterways value livable neighborhoods, access to open and green space and reduced flooding through smart water resources planning linked to green development, yet the GLMRIS report is silent on these topics. Our coalition's research has identified a number of land use planning documents from communities along the CAWS that focus on greening the corridors and making them assets to the community as a whole, rather than blighted areas dominated by heavy industry. Some efforts to invest in such a vision are underway, such as the Millennium Reserve.

### **Moving Forward Hydrological Separation with CAWS Cargo and Traffic Considerations**

With respect to use of the waterways for commercial purposes, the GLMRIS report misses a significant opportunity to rethink the Greater Chicago area's crumbling waterway infrastructure and its use for navigation. We believe this is an area where more research is needed to accurately reflect conditions and future needs, as well as solutions. The time for planning to bring the waterway system into the current century and integrate it into the larger freight movement system is now, as big thinking is underway regarding freight movement on other modes throughout the region. However, the Corps essentially deferred to the business-as-usual operation of this marginal mode, letting it stand as a significant hurdle to the best long-term solutions for preventing the movement of ANS.

Rather than taking a comprehensive look at this aging and decreasingly utilized mode, the Corps conducted a circumscribed assessment of current cargo and non-cargo commercial use of the waterways. For cargo navigation, it looked at volumes and types of products moved; assessed the current conditions, including physical limitations, on the CAWS itself; made projections of volumes and types of goods moving forward; surveyed shippers as to how they might react to various scenarios; and made a cursory inquiry into mitigation for commercial navigation. From this limited analysis, the Corps concluded that due to projected increased costs of commercial movement, diminished effectiveness of ANS control measures and negative shipper responses, plus rough cost estimates for transloading or multi-modal facilities, the GLMRIS report would not consider commercial navigation mitigation beyond a cursory mention of potential projects. Instead, it solely reported costs associated with each alternative in the form of increased transportation costs (or to use the Corps' phrase, lost "transportation rate

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savings”). For non-cargo navigation, the Corps similarly looked at trips and numbers of passengers at each lock; surveyed current non-cargo lock users; and projected impacts from the GLMRIS alternatives from the perspective of these users.

We ask the Corps to partner with stakeholders to develop plans to stop ANS while better addressing cargo and non-cargo traffic. Below are specific critiques and areas that should be considered.

### **Cargo CAWS Traffic**

As noted above, we have significant concerns about the scope and impartiality of the Corps’ review.

*Scope.* Our main concerns around scope arise from the Corps’ narrow – while understandable given its charge as a federal agency – inquiry into cargo and other commercial navigational uses of the waterways, as well as its limited look at solutions for moving cargo that might mitigate impacts to these uses. We believe that any investigation into workable, real world solutions for ANS prevention must take a broad view, thinking big picture and creatively about how we can design solutions that harmonize the various parts of the waterways system to achieve a number of goals while protecting the ecological (and so economic) health of the Great Lakes and Mississippi River Basin. If the Corps cannot undertake such an inquiry because of its limited purview and vision, then a group of stakeholders who can take up this challenge should do so. One key component of such an undertaking should be an assessment of what a broad range of interests would like to see happen in terms of uses of and changes along the CAWS.

With regard to the Corps’ thin inquiry into mitigation, we are disappointed to see little beyond a listing of possible high-level design concepts and short citations to other projects. Lacking is any real attempt to apply these concepts to the current situation by coming up with applied designs and scoping costs. Given that a significant amount of the opposition to some of the options for ANS transfer prevention come from the cargo and non-cargo users of the CAWS, mitigation should be a key component of any future analysis.

*Shipper Survey.* We have significant concerns that the survey of shippers conducted for the GLMRIS report is inherently biased. Shippers have little to no interest in supporting systemic or more limited change if such change will increase their current individual costs, even if such costs ultimately result in a more rational freight system overall – let alone if the change goes towards achieving a goal like ANS prevention that has no direct immediate benefit to them. Indeed, shippers along the CAWS have made clear that they oppose any project that will significantly increase their business costs. The fact that infrastructure is crumbling shows that there is little to no interest in spending money (and so increasing costs) to improve performance on the CAWS, let alone to do so for purposes beyond commercial navigation. This inherent conservatism will skew any such survey away from corrective and preventive action and to the status quo.

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In addition, shippers in the Greater Chicago area likely have little to no experience with the cutting edge transloading and multi-modal facilities that could be part of the solution. It is clear even from the GLMRIS report's abbreviated review that these types of facilities are considered viable options in other parts of the country and the world, and in some cases have become hallmarks of innovation and attractions with broad appeal in their own right. The Corps does not appear to have done any significant research into the planning of these facilities and opinions of various stakeholders of them, which could provide important insights from those with actual experience with the facilities. In sum, while challenges may arise in siting, designing and implementing such a project, these challenges should not be a barrier to undertaking a more detailed inquiry.

Echoing our general concern over scope, we are troubled that the GLMRIS report contained no survey of communities or any interests outside of shipping and other commercial users regarding what these groups would like to see happen with their waterways to generate benefits above the current uses. The report instead provides only one side of the picture.

*Container on Barge.* The GLMRIS report contains a short discussion of the potential for container on barge (COB) traffic and concludes that the conditions for such a system do not currently exist. However, now is the time to take a real look at the potential for COB while the freight system is undergoing big changes in the truck and rail area, so as not to foreclose this opportunity for decades moving forward. While the 2007 Great Lakes SLS Study does indicate that COB is at a disadvantage in the region relative to rail and truck, it also notes that COB has an advantage in fuel use and cost – the two features that currently make barge transport in general appealing over rail and truck. The GLMRIS report notes that strong policies are required to make COB a reality, and the research and analysis on COB in this region should be done to inform a decision of whether to pursue such policies. To date, such analysis has been lacking and the GLMRIS report does not fill this gap.

### **Non-Cargo CAWS Traffic**

The GLMRIS report's evaluation of non-cargo CAWS traffic tracks the cargo analysis, and so generates some of the same concerns regarding scope, bias, and lack of evaluation of mitigation. We also highlight several interesting points from the non-cargo traffic assessment:

- The Chicago Lock is by far of the biggest concern to non-cargo navigation, especially from the perspective of recreational passenger trips, so alternatives that do not impact the Chicago Lock are of significantly less impact to non-cargo navigation.
- Alternatives less than full separation, including hybrids and control technologies with a buffer zone, are rated in the same general category of “medium” impacts on non-cargo navigation as mid-system full separation. This is in large part because electric barriers obstruct commercial

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boat traffic (and commercial boat traffic reduces the efficacy of the electric barriers per the Corps' recent study, which does not seem to be noted in the GLMRIS report).

- The report's evaluation of separation alternatives assumed that non-cargo vessels could not traverse the concrete barriers. Since some of the vessel projects described in the cargo section are explicitly for recreational vessels, this assumption should be revisited.
- The report does not provide dollar impact estimations for non-cargo traffic, as it did for cargo traffic. Thus, it is not possible to generate a composite dollar impact on CAWS user traffic for each alternative, or to compare non-cargo traffic impacts among alternatives on as fine a scale as is possible for cargo traffic. This use of different metrics may obscure the relative overall impact of the alternatives on CAWS traffic, making mid-system separation appear significantly more costly than other hybrid and non-separation alternatives because it has the highest calculated cargo impacts.

In sum, the GLMRIS report's assessment of CAWS traffic was one-sided and constrained. Taking a serious look at what people want from their waterways, and evaluating what the commercial navigation system could look like in light of the pressing need to address ANS, is necessary in order to move forward.

### **Moving Forward Hydrological Separation While Addressing Flooding and Water Quality Concerns**

#### **Water Quality**

Recommended water quality mitigation by the Corps in GLMRIS is too broad in scope because it (a) assumes projects that will not in fact be needed to maintain compliance with water quality standards, (b) does not fully account for efforts already underway to address certain water quality issues independent of the ANS issue, and/or (c) attributes impacts and the need to mitigate them to ANS control, even though such impacts and mitigation needs exist independently of ANS control. For water quality mitigation, several features were considered – flow augmentation to address low flow issues, upgrades to water treatment plants, relocation of waste water treatment plant outfalls via tunnels, and reservoirs to hold excess water until it can be treated. Under current standards, however, it isn't necessary to transport all of the treated water to the river side of the barriers: a certain amount of treated water can still use the existing outfalls and be released to Lake Michigan while maintaining the current standards. Additional studies would be required for better defining any necessary capital improvements to existing water treatment plants. Further studies should also be considered to optimize the transport and storage requirements.

The report highlights potential increases in loads of nitrogen, phosphorus and chlorides to Lake Michigan under separation scenarios. With regards to nitrogen and phosphorus, the report fails to recognize efforts already underway that will require further reductions in nutrient inputs, be they to the Mississippi River basin or Lake Michigan. First, Illinois, like all other states in the Mississippi River Basin

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watershed, is developing a plan to reduce its nitrogen and phosphorus output to the Gulf of Mexico by 45%. Second, the Metropolitan Water Reclamation District of Greater Chicago (MWRD) will need to reduce its phosphorus output from its plants in CAWS well below 1 mg/L if existing problems with dissolved oxygen and high algae levels in the CAWS and Lower Des Plaines River are to be resolved.

The report also fails to consider ways to decrease chloride loading. In other parts of northeastern Illinois, communities are actively engaged in efforts to reduce their use of road salt in order to meet the chloride water quality standard in local streams. Methods include the use of anti-icing materials, better-calibrated spreaders and the education of municipal and township crews as well as private entities.

In addition, the report addresses contaminated sediments in the Calumet and Chicago River systems for some alternatives, and proposes mitigation by dredging the upper two feet of surficial material outside of the federal navigation channel, dredging federal channels to four feet below channel depth, and then placing a two-foot sand and geotextile cap. This work is included as a project feature due to the likelihood that these materials would have a greater potential to impact Lake Michigan with a project in place. However, this proposal is not based on a comprehensive sediment investigation, which would be required moving forward, nor is any transport modeling provided to demonstrate the assumed impact of the project on the sediments. It is also stated that Bubbly Creek is not included, as this remediation is being pursued under a different authority. This should not be included in the overall cost estimate since the GLMRIS report does not establish that the proposed control measures are causing or disturbing the great extent of the contamination. If construction of a project feature were to disturb contaminated sediments, that would have to be addressed, but we do not see how constructing the project makes the cleanup/mitigation costs in their entirety part of the project.

Finally, there has been no assessment of non-point sources of pollution, which may result in unmitigated impacts, all the while without recognizing that water quality needs to improve regardless of prevention of ANS.

### **Flooding**

Likewise, flooding is an existing problem in the CAWS, with needed remediation required regardless of ANS prevention. For flood risk management, mitigation proposed in the GLMRIS report consists of tunnels and reservoirs sized to handle the excess flow generated by the 500-year storm. This decision is questionable – the logic used is that since these tunnels can be completed before 2029, they should be sized for the 2017 condition. However, the activities that would lead to the tunnels being required would not be in place until after 2029. So depending on the changes, the mitigation would either be undersized or oversized. This decision should be revisited.

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Another significant question that arises in reviewing the flood mitigation proposal is why Option 6 - the Mid System Hydrologic Separation Alternative - actually reduces Expected Annual Damages by \$1.1M, but the option still includes \$24 Million in flood risk management mitigation? Is this due to distribution of damages (they are reduced in some locations, increased in others), or is it a result of the decision to size the tunnels for this alternative using baseline 2017 assumptions instead of future conditions?

In addition, the level of detail in defining baseline and future without project conditions varies significantly based on location. The Corps developed information for the CAWS in great detail, but it did not develop information for the Great Lakes and Mississippi River watersheds to the same level. As stated in Table 1.6, “USACE was not able to obtain sufficient information to quantify (Future-without project Condition) impacts” on commercial fisheries, recreational fishing, charter fishing, subsistence fishing, or pro-fishing tournaments, so future without project conditions were not developed for these categories.” As a result, the evaluation of resources is more likely to be based on qualitative methods and tools in determining basin-wide impacts, while quantitative analyses can be completed in evaluating impacts to CAWS resources. Another significant difference is that future with project conditions are more likely to emphasize negative benefits to the CAWS based on negative impacts resulting from the implementation of a project, while the impacts to the larger basins, which would primarily be positive impacts/benefits from a project, are not as prominently assessed. This is a flawed analysis which needs to be recognized moving forward.

### **Moving Forward Hydrological Separation with Interim Measures**

We generally support continuing efforts that are already underway that provide a degree of risk reduction, for example, research and development on ANS monitoring and control methods, commercial fishing, electrofishing and response actions, and maintenance of the electric barrier. We note, however, serious concerns with the efficacy of the electric barrier, based on the Corps’ own findings that fish can bypass the barrier aided by the wake of boats.

While the GLMRIS report scopes out several long-term options for ANS prevention, as well as more near-term alternatives with both non-structural and structural components, it does not provide a clear and comprehensive explanation of what structural risk reduction measures can be achieved in the next few years. The region would benefit greatly from such additional analysis, so that it can act quickly to put in place the best near-term risk reduction measures while working towards the long-term solution.

This analysis should:

- (a) Identify smaller scale structural measures that can be implemented in under 5 years at one or several locations for additional ANS risk reduction;

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- (b) Evaluate the risk reduction potential of each such measure relative to the others, including whether a particular location or locations will provide a greater level of risk reduction;
- (c) Explain which entities would be responsible for implementing such structural measures, and whether they currently have sufficient authority to do so or whether additional authorization would be necessary;
- (d) Scope out the relative costs of each measure, as well as identify existing or potential funding streams for such measures; and
- (e) Evaluate whether each smaller scale structural measure is consistent with and a step towards the long-term prevention solution.

In addition, we have concerns that other new non-structural measures may pose unwarranted and potentially illegal negative impacts to water quality, natural habitats and untargeted species, so urge significant caution regarding the following: 1) use of pesticides, herbicides, and piscicides; 2) use of certain toxic antifouling materials; and 3) habitat alteration to the extent that it involves application of chemical compounds to impair water quality.

As recognized in the GLMRIS report, these measures on their own and as components of larger, longer-term strategies fail to provide protection against a number of ANS of concern. Thus, a long-term, full solution is ultimately needed. Also, significant additional research needs to be done on each of the above components and on the system as a whole to determine their effectiveness at reducing the risk of transferring even a portion of the ANS of concern.

### **Moving Forward Hydrological Separation with Partnerships**

The GLMRIS report has highlighted the need for a regional and local discussion regarding the additional benefits of physical separation beyond the prevention of aquatic invasive species. As discussed above, the report makes numerous assumptions of water quality and flooding mitigation costs as a result of separation without considering potential benefits. We believe there is a critical need for the U.S. Army Corps of Engineers to engage in discussions with regional and local stakeholders to assess the benefits of long-term proposals of separation. The momentum of several Great Lakes states towards physical separation is present and growing, but the regional leaders must come together to reach consensus on a solution that provides the most protection against ANS, while seeking comprehensive benefits for the region.

While this is a national concern and requires funding and participation from states throughout the Great Lakes and Mississippi River Basin, much expertise can be gained from experts within the CAWS. The

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Great Lakes Commission and Great Lakes St. Lawrence Cities Initiative Chicago Area Waterway System Advisory Group (CAWS Advisory Group) represents a broad group of bi-national, municipal and interstate organizations that unites stakeholders throughout the Great Lakes in protection of these resources for our economy, environment, and public health. The CAWS Advisory Group provides a venue in which a working coalition is already present. The Group recently passed a resolution calling for immediate interim action on risk reduction measures and reinforced the need for long-term planning. Stakeholders within the CAWS Advisory Group contain economic, environmental, and governmental interests and present a community in which these discussions can be housed. These actors can work to develop consensus on immediate, interim, and potentially long term solutions that better serve the region than those put forth in the GLMRIS report.

As the entity most directly connected with this system, the involvement of the Metropolitan Water Reclamation District of Greater Chicago (MWRD) strengthens the CAWS Advisory Group. The District has the most exhaustive engineering information regarding the CAWS and experience in large-scale water infrastructure within the system. The Board of Commissioners has passed a motion requesting that Executive Director St. Pierre become engaged in the discussion of the alternatives within GLMRIS and studying potential solutions. With available funding and partnering with the U.S. Army Corps of Engineers, the District could act as a vehicle to study the efficacy of supported proposals.

The continued involvement of Great Lakes and Mississippi River Basin states, the city of Chicago, state agencies, impacted industries, and environmental groups is critical to any potential action by the U.S. Army Corps of Engineers.

### **ANS are a National Problem Requiring Broad Collaborations**

Finally, we are encouraged by the collaboration and establishment of the Asian Carp Regional Coordinating Committee that is working to prevent Asian carp from invading the Great Lakes, as well as the Ohio River Asian Carp Task Force. However, no federal agency is coordinating a national strategy to protect the Upper Mississippi and Ohio River basins and tributaries from Asian Carp. The states have initiated an Ohio River Asian Carp Action Plan and an Asian Carp Action Plan in Minnesota, but without a federal agency coordinating this effort it will likely be implemented piecemeal and could be undermined in certain places due to a lack of resources. Recognizing the need for a federal coordinating agency, Senator Sherrod Brown (D-OH) and Representative Betty McCollum worked together to insert language from the Strategic Response to Asian Carp Act into the Water Resources Development Act that is currently in conference committee. The passage of this language would task the U.S. Fish and Wildlife Service, along with the National Park Service and the U.S. Geological Survey, with coordinating the efforts to slow down and thwart the further establishment of Asian carp in the Mississippi and Ohio River basins. The Great Lakes have benefited from a coordinated approach to slowing and working

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towards preventing an invasion of Asian carp. The Mississippi and Ohio Rivers could also benefit from similar efforts, which will be beneficial for the Great Lakes as well.

As an artificial connection between the Great Lakes and Mississippi River, the CAWS has served as a superhighway for transferring ANS. Zebra mussels exemplify the damage that ANS can do if allowed to spread. After moving into the Mississippi River through the CAWS, zebra mussels spread throughout the U.S., being found as far as inland lakes in Nevada. Zebra mussels have caused expensive problems, clogging water pipes at drinking water facilities and power plants, attaching to boat hulls, and covering beaches. Studies show that zebra mussels have cost industry and communities billions of dollars. In fact, invasive species costs the nation \$120 billion annually.

GLMRIS identified 13 species of particular risk for transferring between the Great Lakes and Mississippi River basin. 10 of those 13 species are poised to move from the Great Lakes into the Mississippi River basin, which can then spread into the Ohio River sub-basin. The Ohio River basin has much to lose, much like the Great Lakes from Asian carp and the Mississippi River, if these species enter into its watershed, as it supports nearly half of the freshwater fishes and over a third of the mussel species in the United States, including 46 mussel species that are classified as endangered or species of concern. In addition, a number of the basin's resident fish are important sport species, including walleye, sauger, smallmouth bass, largemouth bass, striped bass and its hybrid, channel catfish, flathead catfish, and blue catfish. Sport fishing is a major recreational activity in the Ohio River and its tributaries. A 1991-92 creel survey documented over 2.5 million angling hours of effort, with a corresponding economic value of \$34 million, and 2.8 million fish caught in just the West Virginia, Ohio, Kentucky, and Indiana portions of the mainstem Ohio River

Additional charismatic and non-game fish species including paddlefish, smallmouth buffalo, largemouth buffalo, freshwater drum, and common carp serve the commercial fishing industry of the Ohio River. According to the USACE (2012), the average harvest value from the most recent five years (2001 through 2005) for the Ohio River basin was determined to be approximately 1.4 million pounds with an associated ex-vessel value of about \$2.0 million in 2010 dollars.

The electric barrier will not stop the ANS poised to move from the Great Lakes into the inland river systems since it was designed to stop the flow of these species only into the Great Lakes. GLMRIS found that hydrologic separation is the most effective means of preventing the two-way transfer of aquatic nuisance species through the CAWS. Hydrologic separation was identified as the *only* means to stop several of the species from moving from the Great Lakes into the Mississippi River basin.

Several states like Illinois, Indiana and Ohio are already infested with ANS like Asian carp and will need additional support to control the spread while states like Minnesota and Wisconsin work to prevent carp from gaining a foothold in both states. Late last year, four grass carp were located in the Sandusky River.

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These carp were a result of natural reproduction. This finding confirmed the United States Geological Survey's findings that silver and bighead could and would thrive in the Maumee, Sandusky, and Grand Rivers.

In accordance with GLMRIS Alternatives 1 and 2, increased harvesting of Asian carp could help prevent the upward movement of carp, decrease the pressure on the electric barrier and help buy time until a complete, 2-way ANS solution is achieved.

Additionally, improved water infrastructure in the CAWS, a necessary component of any solution addressing ANS transfer, would result in less pollution being sent into the Mississippi River basin. Nutrient pollution is a significant factor in toxic algal blooms throughout the Mississippi River basin, and is the cause of large dead zones in the Gulf of Mexico. Technology is available to dramatically improve water quality from Chicago's water treatment plants. It is not fair to continue to pollute rivers in order to protect Lake Michigan. We need to commit to improving water quality for everyone.

Promoting healthy river systems in the Mississippi and Ohio River basins will, in turn, help to protect other systems, including the Great Lakes. Loss of native habitat in the Mississippi River basin opened a niche for Asian carp to exploit, and gave them a path to the Great Lakes. Improving water quality and native habitat in all bodies of water can foster species diversity that would help prevent the next wave of ANS.

Preventing further transfer between the basins is a shared responsibility that should include federal state, local and private sector investment and leadership. Separation, as well as interim risk-reduction measures, must be a product of collaboration between local leaders and partners across the region. In Ohio, the Ohio Department of Natural Resources (ODNR) is working to permanently separate three of the four connections - Grand Lake St Marys, Long Lake, and Little Killbuck Creek. ODNR will be assessing the fourth connection - Mosquito Creek Lake - this spring to determine what the next steps are to prevent any introductions of ANS into Lake Erie and vice versa - into the Ohio River basin.

ODNR is currently working with the: (1) U.S. Army Corps of Engineers and the City of Akron to permanently separate the Ohio-Erie Canal at Long Lake; (2) Natural Resources Conservation Service and the landowner on permanently separating Little Killbuck Creek; and (3) Ohio State Parks and the U.S. Army Corps of Engineers on closing the pathway at Grand Lake St. Marys connection. These collaborations of federal, state, and local entities are more efficient and develop more effective plans to prevent future invasions of ANS.

### **Regional Support for Hydrological Separation**

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Over the past three years we know of more than 25,000 people who specifically asked their congressional representative to support separating the Great Lakes from the Mississippi River. For example, in Wisconsin then Senator Kohl co-sponsored the then Stop Asian Carp Act in 2011 after many WI groups and thousands of constituents approached him about how important this issue is to them. Similarly, NY Senator Gillibrand heard from more than 1,000 of her constituents that this is an important issue to them and she took a leadership step by co-sponsoring the Stop Invasive Species Act that expedited the delivery of the GLMRIS report. There are many of these examples where members of Congress have been approached by hundreds or even thousands of their constituents asking their elected official to support separating the Great Lakes and Mississippi River basins.

Also notable are the thousands of people who have also been communicating how important this issue is to their local units of government and the 94 communities that have passed resolutions in support of separation as the preferred means to stop the Asian carp. These include large cities such as Toronto ON, Milwaukee WI, Michigan City IN, Erie PA and smaller communities such as the Village of Willowbrook IL, Sylvania OH, Gaylord MI and the Village of Angola NY.

We encourage you to take into consideration the tremendous support from around the Great Lakes region for the strongest protection – separation, while understanding that interim steps for ANS risk reduction need to be implemented immediately. Moreover, given that such interim measures are not the ultimate solution, they should only be studied alongside an alternative that *does* provide long-term protection against the full range of ANS of concern: a mid-system separation scenario. This way, a comparison can be made, and decision-makers can determine whether the protection offered by the interim measures are worth the time and investment.

### **Concluding Remarks**

Investment into the CAWS to stop the spread of ANS should be done strategically to also meet the area's serious infrastructure needs that are currently resulting in polluted waters and an antiquated transportation system. We believe there are opportunities to do so through partnerships with local, state and private entities with stakeholder involvement. While we have noted throughout these comments research needs to move these efforts forward effectively, we want to stress the need to expedite steps where possible that lead to separation and implement interim measures where necessary to reduce the risk of, and ultimately prevent, the spread of ANS.

Again we thank you for your work on GLMRIS and the opportunity to comment on the path forward. We urge you to move forward quickly to stop the spread of aquatic nuisance species. Thank you.

Sincerely,

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