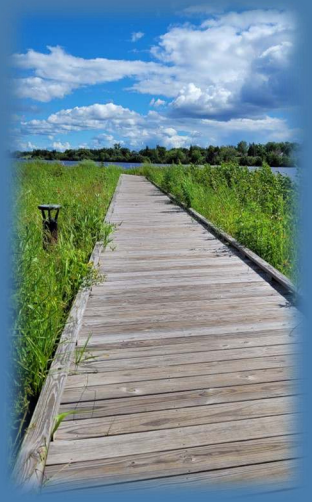
Barker's Island Inner Beach Restoration
St. Louis River Area of Concern



Shoreline restoration and native vegetation will deter waterfowl from using the area.

The beach location was moved and coarse sand added and sloped to prevent *E. coli* bacteria from surviving on the beach.

To Learn More
Visit https://dnr.wi.gov, search "St. Louis River AOC"

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Project Background
Barkers Island Inner Beach is a recreational property owned by the City of Superior. The water quality had been considered impaired due to the presence of *E. coli* bacteria. A beach restoration project is part of the St. Louis River Area of Concern beach closings impairment. In 2015, a project to study the sources of *E. coli* was started by UW-Superior's Lake Superior Research Institute.

Project partners secured funding from the Great Lakes Restoration Initiative to completely restore the beach area. The City of Superior provided funding to enhance the project by adding a bathroom and picnic tables.

Rendering of the project design. (AMI)

Before

Frequent flooding of the asphalt path would attract waterfowl. The raised boardwalk (right) will eliminate this problem. (AMI)

After

The completed project includes raised boardwalk and shoreline plantings.

Installing the vault toilet. (AMI)

A beach groomer is in use to keep the beach free of debris and potential sources of *E. coli* bacteria.

Monitoring and Maintenance
A 10 year monitoring and maintenance plan was developed with the project. The City of Superior will maintain the project features to reduce beach closures. UW-Superior will assist the WDNR and the City in monitoring the project after construction. *E. coli* levels and wetland plant quality will be measured.

The new beach area with visitors enjoying the water

Restoration Features
Project construction was complete in July 2019. Project elements include addition of coarse beach sand, proper beach slope, shoreline vegetation, wetland plantings, invasive species removal, improved trash facilities, addition of a bathroom facility, and removing asphalt pathways. Pathways were replaced with elevated boardwalks.

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Beach Season	Average E. Coli	Water Quality Exceedance
2015 & 2016 (Pre-project)	450 MPN/100ml	42%
2019 (During project)	95.4 MPN/100ml	16%
2020 (Post-project)	81.7 MPN/100ml	8.3%
2021 Beach Season	47.5 MPN/100ml	0%
2022 Beach Season	57 MPN/100ml	0%

Before

Before the beach was restored, there were frequent bacteria problems associated with wildlife, trash and debris, and stormwater runoff going directly onto the beach.

PROJECT PARTNERS

Superior, Wisconsin

Wisconsin Dept. of Natural Resources

University of Wisconsin Superior

Lake Superior Research Institute LSRI

Douglas County Wisconsin

FUNDED BY

Great Lakes Restoration

CONTRACTORS

AMI Consulting Engineers P.A.

Stack Bros

Before

Above: ducks and geese frequently used the shoreline and ponded water

Before

Above: ponded water with goose tracks and droppings

Below: impervious parking spaces direct stormwater onto the beach

Before

After

Above: native vegetation slows waterfowl and runoff

Before

Above: high water levels caused shoreline erosion and loss of beach

Below: pervious parking directs stormwater into filtering swales

After

After

Above: water quality postings have been green for E. Coli post-project

After

Above: restored shoreline will function during variable water levels

Below: the expanded beach area has the proper slope and coarse sand

After