



THE GREAT LAKES AND MISSISSIPPI RIVER INTERBASIN STUDY NEWSLETTER

Inside this issue:

- GLMRIS Program Update
- Focus Area I - Brandon Road
- Focus Area II - Little Killbuck Creek
- Navigating the Illinois Waterway

If you have questions or comments about the GLMRIS Newsletter or have suggestions for future topics you would like to see addressed, please contact the U.S. Army Corps of Engineers, Chicago District Public Affairs Office at ChicagoDistrict.PAO@usace.army.mil, or call us at 312-846-5330.

Additional information about GLMRIS, including previous issues of the newsletter, press releases and interim products are available online at glmr.is.anl.gov.

The purpose of GLMRIS is to evaluate a range of options and technologies to prevent aquatic nuisance species transfer via aquatic pathways between the Great Lakes and Mississippi River basins by aquatic pathways.

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Update from the GLMRIS Program Manager

Greetings, and thank you for your interest in the Great Lakes and Mississippi River Basin Study (GLMRIS).

We have been actively working in several areas of the GLMRIS Program. In Focus Area I we have been working on completing tasks needed to select a Tentatively Selected Plan for the Brandon Road Study. In Focus Area II efforts are underway regarding closing potential aquatic pathways at Little Killbuck Creek.



The Illinois Waterway is a complex network of rivers and canals with many and varied uses. One of the uses is navigation, both commercial and recreational. In this issue of the GLMRIS newsletter is an article that outlines the basic composition of the waterway and explains the functions of the locks, including the Brandon Road Lock and Dam, the site of the GLMRIS Brandon Road Study.

We continue to have significant stakeholder engagement with Corps leadership, and several state and congressional offices. We briefed the Brandon Road Study to the State of Illinois, Department of Natural Resources, Department of Transportation, Department of Agriculture, and the Environmental Protection Agency. We had a good discussion around the study, its impact to Illinois economy, fish connectivity, water supply, and requirements for project sponsorship. We conducted a navigation safety meeting and workshop with the navigation industry and other government agencies to discuss safety issues and concerns navigating the Brandon Road Lock and impacts of potential control measures. We provided a GLMRIS and Brandon Road briefing and tour to the Northeast-Midwest Institute, Healing Our Waters, Great Lakes Association, Great Lakes Commission, Joyce Foundation Planning Council, and the Prairie River Network.

The team is currently working on its recommendation for the Tentatively Selected Plan. Look for the public release in February 2017.

If you do not currently follow GLMRIS on Facebook or Twitter, I encourage you to do so. Links to both can be found on the GLMRIS website: glmr.is.anl.gov.

If you have any questions, comments or ideas you would like to share, please email me at glmr.is@usace.army.mil.

Jeffrey Heath
GLMRIS Program Manager

Focus Area I Brandon Road Activity

The GLMRIS Brandon Road Study Delivery Team is committed to informing the public, stakeholders, and congressional staff about the GLMRIS Brandon Road Project. In August the team provided tours of the Brandon Road Lock and Dam and the electric dispersal barrier to several groups including the Senate Appropriations Subcommittee, Northeast-Midwest Institute, Healing our Waters-Great Lakes Association, Great Lakes Commission, Joyce Foundation, U.S. Rep. Mike Quigley's office and Sen. Tammy Baldwin's office. Each group was briefed on the GLMRIS Brandon Road study including the process, alternatives under consideration, and schedule.

On August 8, the GLMRIS Brandon Road Study Team hosted a Navigation Safety Workshop. It was attended by 45 people including regional carriers, navigation industry advocates, and state and federal transportation and natural resource agency personnel. Items discussed included: navigation hazards below Brandon Road Lock and Dam; safety concerns regarding the use of electricity in the approach channel; mooring options below the lock; and vessel size restrictions and delays to navigation during construction and operation of the technical alternatives. The information collected at this meeting will be used by the team in the Environmental Impact Statement and considered during the selection of the Tentatively Selected Plan



*Pictured: GLMRIS Program Manager, Jeffrey Heath
GLMRIS Brandon Road Project Manager Andrew
Leichty provide an update on GLMRIS activities
to senate committee staff members and USACE
Future Directions Branch Program Manager, David
Wethington.*

Focus Area II Little Killbuck Creek

The GLMRIS Focus Area II - Other Aquatic Pathways Study (2010-2013) was conducted to evaluate the potential existence of surface water pathways outside of the Chicago Sanitary Ship Canal through which aquatic nuisance species (ANS), such as Asian carp, might be able to move between the Great Lakes and Mississippi River basins. A large interagency study team was formed by the U.S. Army Corps of Engineers (USACE) with other federal, state, and local partners to identify and evaluate these potential basin divide locations. Results of the study are available in the "Other Pathways" section of the GLMRIS website.

Eagle Marsh near Fort Wayne, Ind., was determined to have the greatest and most near term potential for interbasin ANS transfer. The National Resource Conservation Service (NRCS) closed this pathway in 2015 by construction of a berm, in Eagle Marsh, to

separate the waters of the Ohio River and Lake Erie basins. Connections at Little Killbuck Creek were rated a medium risk for ANS transfer.

The Little Killbuck location is an agricultural lowland area directly on the basin divide in Medina County, Ohio, which is heavily irrigated. A further assessment of this site was conducted by the NRCS in 2014. The Ohio Department of Natural Resources Division of Wildlife (ODNR), Medina County Soil and Water Conservation District, and the primary landowner have been collaborating to discuss the preliminary assessment and potential options to close this pathway. A detailed assessment of the location was completed by an engineering firm in late 2015. The ODNR has since been discussing closure options with the primary landowner to determine a preferred path forward.

Do you know where to find the most current information about GLMRIS?

Visit the GLMRIS internet site at GLMRIS.anl.gov or follow us on Facebook at <https://www.facebook.com/glmrisc/>

Navigating the Illinois Waterway

by Samantha Heilig, Public Affairs Specialist, U.S. Army Corps of Engineers, Rock Island District

The Illinois Waterway flows 327 miles from Chicago to Grafton, Ill., and connects Lake Michigan to the Mississippi River just north of St. Louis, Mo. It is made up of seven different river systems including the Illinois River, Des Plaines River, Chicago Sanitary and Shipping Canal, South Branch Chicago River, Cal-Sag Channel, Little Calumet River, and the Calumet River. This network of rivers serve as a vital piece of the inland waterway navigation system and are regularly used by commercial vessels and recreational boaters.

Navigation on the Illinois Waterway is made possible by eight locks and dams, operated by the U.S. Army Corps of Engineers, and constructed as part of the nine-foot navigation project. This project includes 37 lock and dam sites on 1,200 river miles in the states of Illinois, Iowa, Minnesota, Missouri and Wisconsin. Constructed largely in the 1930s, this system extends from Minneapolis-St. Paul on the Upper Mississippi River to its confluence with the Ohio River and up the Illinois Waterway to the T.J. O'Brien Lock in Chicago.

The lock and dam sites on the Illinois Waterway are located at Chicago (T.J. O'Brien), Lockport (Lockport), Joliet (Brandon Road), Morris (Dresden Island), Marseilles (Marseilles), Ottawa (Starved Rock), Creve Coeur (Peoria), and Versailles (LaGrange). These sites create a stairway of water starting at the Mississippi River and rising up 163 feet to meet Lake Michigan. Each dam creates a step by restricting the flow of water and holding back a pool that is deep enough to allow commercial vessels, such as towboats and barges, to navigate the river. The locks at each of these sites serve as a mechanism that allows vessels to move up and down the steps.

Locking through at a lock and dam is like using a "water elevator." Based on the principle that water seeks its own level, the locks transfer water through underground tunnels and use gravity flow to lift and lower the vessels. No pumping is required for the process and all vessels pass through the locks using the same method.

When going downstream, the lock is filled by opening a filling valve on the upstream side. The gates on the upper and lower ends of the lock are closed during this time to allow for the water level inside the lock to rise and become equal with the upstream level. Once the lock is filled, the gate on the upper end opens and the vessel moves into the lock. Next, the gates and filling valve are closed on the upstream side and the emptying

valve on the downstream end of the lock chamber is opened. During the lowering process, the gates on the downstream end of the lock remain closed until the water level inside the lock meets the downstream river level. After the vessel is lowered, the downstream gates open and the vessel departs the lock. To lock a vessel in the opposite direction the process is reversed.

Some vessels such as towboats and barges are too large to pass through the locks in a single lockage. All of the locks on Illinois Waterway are 600 feet long except for T.J. O'Brien which is 1,000 feet. A standard towboat pushing 15 barges is roughly 1,200 feet in length. For these large vessels, the process is repeated twice each time they pass through a lock. The opposite is true for recreational craft which can pass through the locks in large groups and will often be gathered on the upstream or downstream end of a lock waiting for a turn after a large towboat passes through.

Although they are necessary for navigation, the dams on the Illinois Waterway also present a hazard that recreational boaters should be aware of. These sites appear to be tranquil but lurking below the surface of the water is a strong current. As that current goes through the dam and down to the bottom of the river, it recirculates back upstream creating a backwash, known to many as the "drowning machine." Anyone who gets caught in this area has little chance of surviving. Even boats with powered motors are ineffective in the area below the dam because propellers cannot move a boat effectively through foamy, turbulent water. Boaters should always take caution when boating near the dams and be sure to wear life jackets just in case an incident occurs.

