

Little Manitowoc Coastal Wetland Restoration Project  
Final Report December 2018  
Lakeshore Natural Resource Partnership

The Little Manitowoc River Partnership has developed a complete habitat assessment of the wetlands that quantifies existing impairments of the wetland and establishes benchmark water quality, avian and fish analysis. The habitat analysis shows 15 unique habitat types in the project area. We have collected three years of water quality data. We established benchmark data for avian species completing both a marsh bird survey and songbird survey in Spring 2015 and repeated in 2016. We are collaborated with Wisconsin Sea Grant to perform fish surveys in 2015 and 2016. We have completed a full invasive species management plan and treated phragmites for three years from 2013-2015.

In 2015, the partnership completed a public participation plan with presentations to a variety of stakeholders designed to get input into the restoration plan. Project presentations were given to the Boards of Woodland Dunes Nature Center, the Manitowoc Zoological Society, the West Foundation, and the Manitowoc County Parks and Recreation Committee. The partnership also met with adjacent landowners and received permission to move forward in creating a combined construction and conservation easements.

A conceptual plan was put in place for the coastal wetland restoration that was based on input from the appropriate stakeholders including representatives from the DNR, UW Fish and Wildlife, Ducks Unlimited, the Wisconsin Waterfowl Association, the Lakeshore Invasive Species Management Area, Friends of the Manitowoc River Watershed, and the City of Manitowoc.

At the end of 2016, we entered the permitting phase with the Wisconsin Department of Natural Resources and Army Corps of Engineers. A fully engineered design was completed for the primary coastal wetland restoration and a habitat enhancement of the 38 acre wetland creating a beneficial use of the dredged material at a nearby park. However, in January 2017, the City Attorney determined that moving the dredge material to Indian Creek Park was too significant of a liability for the City. LNRP received official word from the City in April 2017 and the situation created the need for a re-design including moving to a new disposal site. Additional fundraising was required with funds leveraged from the WDNR, West Foundation, and the Crown Foundation in collaboration with Ducks Unlimited.

Construction began in summer of 2018 but due to high lake levels required hydraulic dredging to remove sediment. The re-meander of the streambed to the original channel was completed along with the construction of the diversion berm. Materials were held in “dewatering” bags at the staging site until dry. These materials were moved in November 2018. Final landscaping and additional habitat structures will be installed in Spring 2019.

#### Benchmark Data and Management Plans

Focus Area	Funding Source	Documentation
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Habitat Assessment	Great Lakes Protection Fund 2014-2015, Healing Our Waters	Habitat Assessment Report including Project Location, Topography, Soil Survey, Floodplain, Wetland Inventory, and Community Types Maps
Water Quality Analysis	UW-Manitowoc Foundation, Great Lakes Protection Fund, Fund for Lake Michigan	Water Quality Report 2013-2015
Phragmites Control	AIS Control Grant	Project Summary
Invasive Species Management Plan	Fund for Lake Michigan	Management Plan, Table with GIS Coordinates
Avian Monitoring	Great Lakes Protection Fund 2015	Bird Survey Report
Fish Sampling	Great Lakes Protection Fund 2015	Fish Survey Report
Conceptual Design Plan	Great Lakes Protection Fund 2015, Fund for Lake Michigan	Conceptual Design Report
Construction/Conservation Easements	Fish and Wildlife Foundation	Acres by Landowner
Engineering Design	Fund for Lake Michigan, Fish and Wildlife Foundation	Design Proposal and Project Manual

#### Construction Phase Outcomes

- Improved wildlife habitat with more open water for waterfowl staging
- Improved fish habitat with increased deeper water habitat
- Created aquatic food plot with calm water and vegetation behind diversion berm
- Increased flow at the diversion berm to diversify estuary habitat
- Removed and disposed of contaminated sediment
- Provided a public viewing area next to recreational trail
- Removed invasive species (Phragmites and Japanese knotweed and box elder)
- Improved safety by creating gradual slope of approx. 200 feet of frontage improving ingress/egress for wildlife
- Future benefits (Spring 2019): addition of nesting structures and woody debris to enhance habitat

## Lessons Learned

At the end of 2016, we entered the permitting phase with the Wisconsin Department of Natural Resources and Army Corps of Engineers. A fully engineered design was completed for the primary coastal wetland restoration and a habitat enhancement of the 38 acre wetland creating a beneficial use of the dredged material at a nearby park. However, in January 2017, the City Attorney determined that moving the dredge material to Indian Creek Park was too significant of a liability for the City. LNRP received official word from the City in April 2017 and the situation created the need for a re-design including moving to a new disposal site. Additional fundraising was required with funds leveraged from the WDNR, West Foundation, and the Crown Foundation in collaboration with Ducks Unlimited.

The lesson here is that changes in City staff, changes in permit conditions, and changes in site condition are inevitable.