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Justin L. Lampert
Senior Manager – Midcontinent Office

October 24, 2022

Mr. Craig D. Carrington
Chief, Project Planning Branch
Nashville District
U.S. Army Corps of Engineers
110 9th Ave. South, Room A-405
Nashville, TN 37203

RE: CELRN-PMP - Invasive Carp

Dear Mr. Carrington,

On behalf of the American Waterways Operators (AWO), thank you for the opportunity to comment on the U.S. Army Corps of Engineers' (Corps) scoping to evaluate measures and alternatives to manage and prevent the spread of invasive carp in the Tennessee River, Cumberland River, and northern section of the Tennessee-Tombigbee Waterway (TTWW).

AWO is the U.S. tugboat, towboat, and barge industry's advocate, resource, and united voice for safe, sustainable, and efficient transportation on America's waterways, oceans, and coasts. Our industry's 5,000 towing vessels and 33,000 barges comprise the largest segment of the U.S.-flag domestic fleet, providing family-wage jobs and long-term career opportunities for Americans and supporting some 270,000 jobs nationwide.

The Tennessee River basin has been one of the key drivers of development in the Tennessee Valley. Barges carry 50 million tons of goods across almost 700 miles of navigable waterway in the basin each year¹ and the locks and dams that connect it to the Ohio and Cumberland rivers make this one of the most important transportation corridors in the United States². The Tennessee River basin is also one of the most biologically diverse river systems in North America, including over 200 native fish species. AWO appreciates the Corps' efforts to protect these important ecosystems. We support and embrace actions that will reduce the risk of invasive carp movement without obstructing safe or efficient navigation.

AWO, along with our partners at UnLock Our Jobs (UOJ), a coalition of shippers, carriers, passenger vessels, shipyards, contractors, trade associations, and others, has worked extensively with the Rock Island District on the Brandon Road Interbasin Project, which also

¹ ["Navigation on the Tennessee River"](#); Tennessee Valley Authority

² ["America's Watershed Initiative Report Card for the Mississippi River"](#), America's Watershed Initiative (December 2015)

aims to prevent upstream movement of invasive carp. Through this process, we have identified proven prevention measures that support commercial navigation and do not endanger the safe movement of the building blocks of the U.S. economy.

Technologies That Would Not Impact Navigation Safety and Efficiency

- **Acoustic Deterrents:** New technologies that utilize acoustic deterrents, such as the bio-acoustic fish fence (BAFF) at Barkley Lock and the underwater Acoustic Deterrent System (uADS) at Lock 19 in Keokuk, Iowa, appear to be successfully preventing the movement of invasive carp without jeopardizing native species, mariner safety or the efficient movement of waterborne commerce. Acoustic deterrents also have a smaller carbon footprint compared to other control technologies, such as electric barriers, and a lower operating cost. AWO strongly supports acoustic fish deterrents.
- **Carbon Dioxide (CO₂) Infusions:** Chemosensory stimuli, such as CO₂ infusions, offer a second non-lethal choice to deter invasive carp. Although this technology is not species-specific, it has been approved by the U.S. Environmental Protection Agency as a Section 3 registered piscicide. Additionally, while CO₂ infusions use the lock structure as part of the application process, there is no evidence that they interfere with lock operations or vessel movement³. The Corps' Engineer Research and Development Center did express some concern in a preliminary study⁴ that high concentration of CO₂ could end up in the air and become a health hazard. However, if facilities commit to frequently testing the concentration of CO₂ in the air to ensure mariner safety, and this technology continues to prove to effectively prevent the movement of invasive carp without harming the environment, AWO would support this deterrent measure.

Technologies That Would Negatively Impact Navigation Safety and Efficiency

- **Electric Barrier:** AWO continues to have serious concerns about the safety and efficacy of electronic dispersal barrier systems. The electric barrier system near Romeoville, Illinois is the only location on a navigable waterway where the U.S. Coast Guard will not rescue an individual who falls overboard due to the electrified water. It also costs an estimated \$200 million to construct and operate a single electric barrier. There are other deterrents available and being tested that are less costly and can effectively mitigate the movement of invasive carp without jeopardizing mariner safety.

³ [Investigating the Mixing Efficiencies of Liquid-to-Liquid Chemical Injection Manifolds for Aquatic Invasive Species Management](#); Journal of Fluids Engineering (2019)

⁴ [Preliminary Feasibility and Risk Analysis of a Carbon Dioxide Barrier at Brandon Road Lock and Dam](#); Engineer Research and Development Center, U.S. Army Corps of Engineers (September 2017)

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Pilot Project Location Recommendations

AWO does not have a recommendation at this time for which of the 15 proposed sites should be prioritized in the pilot program. However, we ask that the Corps, and its partners at TVA, work closely with the towboat and barge industry to identify the locations that would prove to be most effective in deterring the carp while ensuring navigational safety and efficiency.

Conclusion

AWO greatly appreciates the Corps' consideration of our positions on invasive carp control measures for the Tennessee River, Cumberland River, and TTWW. As additional research and testing of invasive carp deterrents is conducted, AWO will continue to provide feedback. We stand ready to work with the Corps and its federal and state partners to ensure the project will effectively stop invasive carp in a safe, efficient, and cost-effective manner.

Sincerely,

A handwritten signature in black ink, appearing to read "Justin Lampert", with a long, sweeping horizontal stroke extending to the right.

Justin Lampert
Senior Manager – Midcontinent Office