The American Waterways Operators

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Mr. Dennis W. Hamilton
Deputy, Programs and Project Management
U.S. Army Corps of Engineers – Clock Tower Building
P.O. Box 2004
Rock Island, Illinois 61204

RE: Final GLMRIS-BR Comments

Dear Mr. Hamilton:

The American Waterways Operators is the national trade association for the tugboat, towboat and barge industry. AWO member companies own and operate barges and towing vessels on the U.S. inland and intracoastal waterways; the Atlantic, Pacific and Gulf coasts; and the Great Lakes. Our industry's 5,500 towing vessels and 31,000 barges comprise the largest segment of the U.S.-flag domestic fleet. The tugboat, towboat and barge industry provides family-wage jobs and ladders of career opportunity for more than 50,000 Americans, including 38,000 positions as mariners on board our vessels, and supports more than 300,000 jobs in related industries nationwide. Each year, our vessels safely, securely and efficiently move more than 760 million tons of cargo critical to the U.S. economy, including petroleum products, chemicals, coal, grain, steel, aggregates, and containers. Tugboats also provide essential services in our nation's ports and harbors, including shipdocking, tanker escort and bunkering. In Illinois, specialized maritime operators move river barges to and from the Great Lakes to ports, terminals, steel mills, refineries, manufacturing companies, and grain elevators in Indiana and Wisconsin. There are over 20 AWO member companies that utilize and rely upon the Illinois Waterway.

AWO and its members also have a long history of working with federal and state government partners to ensure that aquatic nuisance species (ANS), including Asian carp, are not transferred from one basin to the other. For over a decade, we have participated in several joint efforts to control ANS populations and minimize the risk of their interbasin transfer.

AWO continues to be committed to working with Congress, the Administration and the state of Illinois to implement effective measures to prevent the movement of ANS between the Mississippi River Basin and the Great Lakes. AWO supports the process that the Army Corps of Engineers and the state of Illinois have underway to continue work and discussion on the Brandon Road Recommended Plan in a manner that incorporates ANS control measures while protecting human health and safety, and that allows continued efficient and safe navigation through the lock, without reducing its capacity to move cargo.

The former Chicago Area Waterway System Advisory Committee (CAWS AC), now known as the CAWS Aquatic Invasive Species Stakeholder Group, a group of over 40 public and private stakeholders representing commercial, recreational and environmental interests, agreed that solutions to stop the spread of ANS should also "maintain or enhance maritime commerce*"* through and on the CAWS. The Corps recognized the work of the CAWS AC as an established stakeholder group in the Recommended Plan.[1] However, the Recommended Plan does not maintain or enhance maritime commerce as recommended by the CAWS AC.

The CAWS, located above the Brandon Road Lock, is the sole marine transportation link for vital commodities, such as road salt for the city of Chicago in the winter, and other products that move between the Great Lakes and the Mississippi River basins. The Corps' Brandon Road Recommended Plan would disrupt this critical transportation link and negatively impact the livelihoods of thousands of people and the nation's economy, from Illinois to Louisiana and beyond.

AWO has serious concerns with the Recommended Plan including but not limited to life-safety concerns; the Corps' failure to conduct a comprehensive economic analysis or a comprehensive baseline risk analysis; societal and environmental impacts; and the decreased reliability of the system. We are committed to work with and advise the Corps and the state of Illinois as the Preconstruction, Engineering and Design (PED) process proceeds. *AWO strongly encourages the Corps to develop routinized outreach and collaboration with the industry to ensure that the Corps has the correct information when it comes to safety and efficiency concerns during the PED.*

Safety Concerns

For more than 25 years, the tugboat, towboat and barge industry has been on a journey of continuous improvement to achieve the goal of zero harm to human life and the environment. AWO members consider safety their number one job – an ethical responsibility to their employees and the nation. As currently envisioned, the Recommended Plan moves the safety and environmental needle in the wrong direction. The Recommended Plan appears to pose serious safety risks to mariners operating through Brandon Road.

AWO is deeply disappointed that the Corps could decide to operate the electric barriers continuously despite the many dangers associated with electrified waters. The Corps states that the Recommended Plan poses a moderate to high potential for injury or mortality, especially if the electric barrier is operated continuously.[2] Mariners would face an increased risk of electrocution if the electric barrier remains turned on while inside or transiting near the engineered channel. The Coast Guard would likely restrict vessel traffic further with the promulgation of a regulated navigation area (RNA) similar to the RNA surrounding the electric barriers on the Chicago Sanitary and Ship Canal (CSSC), causing more delays and more congestion than the Recommended Plan anticipates.

Although the Corps states in its response to comments that its Recommended Plan "does not include a continuously operated electric barrier," it explicitly states in the Recommended Plan

[1] Brandon Road Recommended Plan. Page 472.
[2] Ibid. Page 372.

it "would work to maximize effectiveness of the Recommended Plan, which may include increasing the operating duration or continuously operating the electric barrier dispersal barrier, while minimizing life safety-impacts."[3] The Corps would also need to place new mooring cells to facilitate the reconfiguration of tows if the electric barrier operates continuously. Mooring cells were originally included in the TSP but removed from the Recommended Plan because the Corps is "uncertain whether the electric barrier can operate continuously during vessel traffic and therefore, the mooring cells are not necessary." [4] The Corps' conflicting information about the operating duration of the electric barrier is, at best, confusing. *AWO urges the Corps to correct the record and state that it will not, under any circumstance, operate the electric barrier while vessels are near or transiting the engineered channel or lock to ensure the safety of mariners.*

AWO would once again like to remind the Corps that the current electric barrier dispersal system near Romeoville, Illinois is the only location on navigable waterways where the Coast Guard will not rescue individuals who fall overboard due to the unsafe conditions for its highly-trained personnel. In addition to this, the Corps' own safety pamphlet *Welcome to the Fish Barrier And Your Indoctrination To Safety* states, "First emphasis is on electrified water. Anyone who falls into the canal (CSSC) risks serious injury or death. In this scenario, do not go into the water for rescue."[5]

Studies conducted by the U.S. Navy confirmed a 50% fatality rate if an individual falls into the electrified water. Other than redundancy, what is the Corps' purpose of adding an additional electric barrier? There are already three electric barriers and one under construction on the CSSC. No Asian or common carp have been observed to survive transiting these electric barriers. Adding an additional electric barrier will not decrease the risk of Asian carp movement but only increase serious safety risks to mariners, especially if it is operated continuously.

As noted in our comments on the TSP, several AWO members have experienced the dangers associated with the current electric barrier system. An AWO member company reported arcing of steel barge cables within 700 to 800 feet of the system. Another AWO company reported an incident when deck crew felt an electric "tingling" upstream of the current RNA prior to transiting the electric barrier. Although neither of these incidents required medical attention, they both pose dangerous conditions that would also be faced near the Brandon Road Lock.

AWO's safety and congestion concerns are validated by the U.S. Coast Guard's preliminary risk assessment of the structural control measures in the Recommended Plan. The Coast Guard confirmed that mariners would be subject to electric shock, congestion-related accidents and induced-vessel motions if the control measures contained in the Recommended Plan were implemented.

While the Coast Guard's preliminary risk assessment raised serious safety concerns regarding these structural control measures, a more comprehensive analysis of the safety impacts of

[3] Brandon Road Recommended Plan. Page 430.
[4] Ibid. III.
[5] USACE Fish Barrier Indoctrination. Pamphlet. Page 4.

these measures needs to be undertaken. The Coast Guard's own risk assessment confirms this with the following observation:

> *"With the inherent uncertainties related to the effects of the proposed invasive species control measures, implementation of actual marine-safety risk-mitigation strategies must wait until structures and apparatus are in place and tested. No model exists today (December 2016) that combines the different invasive species control measures into a detailed operational scenario. Many of the control measures are in the early, concept-development phase."*[6]

> The risk assessment expounds on this point by saying *"Operational commanders should undertake further risk assessment work for the individual control-measures as implemented, and follow up with a formal risk assessment of the combined systems once the USACE completes all construction and testing."*[7]

AWO and its members are very concerned that the Corps released the Recommended Plan without having a fundamental understanding of the safety risks and impacts of the structural control measures. The Coast Guard's preliminary risk assessment confirms this with the following observation:

> *"As stated in the introduction, this is a preliminary risk assessment. The author is solely responsible for assignment of the subjective, non-quantitative valuations. In a full, quantitative risk assessment, all assumptions and valuations would be presented to subject matter expert panels to determine actual validity and assignment of likelihood (or probability) and severity (level of hazard and consequence values i.e. loss or damage). For this preliminary risk assessment, even if assumptions here are incorrect or inaccurate, later quantitative assessment provides the opportunity for clarification and revision."*[8]

The Corps states in the Recommended Plan that a future "evaluation would be conducted to address site-specific operating considerations that cannot be addressed until after construction." Why would the Corps wait to address the many safety concerns of each structural measure until after construction?

Building something before you know if you can use it, is not an efficient use of taxpayer dollars. *AWO urges the Corps to forego construction until a full, quantitative safety risk assessment of all the structural control measures contained in the Recommended Plan is completed for public review and comment. AWO also urges the Corps to work closely with the industry as safety risks are addressed during the PED.*

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[6] Ibid. Page 1.
[7] Preliminary Marine Safety Risk Assessment, Brandon Road Lock & Dam Invasive Species Control Measures. Table 1. United States Coast Guard. December 2016.
[8] Ibid. Page 14.

Risk Analysis of Asian Carp Entering and Thriving in the Great Lakes

The Corps failed to conduct a comprehensive baseline risk analysis to inform Congress, the nonfederal sponsor and the public of the likelihood of Asian carp entering and thriving in the Great Lakes. The Corps relied on just six experts to determine the likelihood of Asian carp establishment in the Great Lakes by year 2071. Three of the six experts confirmed that establishment under the Nonstructural Alternative is "highly unlikely"[9] and concluded that there is less than a 5% chance of establishment by the year 2071 for the No New Federal Action Alternative.[10] The Corps also states "Because Asian carp have not established in the Great Lakes, scientific understanding of these linkages is limited and characterized by high uncertainty."[11]At this point, it would be impossible for Congress or the state of Illinois to measure what risk they are buying down.

Throughout the Recommended Plan, the Corps admits uncertainty associated with the plan's ability to effectively mitigate the spread of ANS. In fact, the Corps uses the word "uncertainty" 88 times in the Main Report of the Recommended Plan. The Corps also states the following:

> *There is uncertainty associated with the Recommended Plan's ability to control ANS transfer through the CAWS. The Recommended Plan includes known technologies and engineering concepts; however, the combination and application of the technologies at a single control point would be implemented for the first time under the Recommended Plan. In addition, some concepts have not been applied to control the transfer of ANS, such as the air bubble curtain to address barge entrained fish, and the flushing lock. During PED, the orientation and placement of the ANS controls would be evaluated to maximize the plan's effectiveness and take into consideration such things as water velocities along the downstream extent of the channel, and Asian carp response to various ANS control layouts.*[12]

With this statement, the Corps admits that the efficacy of the structural control measures would be tested for the first time during PED. How does the Corps obtain its goal of "minimizing impacts to navigation while maximizing the effectiveness of preventing ANS from traveling upstream"[13] with this level of uncertainty? Shouldn't the Recommended Plan have a high degree of certainty in the prevention of ANS movement? The Corps' lack of confidence is troubling. *To inform the development of good public policy, AWO respectfully requests that the Corps undertake a true baseline risk analysis during PED to inform state and national decision makers.*

Another question that is yet unanswered but is critical to inform the decision-making process is why Asian carp have not developed a breeding population in Lake Erie. At least three bighead carp have been fished out of Lake Erie since 1995 and Grass Carp have been discovered in a tributary of Lake Erie. If the fish have been or are still in the lake, why haven't populations skyrocketed? Lake Erie provides significant food sources and excellent habitat for

[9] Ibid. Page 257.
[10] Ibid. C15.
[11] Ibid. Page 203
[12] Ibid. Page 438.
[13] Ibid. ES-XIX.

Asian carp. On the other hand, according to John Janssen, a fisheries biologist at the University of Wisconsin-Milwaukee, Asian carp will have difficulty reproducing and surviving in the Lake Michigan due to the lack of phytoplankton – the main food source for Asian carp.[14]

Economic Studies are Insufficient

The Corps also did not conduct a comprehensive regional economic development (RED) analysis nor a national economic development (NED) analysis in order to fully evaluate the Recommended Plan's impact on local, regional and national economies. The Corps admits its shortcomings regarding its RED analysis and states "it does not take into account transitionary impacts that are expected to occur during the construction phase of the project" and does not "account for the economic activity associated with efforts to construct structural ANS control features at BRLD [Brandon Road Lock & Dam]"[15] and its RED analysis "is not a comprehensive regional economic impact evaluation."[16] The Corps does state that the Recommended Plan is expected to result in navigation NED costs rather than NED benefits, but admits that additional economic analysis is needed to better inform its estimates.[17] *AWO calls on the Corps to conduct comprehensive RED and NED studies during the PED process to thoroughly evaluate the Recommended Plan's impact on the regional and national economies providing Congress, the nonfederal sponsor and the public needed information to allow for a thoughtful and thorough decision-making process.*

Environmental and Societal Impacts

AWO is committed to protecting the ecosystems of the Great Lakes and Mississippi River basins from ANS while preserving and enhancing commercial navigation between the two basins. The economic wellbeing of the nation must be considered in unison with ANS control measures.

The barge industry is the safest mode of freight transportation with the lowest carbon footprint. A single dry cargo barge can haul 1,750 tons of dry cargo, the equivalent of 16 bulk rail cars or 70 tractor trailers. Between 2001-2014, the barge industry emitted 16.4 grams of CO2 per ton-mile, compared to 21.1 grams for rail and 171.8 grams for trucks.[18] The industry also poses the lowest risk to the safety of the public. In 2014, there were over 4,000 fatalities in the trucking industry, over 800 in rail and only 6 total in the towing industry.[19]
Despite the economic and safety benefits of the barge industry, the Recommended Plan could force shippers to find other modes of transportation to move goods. A modal shift from barge to trucks or rail would significantly increase air pollution, increase fatalities, decrease the quality of life in the region and increase the degradation to the roads, resulting in increased taxpayer funding for highways.

[14] Discover Magazine. Lake Michigan is the Greatest Asian Carp Deterrent. Eric Betz. September 2017.
[15] Brandon Road Recommended Plan. D-79
[16] Brandon Road Response to Comments. P-14.
[17] Ibid. Page 394.
[18] Texas Transportation Institute. A Modal Comparison of Domestic Freight Transportation Effects on the General Public: 2001:2014. January 2017.
[19] Economic Contributions of the US Tugboat, Towboat, and Barge Industry. PricewaterhouseCoopers. December 2016.

The Recommended Plan would decrease the full potential tonnage through Brandon Road by 10 to 12 million tons[20] which could add an additional 545,000 trucks on the roads per year to transport the same amount of cargo. A modal shift of this magnitude would jeopardize the health and safety of the public and degrade the environment.

As previously stated in our TSP comments, the Brandon Road Bridge would lift more frequently to accommodate vessel traffic if tows are required to reconfigure prior to locking. The Corps states the following in its response to our TSP comments:

> *During Preconstruction, Engineering and Design (PED), a physical model of the flushing lock is planned to assess whether vessels can be staged within the lock during flushing to minimize impacts on road and water traffic. The operating assumption for the Recommended Plan's electric barrier is that the electric barrier would be turned off when navigation vessels are downstream of the electric barrier, within the engineered channel and within the lock. By shutting off the electric barrier in the presence of vessels, navigation restrictions such as tow reconfigurations are assumed to be avoided.*[21]

The Corps clearly understands that operating the electric barrier continuously could cause an increase in bridge lifts which will result in additional highway congestion. Therefore, the electric barrier must be operated intermittently and not continuously to minimize bridge lifts. An increase of bridge lifts due to a continuously operated electric barrier would cause additional highway congestion in the area, triggering increased fuel consumption and air emissions and decreasing the quality of life for commuters in the area.

Operational Issues and Economic Impacts to the Nation

Commercial vessel traffic has been increasing steadily on the CAWS over the last few years. The Illinois Department of Transportation estimates that the amount of freight passing through Illinois will increase from 1.26 billion tons to 1.7 billion tons by 2040. The waterways are the only transportation option capable of handling this increasing tonnage. With the previously mentioned decrease in lock capacity at Brandon Road by 10 to 12 million tons per year, the facility would not be able to "accommodate historically observed traffic levels"[22] if the Recommended Plan is implemented.

As previously stated, the Recommended Plan will result in navigation NED costs rather than NED benefits. The annual impacts to navigation as a result of implementing the Recommended Plan would be $31,451,000 if the project includes a continuous operating electric barrier and $26,173,000 if the electric barrier operates intermittently. Additionally, the Corps' estimates an annual cost of $5,100,000 to operate electric barrier intermittently.[23] AWO continues to believe annual costs to the nation will be much higher, especially with a continuously operated electric barrier. *AWO urges the Corps to capture the costs of a continuously operated electric barrier before proceeding.*

[20] Brandon Road Recommended Plan. D-74.
[21] GLMRIS-Brandon Road FS/EIS Public Comment Summary. P-15.
[22] Brandon Road Recommended Plan. D-74.
[23] Ibid. D-119.

The state of Illinois' Department of Commerce and Economic Opportunity stated the following about the impact of increased transportation costs:

> *Increased transportation costs would have a significant regional impact on those industries using the Brandon Road Lock and Dam to deliver and receive goods and commodities. The increased transportation costs would impact the selling price of those goods. If the selling price increases, the impacted industries will face a reduction in competitive advantage relative to other firms not impacted by the increased cost in shipping.*
>
> *Moreover, increased transportation costs will not only affect the price of those commodities, but it may also impact the jobs and wages in those industries. Over 1.7 million jobs comprise the total employment across the 22 counties benefiting from the Illinois River in 2014. Businesses benefitting from the waterway represent approximately 47 percent of all employment in the state. Those businesses pay $102.5 billion in annual wages to their employees.*[24]

These added costs will not accomplish the Corps' goal of preventing the upstream transfer of ANS while "minimizing impacts on navigation."[25] Why would the Corps intentionally add cost to the nation's transportation system and limit the growth in the movement of goods?

Another example that shines light on the fact that estimated costs for the Recommended Plan are underestimated and the actual construction and maintenance costs will be far greater is the Lock Closure Alternative that the Corps states would increase transportation costs by $318,700,000 per year.[26] AWO believes that the Corps underestimated the economic impact of a full lock closure. A recent study conducted by the National Waterways Foundation confirmed that a closure of the LaGrange Lock, located 200 miles southwest of Brandon Road on the Illinois River, would increase transportation costs by nearly $1.7 billion annually.[27]

The Corps has a history of underestimating the construction costs of civil works projects that are new in design or technology. For example, the Corps estimated that the construction cost of the Olmsted Lock and Dam would be $715 million. The actual cost for construction of the Olmsted Lock and Dam was roughly $3 billion when it became operational in late 2018—almost 30 years after construction began.[28]

The engineered channel also poses efficiency issues. The Corps states the following in the Recommended Plan:

> *The engineered channel may also aid navigation by increasing the length of approach guide wall. With a longer approach wall, tows would be able to line up with the lock*

[24] Ibid. Page 414.
[25] Ibid. ES-XIX.
[26] Ibid. Page 414.
[27] The Impacts of Unscheduled Lock Outages. The National Waterways Foundation. October 2017.
[28] WorkBoat. Almost 30 years later, Olmsted Lock and Dam projected to open in 2018. Pamela Glass. June 2017. https://www.workboat.com/news/coastal-inland-waterways/olmsted-lock-dam-projected-open-2018/

> *entrance earlier than the previous guide wall, thereby decreasing the time it takes to enter the chamber safely*[29]

However, AWO members operating through Brandon Road have expressed concern that increasing the length of the approach wall will not necessarily aid navigation. If the electric barrier is operating and the Coast Guard issues a similar RNA, vessels would not be allowed to touch either guide wall. Increasing the length of the approach guide wall would only increase the locking time if vessels were allowed to line up. The engineered channel would likely increase congestion and decrease efficiency.

AWO and its members are extremely disappointed that the flushing lock control measure as currently envisioned is included as part of the Recommended Plan. According to the Recommended Plan, the navigation impacts caused by the flushing lock control measure and its effectiveness are still unknown:

> *The effectiveness of the flushing lock at removing MRB* [Mississippi River Basin] *floaters from the lock prior to locking is uncertain, and associated navigation impacts are unknown. During PED, a physical model would be constructed to assess the design requirements and flushing duration necessary to achieve a certain percentage of water exchange. An economic analysis would be conducted to assess the impact the flushing lock would have on navigation. Due to the need to preserve the regulated navigation channel in the upper pool, it is uncertain how often water availability would reduce or eliminate lock flushing during lockages.*[30]

This technology has never been tested to ensure it will successfully mitigate the spread of ANS and yet it will close Brandon Road Lock for 40 days to facilitate its construction. A full lock closure of 40 days would severely impact the movement of waterborne commerce throughout the nation. The other navigation delays noted in the Recommended Plan, such as the 12-hour delay during daylight hours for the construction of the engineered channel's guide wall, will further increase costs to the nation and harm the reliability of the system.[31] The scheduled and unscheduled closures to build and maintain the technologies could render the waterway unreliable and force commerce off the river.

The Corps also admits that the average locking time for tows transiting Brandon Road will increase by 2.44 hours once the Recommended Plan is fully operational due to the flushing lock control measure.[32] AWO members estimate that the total cost of operating a towboat without barges is roughly $10,000 per day. This is a very conservative estimate and does not include the value of commodities being transported, opportunity costs or the cost of the barges. Increasing the lockage time would add additional operational costs and negatively impact the nation's economy. *AWO strongly urges the Corps to do further engineering work to eliminate the increased lockage time and decreased lock capacity or eliminate the flushing lock from the Recommended Plan.*

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[29] Recommended Plan. Page 419.
[30] Ibid. Page 439.
[31] Ibid. Page 297.
[32] Ibid. Page 299.

The Corps explains in the Recommended Plan that it plans to mitigate future navigation impacts by maximizing construction activities during the 90- to 120-day lock maintenance closure in 2020 at the LaGrange, Peoria, Starved Rock, and Marseilles Locks, and the 90-day lock maintenance closure in 2023 at the Brandon Road and Dresden Island Locks.[33] *AWO urges the Corps to perform construction activities during the scheduled lock closures.* If the Corps does not adhere to conducting construction activities to coincide with scheduled lock maintenance closures, navigation will be further impacted, and the already astronomical cost of the Recommended Plan will continue to rise. Industry has already experienced unscheduled closures on the CAWS due to unscheduled maintenance and testing of the CSSC electric barriers for several years. Future testing and maintenance of the Recommended Plan's structural control measures would further complicate vessel operations and add to the unreliability of the system.

AWO Supports Nonstructural Control Measures

Research conducted by the U.S. Fish and Wildlife Service (USFWS) strongly suggests that overfishing further downstream in the Illinois and Mississippi rivers greatly reduces, perhaps eliminates, the likelihood of the advancement of Asian carp toward the Great Lakes. [34] Efforts by the Illinois Department of Natural Resources, such as overfishing, have removed over six million pounds of Asian carp from the upper Illinois River in 2016 alone,[35] significantly reducing the leading edge of the Asian carp population in the Dresden Island Pool by 93% since 2012.[36] Nonstructural efforts, funded by the Great Lakes Restoration Initiative, have ensured that the leading Asian carp population front has not move since 1991.[37] The risk-based science by the USFWS points to the necessity of funding overfishing further downstream to buy down the risk in a cost-effective method.

AWO also supports the state of Illinois' new grant program to incentivize commercial fishing. Creating incentives to harvest Asian carp will help remove invasive species from the waterways while promoting an economic benefit to commercial fishermen, processors and the nation. AWO believes the that the continued and increased application of nonstructural control efforts, such as targeted piscicides, provide the best economic value and environmental protection for the nation without disrupting the efficient movement of waterborne commerce.

The Recommended Plan highlights the effectiveness of the nonstructural actions, including commercial fishing:

> *Through Illinois DNR and USFWS harvest efforts, over 3,193 tons of Asian carp have been removed from the IWW* [Illinois Waterway] *below the CSSC-EB* [Chicago Sanitary & Ship Canal – Electric Barrier] *since 2010.*

[33] Ibid. ES-II.
[34] Illinois River Asian carp population model: data-driven decisions to enhance control efforts. Presentation by David Glover and Jahn Kallis, USFWS
[35] Illinois Maritime Transportation Report. Page 20
[36] Brandon Road Recommended Plan. Page 33.
[37] Scientific American. Navigating a Sea of Superlatives in Pursuit of the Asian Carp. Tyler Kelley. August 2018. https://www.scientificamerican.com/article/navigating-a-sea-of-superlatives-in-pursuit-of-the-asian-carp/

> *The estimated mean density of Asian carp in Dresden Island Pool has declined by 93% between 2012 and 2017. Ongoing MRWG* [Monitoring Response Working Group] *removal efforts through contracted commercial fishing in the upper IWW likely play an important role in this observed decline.*[38]

AWO correctly highlighted in comments on the Corps' Tentatively Selected Plan (TSP) that the estimated costs of the plan were underestimated. Also, the cost of the Recommended Plan could continue to rise after implementation due to unscheduled maintenance of the new structural control measures. Industry has previously been impacted by unscheduled closures on the CSSC due to maintenance of the current electric dispersal barrier system. Electrodes that were designed to last 25 years, needed to be replaced after 8.5 years at a cost of over $3 million per barrier. Industry's efficiency and reliability have been impacted as each barrier has been updated. *AWO encourages the Corps to further analyze the potential for additional unscheduled closures and operating costs of the Recommended Plan during the PED.*

Conclusion

During the PED process, will the Corps continue to move forward with implementation of the Recommended Plan if:

- There is no risk, or minimal risk, of Asian carp entering and thriving in Lake Michigan?
- The Corps determines that the impact to navigation is significantly limiting to the waterways' capacity?
- The Corps determines that the impact to the regional and national economy is significantly higher than expected?
- Life-safety issues cannot be properly mitigated?
- The structural control measures do not work or function as designed?

As proposed, the Recommended Plan would pose several life-safety issues while disrupting the flow of commerce on the Illinois waterways and poses serious economic repercussions, as many businesses in Illinois, Indiana, Louisiana, Texas, and throughout the country rely upon on-time delivery of commodities via the waterways. *AWO urges the Corps to further refine the costs, benefits and baseline risk profile for the Recommended Plan.*

Further information is needed to ensure Congress and the state of Illinois are able to make responsible public policy decisions. Current nonstructural control measures are cost-effective and have successfully decreased the Asian carp population without negative economic impacts on the nation. Increased nonstructural control measures and other technologies that allow efficient and safe movement of commerce should be robustly explored throughout the PED.

Thank you for the opportunity to provide comments on the Brandon Road Recommended Plan. AWO stands ready to work with the Corps to find a solution that maintains or enhances

[38] Brandon Road Recommended Plan. Page 33.

safe, reliable navigation and facilitates economic growth while protecting the two basins from ANS. We would be happy to answer any questions or provide further information as needed.

Sincerely,

Lynn M. Muench
Senior Vice President – Regional Advocacy