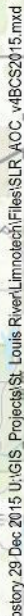


St. Louis River AOC

Beach Closings and Body
Contact Restrictions BUI





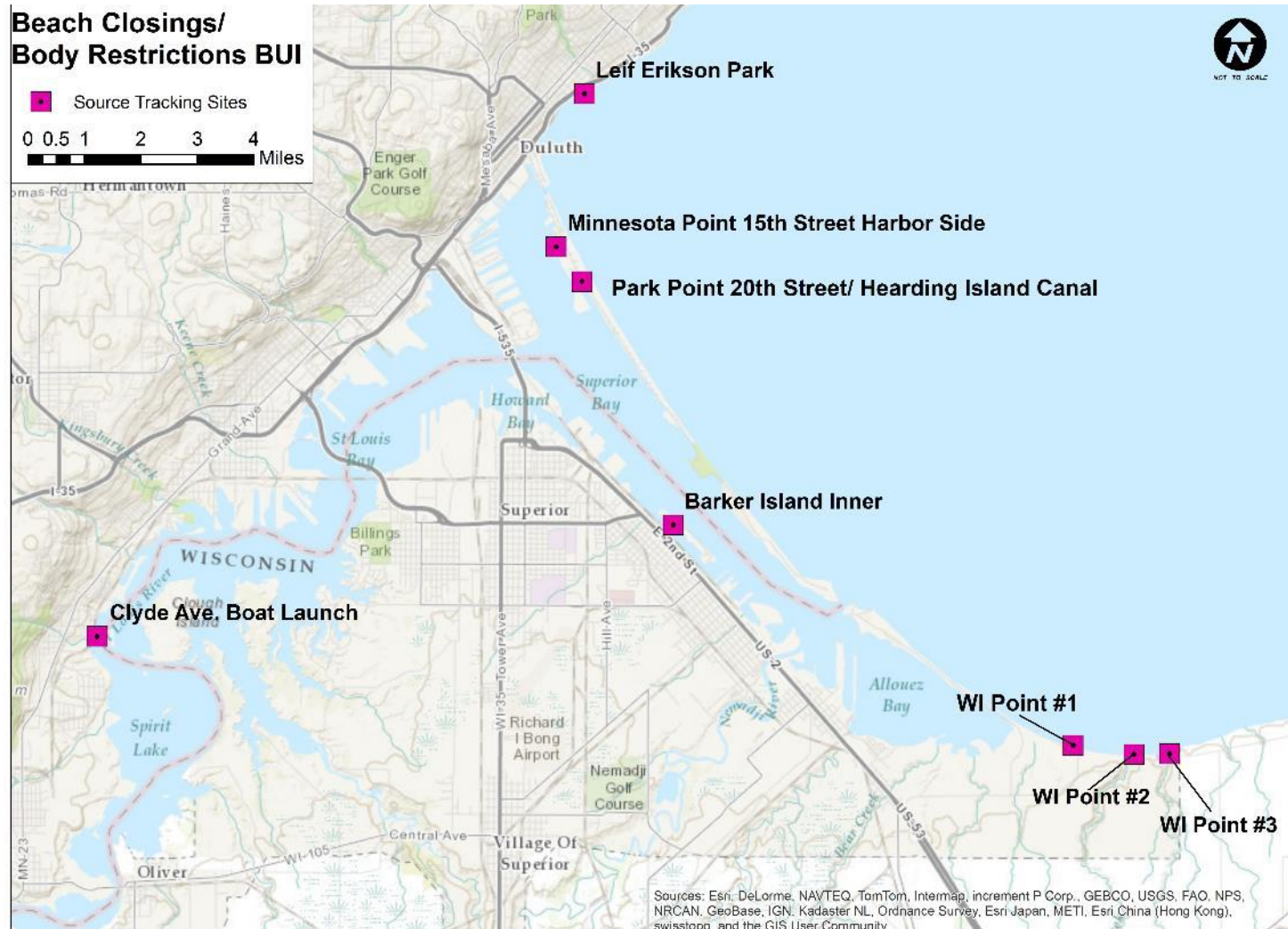


Body Contact Restrictions

- Crawford Creek
- Munger Landing
- US Steel Superfund Site



Source Tracking to Inform Beach Closings Management Actions



Barkers Island Beach





Pre-project
condition



Partnerships & Project Team

- BUI Technical Team
- Statewide Beach Program
- Project Team Partners
 - City of Superior
 - Wisconsin DNR
 - Douglas Co Health
 - UW Superior LSRI
 - Barkers Island businesses & organizations (NERR)
 - Citizens and user groups
- Used NERR facilities for public meetings

Barkers Island Beach Restoration Project

St. Louis River Area Of Concern

A project to reduce beach closures and body contact restrictions



This beach restoration project is a collaboration with the Wisconsin DNR, City of Superior and Area of Concern partners. The project has been designed to reduce levels of *e. coli* bacteria by optimizing the beach characteristics, managing runoff, enhancing wetland areas and deterring wildlife. Other improvements will include additional parking, a raised boardwalk and restroom facilities.



Living up to our name.

For more information visit:
<http://www.ci.superior.wi.us/850/Barkers-Island-Beach-Restoration-Project>



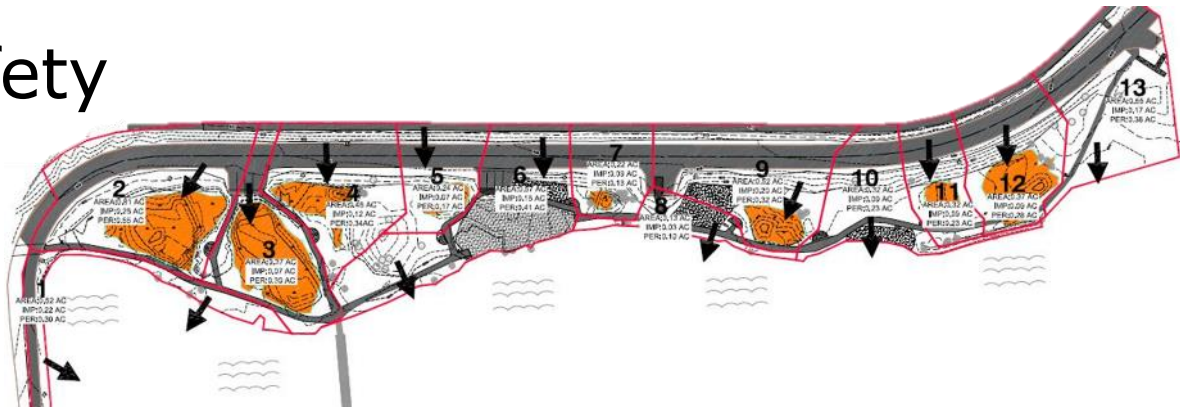


Funding

- **GLRI- AOC** (Source tracking, design & construction) ~672k construction
- **City of Superior-** in kind and cash ~ 117k construction to pay for amenities not covered by GLRI
- Long term maintenance

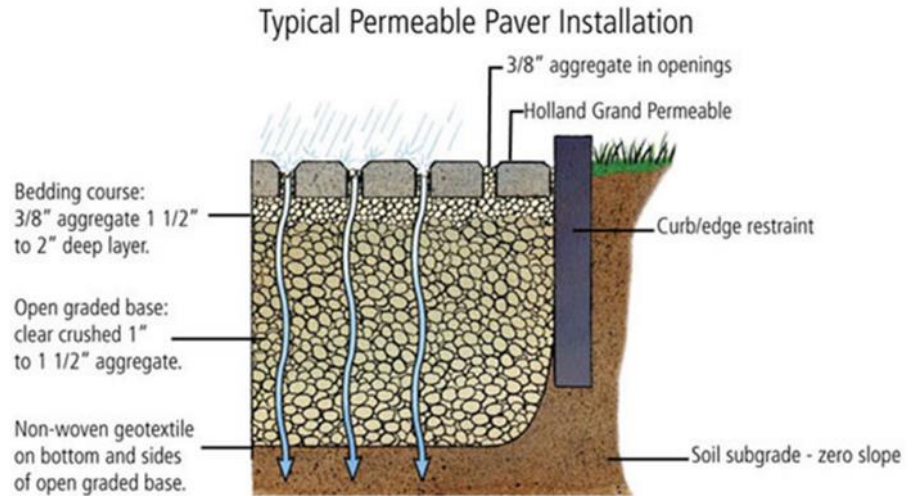
Design- Guiding Principals

- Reduce environment suitable for e. coli and sources
- Low impact/green infrastructure
- Wetland enhancement/Invasive species control
- 2 year warranty period
- 10 year Monitoring and Maintenance Plan – LSRI
- Accessibility & Safety
- Public input
 - Two public meetings



Design Elements

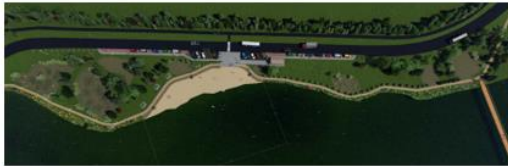
- Restore beach slope and promote infiltration
- Better management of runoff
- Deter bird use
- Shoreline vegetation
- Native plantings
- Address trash and debris
- Public education about beach health
- Replace asphalt w/ boardwalk
- Bathroom facility



Contractor firsts

- Porous concrete for picnic tables
- 2 year warranty and maintenance

Barker's Island Beach Restoration Project Monitoring and Maintenance Plan Warranty Period Maintenance¹



09 May 2018

PREPARED FOR:

City of Superior

Department of Parks, Recreation, and Forestry
and

Wisconsin Department of Natural Resources
St. Louis River Area of Concern Coordinator

PREPARED BY:

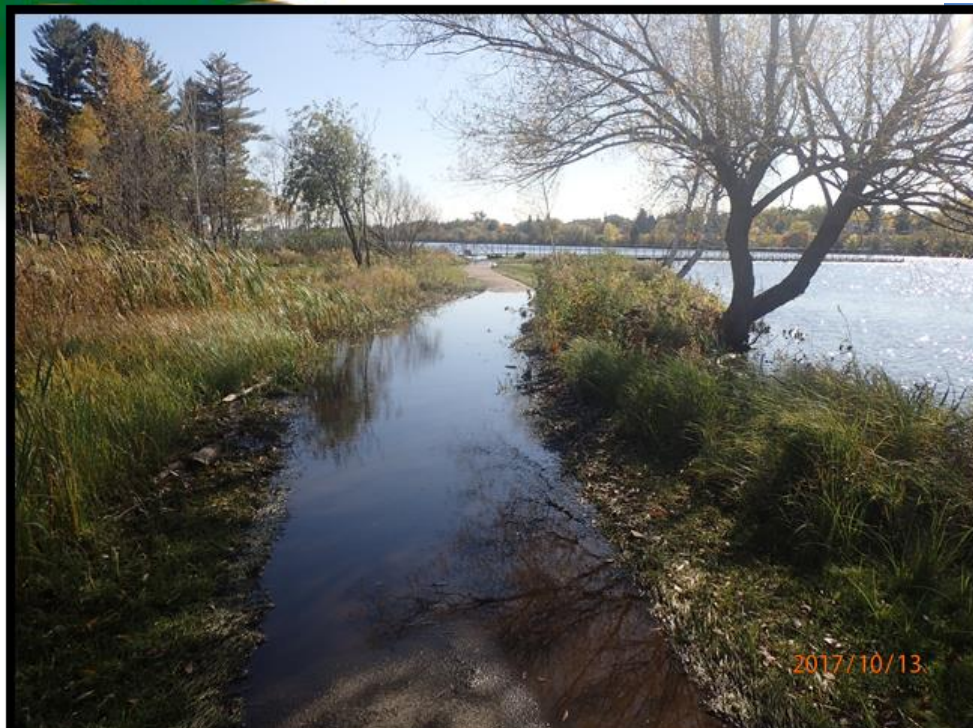
Kelsey Prihoda, Heidi Sallard, and Reed Schwandt

Lake Superior Research Institute
University of Wisconsin-Superior



¹ As stated in the Scope of Work for the Barker's Island Beach Restoration Monitoring and Maintenance Plan, the draft ten-year plan is due 01 June 2018. This plan contains only the monitoring and maintenance associated with the two-year post-construction warranty period.





2017/10/13

Before



After





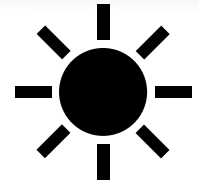
E.coli improvements

Beach Season	Ave e. coli	WQ criteria exceedance rate
2015 & 2016	450 MPN/100ml	42%
2019*	95.4 MPN/100ml	16%





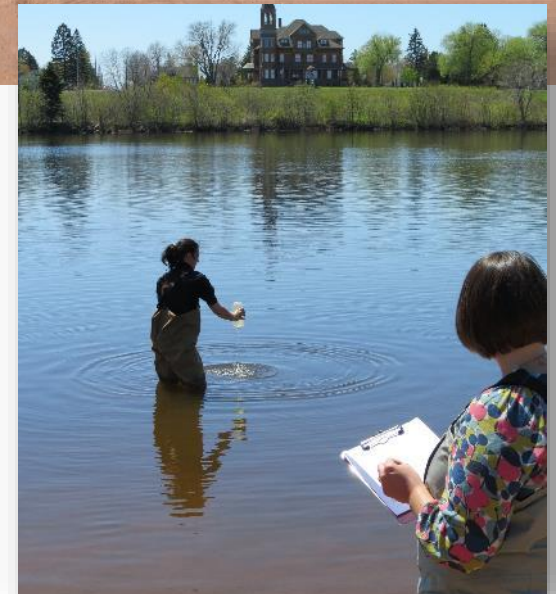
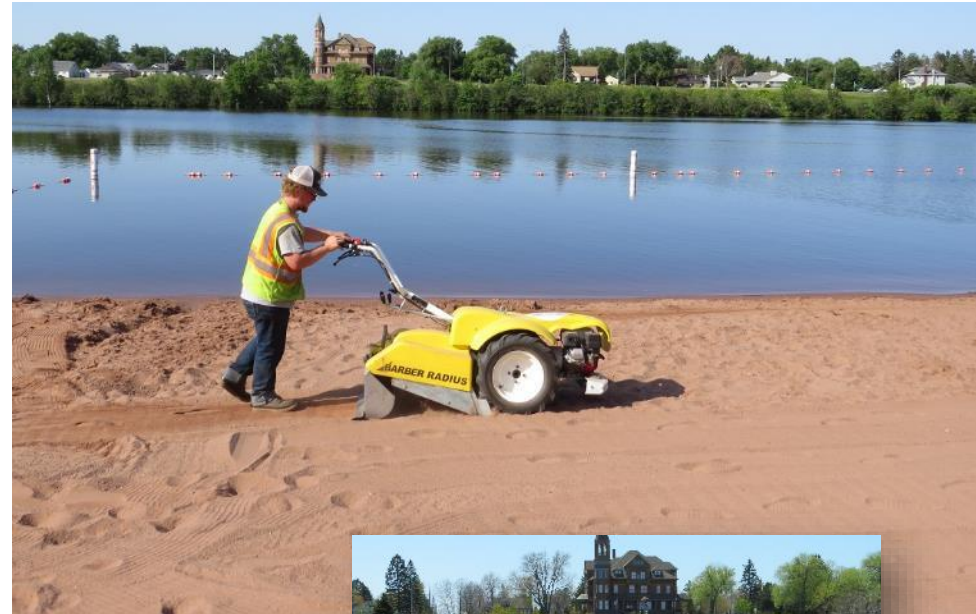
Post project use and revitalization



- LS Day
- Nearby business
- Mayors office
- Positive media coverage
- Chamber of Commerce & Superior Young Professionals

Monitoring and Maintenance

- 10 year plan
- 2 years of wetland quality and *e. coli* monitoring
- Performance measures established
- Beach groomer purchased
- City of Superior to take on maintenance tasks in perpetuity





Lessons learned

- Sanitary Survey & Source tracking to inform design
- Partnerships and public input are key
- Good oversight is necessary – get contractors to think differently
- Proactive media coverage



Thanks!

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Wisconsin DNR
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