

US Army Corps of Engineers® Rock Island District

# BRANDON ROAD

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## **Major Milestone Achieved**

A game-changing project to protect the Great Lakes and its \$20 billion fishing and boating industries is officially underway. On November 27, 2024, the U.S. Army Corps of Engineers (USACE), Rock Island District, awarded a \$15.5 million contract for Increment I-B to provide advance site preparation for the planned construction of an innovative multi-layered aquatic nuisance species deterrent system. Miami Marine Services, in collaboration with Michels Construction, Inc. of Milwaukee, will lead the charge with tree removal, road access, grading and riverbed rock removal in the approach channel downriver of the Brandon Road Lock and Dam, located near Joliet, Illinois. This contract is the first of several that will be awarded in the coming year to establish a permanent barrier designed to prevent aquatic nuisance species (ANS) from infiltrating the Great Lakes, thus preserving their environmental diversity and economic stability.

Increment I-B is needed in advance of deterrent construction to clear the site for construction staging, removing rock from the riverbed, and making improvements to access and haul roads. These critical preparations are key to supporting the installation of control buildings and deterrents like an electric fish barrier, air bubble curtains, and underwater sound devices designed to prevent invasive species from migrating into the Great Lakes.

#### Safeguarding the Great Lakes While Keeping Commerce Afloat

The Great Lakes are receiving a state-of-the-art defense against aquatic nuisance species (ANS), thanks to the U.S. Army Corps of Engineers and its partners, the States of Illinois and Michigan, as construction begins on the Brandon Road Interbasin Project (BRIP). Located at Brandon Road Lock and Dam (L&D) near Joliet, Illinois, this project aims to safeguard the Great Lakes' ecology and economy while minimizing impacts to navigation through the Illinois Waterway. These two watersheds were connected more than a century ago thanks to engineered rivers and channels.

The first increment of construction referred to as the "leading edge deterrents" or "Increment I" will introduce three tiers of innovative deterrents including an Automated Barge Clearing Deterrent (ABCD), a Bubble Curtain Deterrent (BCD), and an Underwater Acoustic Deterrent.

The ABCD is designed to remove small fish, eggs, or other ANS hitchhikers that could be transported in cavities commonly found between assembled commercial barges. The ABCD uses a nozzle system to introduce rotating turbulence through the water column and into these barge cavities, removing entrapped fish from vessels moving upstream. The BCD is comprised of two continuously flowing curtains of microbubbles spanning the entire width and

height of the downstream approach channel to deter fish from swimming through it.

Additionally, the Underwater Acoustic Deterrent will use 36 "speakers" to produce a complex sound field that elicits an avoidance response when they get nearer to the speaker array. The leading-edge deterrents will be housed in trenches constructed across the channel bottom and covered with protective gratings, thus creating the leading-edge defense against the upstream movement of ANS. Future construction phases will complement the leading-edge deterrents to create a linear gauntlet housed in an engineered concrete channel complete with an Electric Deterrent and multi-tiered Underwater Acoustic Deterrent. The lock chamber will also be modified to provide a flushing action designed to clear the lock chamber of any ambiant floating eggs and debris.

The Brandon Road Interbasin Project will effectively close the last viable doorway for a Great Lakes ANS invasion. Each day of delay also increases the risks of the carp bypassing Brandon Road L&D. To date, the project received \$274 million in Federal funding and \$114 million from Illinois and Michigan state budgets. Construction on BRIP Increment I began January 6, and will be operational within three years. (cont. on next page)

**(cont. from page 1)** Efficient funding of the remaining \$750 million is needed to ensure the complementary engineered channel deterrents and flushing lock are also completed in a timely fashion.

The BRIP is a shining example of scientists, engineers, and stakeholders bringing dedication and innovation to preserve the valuable ecology and economy associated with the Great Lakes.

#### Submit Comments Online Anytime



The U.S. Army Corps of Engineers and its project partners invite public input. Comments regarding the Brandon Road Interbasin Project can be submitted online to the project team at anytime by visiting: <u>https://www.mvr.usace.</u> <u>army.mil/Public-Comment-Form/</u> or scanning the QR code

above with a mobile device.



Two side by side pictures of the Micro-Bubble Curtain Deterrent being tested in water flume at ERDC-EL.

### New Mitigation Plan Aims to Protect Native Fish

In a bold move to safeguard native aquatic species while preventing the spread of invasive species, a new mitigation plan is being set into place at the Brandon Road Lock and Dam. This plan aims to offset the impact of halting native species migrations by stocking hatchery-raised fish into the Upper Des Plaines River, upstream of the dam.

The plan, spearheaded by the Illinois Department of Natural Resources (IDNR), involves raising fish at the Jake Wolf State Fish Hatchery or another IDNR facility. A diverse array of native hatchery-raised fish species will be strategically stocked in various locations in the Upper Des Plaines River to support healthy, sustainable native fish populations.

Initially, the project will focus on stocking popular sport species, including sauger, smallmouth bass, largemouth bass, and northern pike. These species have well-established propagation methods and the equipment needed for spawning and rearing is already in place, with stocking slated to begin as soon as 2025. Over time, the stocking regime will expand to include other native species, such as redhorse, shiners, and minnows, as new hatchery techniques for riverine fish are developed.

The success of the stocking program will be guided by an adaptive management process that takes into account the best available scientific data, biological insights, and stakeholder feedback. The location and number of fish stocked will be continually adjusted based on this evolving information to ensure the greatest benefit to the river's ecosystem. The project is a joint effort between the U.S. Army Corps of Engineers and the project sponsors, with the IDNR holding management authority over the fisheries within the state. By working together, these partners aim to enhance the resilience of native fish populations while preventing the spread of aquatic nuisance species, creating a more balanced and sustainable river ecosystem for future generations.



#### Upcoming EVENT ☐ FEBRUARY 11

Groundbreaking ceremony for the Brandon Road Interbasin Project

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