



US Army Corps
of Engineers®
Rock Island District

BRANDON ROAD INTERBASIN PROJECT



August 2022

QUARTERLY UPDATE

The PROJECT

The Brandon Road Interbasin Project is a complex ecosystem protection effort designed to prevent upstream movement of invasive carp and other aquatic nuisance species into the Great Lakes from the Illinois Waterway.

Brandon Road Lock and Dam near Joliet, Illinois, has been identified as the critical pinch point where layered technologies will be used to prevent movement of invasive carp populations into the Great Lakes.

The PLAN

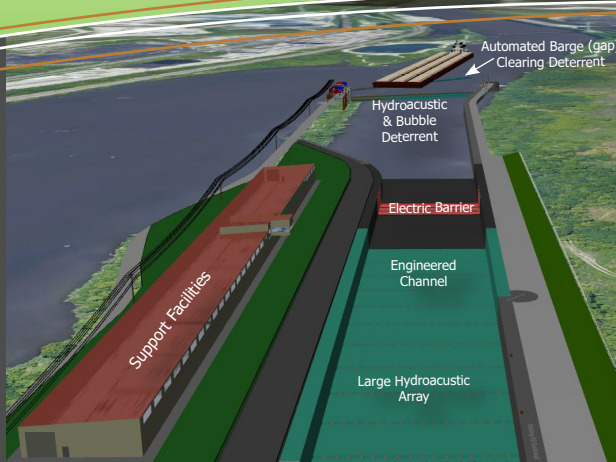
The recommended plan involves a layered system of structural and non-structural control measures.

Structural measures could include technologies such as a flushing lock, an engineered channel with electric deterrent, underwater acoustic deterrent, and air bubble curtain.

Non-structural measures, implemented in conjunction with other federal agencies, could include public education and outreach, monitoring, integrated pest management, manual or mechanical removal, and research and development.

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Project Status Update

Since April, the Brandon Road Interbasin Project team has made considerable progress on preconstruction engineering and design and is continuing its collaboration with partners and stakeholders as Increment I of the project is coming into focus. The design team has gathered valuable information from the acoustic deterrent test being managed by the U.S. Geological Survey and the USACE Engineer Research and Development Center (ERDC) at Lock 19 on the Mississippi River. Physical modeling of the flushing lock chamber and engineered channel also continues at ERDC's Coastal and Hydraulics Laboratory in Vicksburg, Mississippi.

In May, members of the team met with representatives from Illinois, Wisconsin, Michigan and the U.S. Fish and Wildlife Service to discuss environmental mitigation strategies to offset the negative impacts to native species in the Des Plaines River after the project's structural deterrents are operational. Goals of this meeting included development of scope, schedule, budget, roles and responsibilities necessary to implement the plan. An automated barge (gap) clearing deterrent, which includes bubble deterrent technology, was also showcased in late May by a team of partners who met in Peoria to discuss the lock and dam as test site for the prototype. Information gathered from this testing would be similar to the data being collected at Lock 19 for the acoustic deterrent and would assist the team in incorporating the most efficient design for the Brandon Road Interbasin Project.

Last month, the project's governance team, consisting of senior leaders from USACE Mississippi Valley Division, USACE Rock Island District, and

representatives from the states of Illinois and Michigan, met at ERDC for their third partnering session to review progress and discuss key project challenges. The team outlined actions to address project challenges including execution of the Project Partnership Agreement (PPA), minimizing the footprint of the preferred project site, and addressing Illinois permit requirements. During the meeting, members of the governance team got to view the fully operational flushing lock and engineered channel models at the ERDC lab and learn about the critical information being gathered by the testing team.



Members of the U.S. Fish and Wildlife Service, USACE Engineer Research and Development Center (ERDC), U.S. Geological Survey, Illinois Department of Natural Resources, and USACE Rock Island District view a prototype bubble deterrent system at Peoria Lock and Dam in Creve Coeur, Illinois, in preparation for testing that will take place later this year at the site. The goal of the study will be to determine effectiveness of the system's ability to remove tiny invasive carp from behind and in-between boats and barges.



Modification of Lock Flushing Operations

Preventing the spread of aquatic nuisance species from the Mississippi River basin to the Great Lakes is a complex challenge that involves thinking through all the possible ways a species could be transferred. River water that contains adult species may also contain eggs and larval fish which could easily pass through certain types of barriers. Eggs and larval fish not cleared from the lock chamber before the chamber is filled, could be transported upstream when a barge passes through the lock, leading to the spread of unwanted species in the Great Lakes.

At the USACE Engineer Research and Development Center's

Coastal and Hydraulics Laboratory in Vicksburg, Mississippi, a team of developers have been working to overcome this challenge by evaluating various methods for flushing the lock chamber using a 1:25-scale physical model. Their goal is to evaluate the effectiveness and efficiency of different flushing operations using a modified lock filling and emptying system.

The physical model reproduces hydraulic conditions of the modified Brandon Road Lock's filling and emptying system. Dye released into the filling and emptying culverts can be observed as it enters the lock chamber to determine how

thoroughly the flushing system replaces water in the chamber with water from the upstream side of Brandon Road Dam.

Tests being conducted at the lab include releasing dye for different valve operating conditions to better understand how water moves into the chamber and whether any areas of the chamber will not be effectively flushed during the operation of the system. Navigation safety is also being evaluated during the testing because the flushing system is a modification to current conditions found at the lock and would be unique among navigation locks across the United States.

Unmanned Aircraft Systems Help Bring Project Into View

In late spring, licensed drone pilots with the Illinois Department of Natural Resources captured still images and video of the Brandon Road Lock and Dam site to aid the team with engineering and design of the Brandon Road Interbasin Project.

These images provided valuable information on property boundaries, water flow conditions and proximity of neighboring structures and industries. The images also gave the team an aerial view of some of the geotechnical work that's been underway on the lower end of the peninsula on the downstream end of the lock channel.



Completed EVENTS

 APRIL 2022

Quarterly Update Webinar

 JUNE 2022

Facilitated Partnering Meeting #3

Upcoming EVENTS

 AUGUST 2022

Quarterly Update Webinar

Stay CONNECTED

Looking for more information about the Brandon Road Interbasin Project? Click the website link below or scan the QR code with the camera app on your mobile device to learn more about the project's next steps, key leadership involved, and how to contact the project team.

<https://go.usa.gov/xtCV7>



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