

St. Louis River Area of Concern

Projects in partnership to restore the river and revitalize the community

Restoring Piping Plover Habitat



Purpose

The St. Louis River estuary historically supported breeding populations of Piping Plover (*Charadrius melodus*). These tiny shorebirds are still spotted during spring migration, but nesting has not been documented in the estuary since 1985. Piping Plover prefer large isolated beach and dune habitats for nesting and chick rearing. Much of this habitat type has been lost in the estuary with only a few critical habitat locations remaining. Across the Great Lakes, Piping Plover populations declined significantly due to habitat loss, shoreline development, recreational pressure and hunting.

In 2017, a partner team assessed the feasibility of restoration locations and selected the Wisconsin Point Bird Sanctuary. The project goal was to increase available Piping Plover stopover and nesting habitat as well as creating habitat that was:

- long lasting and required minimal maintenance
- resilient to changing water levels and storm events, and
- beneficially used clean sand dredged from Duluth/Superior Harbor

Background

After several years of planning, construction of the beach habitat was completed in just three months, from August through October 2019. The US Army Corps of Engineers (USACE) contracted with the Roen Salvage Company to lead construction with continued involvement and communication with the partner team. After the existing site was prepped and tern island partially demolished, beach construction began, which involved sand (dredged material) being hydraulically placed both below and above the water to obtain the design slope and elevations.

This was the first Wisconsin project in the estuary that beneficially used dredge material to restore fish and wildlife habitat. This is an excellent example of how we can collaborate in a working harbor to restore endangered species habitat and ensure navigation channels are open for shipping and commerce.

This project successfully met the goal to increase available Piping Plover stopover and nesting habitat under the Degraded Fish and Wildlife Populations Beneficial Use Impairment (BUI). Biologists are documenting increasing numbers of this tiny shorebird and the additional habitat offers a new place to rest and nest. Not only does habitat restoration achieve AOC BUI goals, but it also increases critical habitat needed to help meet the USFWS Great Lakes Piping Plover recovery population goal.



Piping Plovers need large isolated beaches to raise their young.



Habitat Design

From late 2017 through spring 2019, partners worked closely with USACE engineers, researchers and species experts to design Piping Plover habitat with the following considerations:



A slurry of sediment/sand mixed with water, and placed hydraulically, created the beach

- Established minimum habitat design criteria for species
- Using historic high water levels 604' IGLD85, targeting 30 year lifespan
- Installed buoys in Allouez Bay monitoring wave heights in various conditions
- Conducted hydrodynamic and sediment transport modeling
- Analyzed sediment grain size and chemistry of dredge material from potential source locations in the Duluth/Superior Harbor
- Established WDNR criteria for acceptable dredge material for project
- Identified acceptable dredge material in East Gate Basin to construct beach

Project Results

- Created 14 acres of nesting and foraging habitat with 3 cobble nesting pans
- Utilized 87,485 CY of dredge material (sand) from the Duluth/Superior Harbor

If You Build It, Will They Come?

Partners will continue teaming up for Piping Plover, focusing efforts through 2024 on habitat establishment and management, outreach and education, and monitoring. WDNR, USFWS and the St. Louis River Alliance, with GLRI funding, are planning to:

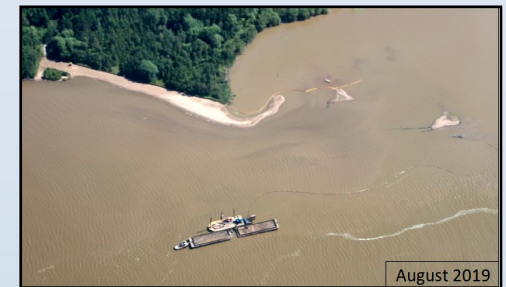
- Assess habitat twice yearly to identify actions necessary to maintain suitable habitat
- Maintain suitable habitat (i.e. remove unwanted vegetation/wood, maintain slopes)
- Develop education and outreach materials to protect Piping Plover habitat from human activity and predators
- Monitor site for Piping Plover, document nesting pairs, fledgling survival and success at the site

Partners

A team of local, state, federal and tribal partners came together to develop a Piping Plover habitat restoration project to achieve the AOC goal supported by ~\$3 million in funding from the Great Lakes Restoration Initiative (GLRI) from the US Environmental Protection Agency (USEPA).



- City of Superior
- Fond du Lac Band of Lake Superior Chippewa
- St. Louis River Alliance
- US Army Corps of Engineers
- US Environmental Protection Agency
- US Fish and Wildlife Service



August 2019



September 2019



October 2019



USFWS



To Learn More

Visit <http://dnr.wi.gov> and search "St. Louis River AOC" or visit <https://www.fws.gov/species/piping-plover-charadrius-melodus>

For more information, contact:

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