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Interstate Island



from **Engineering With Nature: An Atlas, Volume 3.**

by US Army Engineer Research and Development Center



Duluth, Minnesota, and Superior, Wisconsin, United States

Protecting threatened habitat by beneficial use of dredged material.

Interstate Island, located in the Duluth Superior Harbor in Lake Superior, was historically 2.5 hectares. However, in 2019, the island was being flooded and washed away during record-high water levels in the Great Lakes. Interstate Island provides valuable and rare habitat to the state-threatened common tern (*Sterna hirundo*) and is home to approximately 200 common terns, which is about half of the entire population in the Lake Superior watershed. In the fall of 2020, using dredged material, the U.S. Army Corps of Engineers (USACE)–Detroit District beneficially placed approximately 51,990 cubic meters of material on the island to significantly expand and protect the island from erosion. This work was done in partnership with the Minnesota Land Trust, the Minnesota Department of Natural Resources, the Wisconsin Department of Natural Resources, and the Environmental Protection Agency (EPA) Great Lakes National Program Office (GLNPO). With placement of dredged material, the areas of the island subject to flooding were elevated, expanding the island from 1

hectare to 2.7 hectares of viable habitat during extreme high-water levels and 3.5 hectares during more regular waterlevel periods in the Great Lakes.

Article Cover: Interstate Island, post-USACE Detroit District dredged material placement. (Photo by Monica Anderson, USACE Detroit District)

Producing Efficiencies

As dredging occurs annually in the Duluth-Superior Harbor, the Interstate Island habitat protection and enhancement were completed at no cost to state and federal partners by the beneficial use of this dredged material. This project represented a significant opportunity to not only maximize benefits to the project partners through cost savings but also provided valuable habitat for the threatened common tern. In addition, it allowed USACE to beneficially use dredged material, saving space in its confined disposal facility, and showcased the value that dredged material can have as a natural resource.

Using Natural Processes

Rather than place a valuable natural resource in a confined disposal facility, the material is able to be dredged and beneficially used for the expansion of Interstate Island and to provide for and protect habitat for the common tern. The material placed on the island expanded the island's aerial extent, expanded habitat, and provided a buffer for erosion. Placing the material unconfined provides opportunities for natural processes to shape the island's enlarged footprint, thereby enhancing habitat value both above and below water.





Bulldozer grading during hydraulic placement on Interstate Island with the John G. Munson freighter in the background.

(Photo by Monica Anderson, USACE Detroit District)

Broadening Benefits

The beneficial use of dredged material at Interstate Island provides much-needed habitat for the threatened common tern in Lake Superior. By helping protect the threatened species, it also provides social and economic benefits for bird-watchers and saves partner funding due to the material being able to be beneficially placed at no additional taxpayer cost as the material is already dredged annually.



Top: Interstate Island, pre-USACE Detroit District dredged material placement.

(Photo by Monica Anderson, USACE Detroit District)

Promoting Collaboration

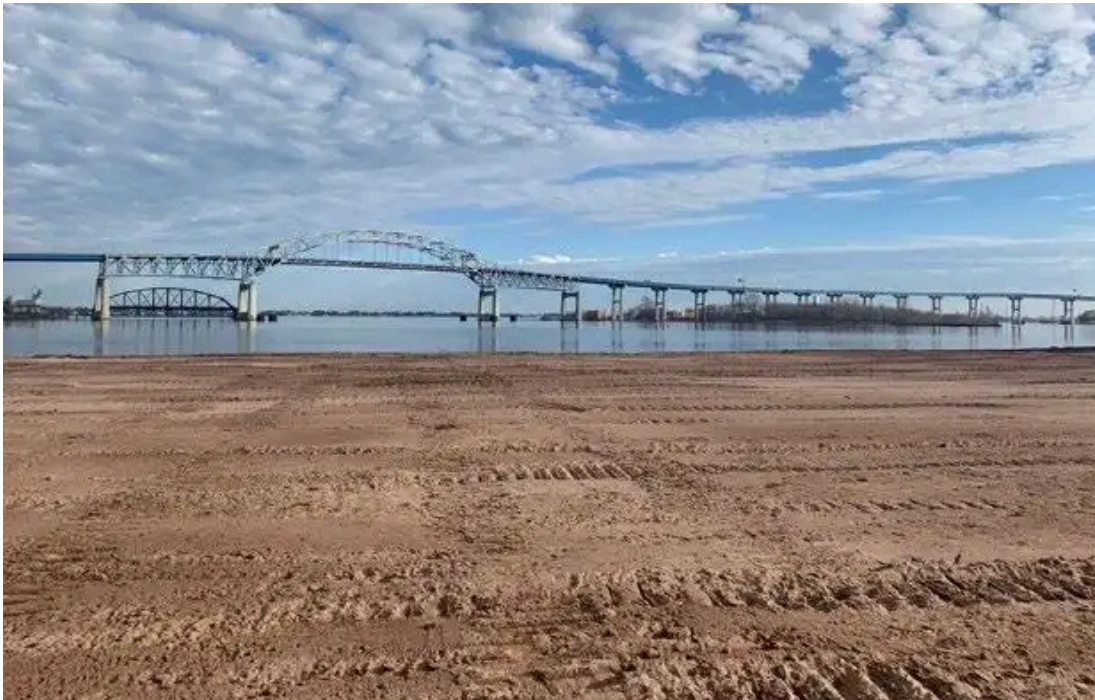
Project partners—the Minnesota Land Trust, the Minnesota and Wisconsin Departments of Natural Resources, and the EPA GLNPO—met regularly to discuss the timing of the dredging, placement methods, design aspects, access to the island, and best management practices. Issues were identified and overcome quickly, and the team was successful because of

everyone's willingness to work together for a common goal of restoring habitat on Interstate Island.



Active hydraulic placement of dredged material at Interstate Island. A baffle plate is attached at the end of the pipe at a 45-degree angle to dissipate the energy from the flow of the dredged material out of the pipe to help minimize turbidity.

(Photo by Monica Anderson, USACE Detroit District)

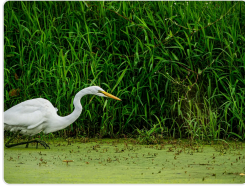


After dredged material placement with the John A. Blatnik Bridge in the background. The states of Minnesota and Wisconsin are located on the left and right, respectively, when looking ahead.

(Photo by Monica Anderson, USACE Detroit District)



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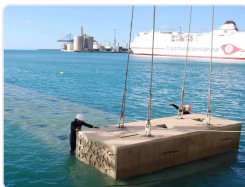
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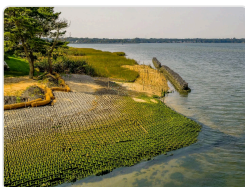
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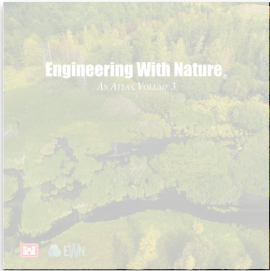
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