17-0136

LITTLE MANITOWOC RIVER PARTNERSHIP

CONNECTING THE COMMUNITY TO NATURE THROUGH EDUCATION

Little Manitowoc River Conservancy & Coastal Wetland Restoration

BACKGROUND:

On June 12, 2008, the City of Manitowoc, WI experienced an extreme storm event – the same storm that caused the Lake Delton Dam to fail in the Wisconsin Dells. The Little Manitowoc River (LMR) rose approximately 4-1/2 feet in less than 24 hours, reaching record levels. The LMR flows into Lake Michigan.

Following this flood, the Little Manitowoc River coastal wetland, from Lake Michigan to Reed Avenue, drained to become an exposed mud flat. This was the catalyst that brought people together to take action to protect this unique ecosystem. Two years later, the mud flat is filled in with cattails, reed canary grass, *Phragmites*, and Japanese knotweed. Unfortunately, these invasive species have a low floristic quality and inhibit native vegetation which has led to reduced biological diversity.

The Great Lakes coastal wetlands are transition zones which provide many critical habitats for fish, birds, and plant life. Coastal wetlands also help maintain Lake Michigan's water quality and aid in preventing erosion, while offering recreational, education and tourism opportunities.

INTRODUCTION:

The Little Manitowoc River Partnership was founded in 2012 as an affiliate of Lakeshore Natural Resource Partnership (LNRP). The partnership's purpose is to facilitate coordination between government agencies, organizations and residents to conserve the Little Manitowoc River Coastal Wetlands. We believe successful conservation involves connecting people to nature, both physically and mentally. So, we focus not only on restoration of the wetlands but development of recreation and educational opportunities as well.

OUR VISION:

The Little Manitowoc River Conservancy would stretch from the shore of Lake Michigan to 1.5 miles inland, connecting three city parks (Little Manitowoc River Walkway, Lincoln Park, and Indian Creek Park). This area would run along 2.5 miles of the meandering Little Manitowoc River creating a total conservation area of 230+ acres (potentially larger with easements). The Little Manitowoc River Conservancy will be a high-quality destination for observing birds and wildlife, with enhanced fish habitats.

KEY FEATURES:

Conservation Projects

- *Little Manitowoc Coastal Wetland Restoration Project* - We aim to restore the meandering stream and shallow open water connection that was lost in June 2008 between the Little Manitowoc River and adjacent coastal wetland along the shore of Lake Michigan. Our goal, based on the finding in the city's 2011 Conceptual Design Report, is to restore 38.5 acres of the Little Manitowoc River coastal wetlands (Lake Michigan to Reed Avenue) to a more historic mix of approximately 50% open-water and 50% native emergent vegetation with a flat sedge shoreline. This will provide critical habitat such as spawning grounds for fish, migratory stopovers, staging and breeding grounds for birds, invertebrates and many plants species. Lakeshore Natural Resource Partnership is the lead facilitator.

- *Little Manitowoc River Conservancy Enhancement Plan* - We have initiated a strategic planning process to develop a comprehensive watershed restoration plan for the full 230+ acre Little Manitowoc River Conservancy. So far the habitat assessment shows 15 unique habitat types within the conservancy; they are described and mapped in GIS as they change from the lakeshore inland. The conservancy will have 2500ft of Lake Michigan Shoreline bordering the mouth of the River, with plans to enhance shorebird habitat. With input from stakeholders, Lakeshore Natural Resource Partnership will assist in developing the overall plan and then facilitate the recommended restoration and enhancements.

- *Little Manitowoc River Shorebird Habitat* - The City of Manitowoc is part of the Bird City Wisconsin program formed by Wisconsin Bird Conservation Initiative (WBCI). Therefore, a priority of the project involves enhancing the conservancy to provide quality shorebird habitat. Dr. Charles Sontag, Professor Emeritus, Biological Sciences, UW-Manitowoc, has studied this ecosystem actively for over 40 years. He has observed, photographed and recorded data regarding bird activities - most of which has been entered in the *eBird* database. The *U.S. Shorebird Conservation Plan 2004 (USFWS)* identifies 54 high priority shorebirds, 35 of which have been documented in the Manitowoc lakefront area. In all, an average of 215 different species of birds is observed here annually. The new *U.S. Shorebird Conservation Plan* (2013) identifies the need for data on shorebird distribution, abundance and factors affecting them, like the 2008 flood event. We are seeking partnerships with birding organizations, the Wisconsin DNR and USFWS to assist in the planning, restoration, enhancement and education within the conservancy targeting shorebirds.

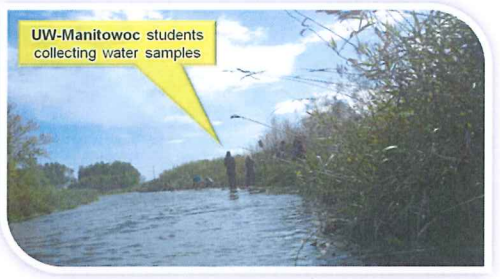
Recreation Projects:

We believe successful conservation involves connecting people to nature. We are accomplishing this by creating recreational opportunity in the conservancy. The trail system, once complete, will provide access from zoo to the Mariner's Trail, Ice Age Trail, Michigan Tour and Water Trail, Woodland Dunes Nature Center, and Manitou Park. Most of the proposal is outlined in the City's Comprehensive Outdoor Park & Rec Plan (2011-2016).

These areas to be completed include:

- Indian Creek Trail *(Reed Ave. to Indian Creek Park)*
- Floating Boardwalk *(Waldo Blvd. to Zoo)*
- Prairie Walking Trail *(Little Manitowoc Prairie to River Ct. linking to Boardwalk)*
- Magnolia Trail *(Johnston Dr. crossing to river to 8th St.)*
- Rail to Trail *(Woodland Dunes Nature Center to Manitou Park via Indian Creek Park)*
- Observation Decks *(Little Manitowoc Prairie overlooking lake and wetlands)*
- Zoo Trail *(combination boardwalk and trail looping outside the Zoo along river and in woods)*
- Lincoln Park Trails *(evaluate and upgrade existing trail system)*
- Accessible Trails *(where practical provide ADA accessible trails)*
- Fishing and Water Access Points
- Benches and Picnic Areas

Educational Opportunities:



The conservancy will offer a variety of passive and active learning experiences both inside and outside. With 15 unique habitats featured in a concentrated area, the Little Manitowoc River Conservancy becomes an ideal place for students to get out and study the changing habitats and the wildlife within them. With the zoo being located in the conservancy, animals can be viewed up close and then out in their natural environments.

The Lake Michigan Flyway makes this area special for birders; the flyway is utilized by over 300 species of birds as they migrate. Lake Michigan's shoreline and coastal wetlands provides a variety of plant life and habitat for resting and refueling. According to the US Fish and Wildlife Service, "Birding is the number one sport in America" and "there are currently 51.3 million birders in the United States alone and the number continues to grow!" The Little Manitowoc Conservancy not only gives us the chance to educate visitor but also becomes a tourist destination benefiting the whole community!

COASTAL WETLAND RESTORATION PROJECT GOALS AND OBJECTIVES:

The 38.5 acre wetland and river complex is located adjacent to Lake Michigan at the mouth of the Little Manitowoc River in the City of Manitowoc, WI. As with any conservation project to a wetland and water resource located in an urban environment, gaining both agency and public buy-in is paramount. The City Master Plan that has been developed with the help of several members of the public, WDNR, Army Corps, USFWS, Wisconsin Waterfowl Association and private consulting firms all have indicated that this restoration project has the potential to be a marked improvement over the existing condition. However, more information is needed by stakeholders prior to permitting and final approval.

The City's Master Plan for the Little Manitowoc Coastal Wetland Restoration (LMCWR) includes the following elements:

- Develop a complete a habitat assessment of the wetlands that quantifies the existing impairments of the wetland (namely sedimentation and invasive species).
- Establish benchmark water quality and macro-invertebrate analysis.
- Complete a public participation process with the various stakeholders to gain buy-in to a restoration plan and approach.
- Prepare a preliminary design that refines and details the current Master Plan for the area.
- Remove accumulated sediment (12-15" in depth) to expose the native muck and peat wetland soils.
- Modify the existing monotypic wetland surface to provide a variety of inundation depths and frequencies that include pockets of open water, emergent wetland areas, and sedge meadows.
- Control invasive species, which include *Phragmites australis* (common reed grass), *Typha* spp. (cattails), *Phalaris arundinacea* (reed canary grass), and *Polygonum cuspidatum* (Japanese knotweed). These are all NR 40 restricted species.
- Seed and plant native species within and surrounding the wetland.
- Remeander the stream to more reflect its original alignment prior to the stream being straightened in the mid 1930's.
- Placement of riffle structures in the existing stream that will also facilitate fish migration upstream that are currently inhibited due to the extremely shallow depths in the river between Waldo Ave (STH 42) and Reed Ave.

DESCRIPTION OF EXISTING AND PROPOSED PARTNERSHIPS:

Lakeshore Natural Resource Partnership
Project Coordinator: James Kettler, Executive Director, (920)-304-1919 jim@lnrp.org

James Kettler, Executive Director of LNRP, will be the Project Manager, overseeing grant management, project compliance from consultants, will facilitate collaboration among partners. As an ecologist with training and experience in restoration ecology, agroecology, and ecosystem management, Dr. James Kettler received a Ph.D. in ecology from the University of Georgia and a B.S. in Wildlife Ecology from the University of Wisconsin - Madison. From 1985 - 1995, he worked at the interface of land management issues examining potential improvements of traditional agricultural systems and restoration of degraded pastures in Costa Rica, working with traditional farmers on inland fisheries development in Liberia, West Africa, serving as an ecologist for the Nooksack Indian Tribe in western Washington State, and conducting training workshops on sustainable agriculture for agricultural extension agents in the state of Georgia. James also taught at the Graduate School of Environmental Studies at Bard College. He was involved with the International Honors Program for over 12 years, as Traveling Faculty, as Academic Director, and until January 2008 as Executive Director. Since August 2006, he has been the Executive Director of the Lakeshore Natural Resource Partnership, a regional community-based organization located in the Lakeshore Basin of Northeast Wisconsin.

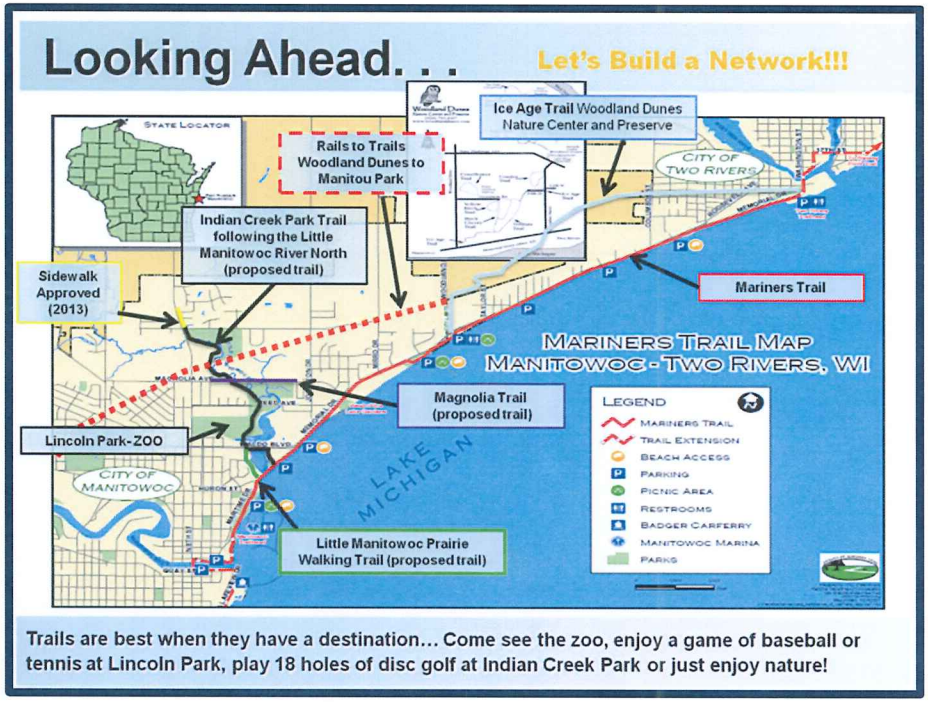
Little Manitowoc River Partnership: is a community based organization founded by Justin Winga **littlemanitowoc@gmail.com,** that coordinates conservation effort within the Little Manitowoc River watershed and is a voice for local stakeholders. Although officially founded in October 2012, Justin has been advocating and bringing together stakeholders since 2008 in an effort to restore the 38.5 acre Little Manitowoc River coastal wetland. Now the mission has expanded to the 230+ acre Little Manitowoc River Conservancy. The partnership's motto is *"Connecting the Community to Nature through Education"*. With the motto in mind they are working to create a first class Nature Center, to provide educational programs for schools, plus training volunteer monitors and mentoring students. Most importantly they are getting the boots on the ground to monitor the watershed for water quality, invasive species, bird counts and habitat. Contact: littlemanitowoc@gmail.com

UW-Manitowoc: the Biological Science Department has provided summer interns to LNRP during the since 2010. The biology classes have created opportunities for field-based exercises in all of the watersheds. Professors Abler and Hein will assure a science-based approach through a well-designed experimental framework and appropriate sampling protocols.

Wisconsin Waterfowl Association: The Wisconsin Waterfowl Association is dedicated to the conservation of Wisconsin's waterfowl and wetland resources. The quality of North America's waterfowl breeding grounds, in particular those located within the boundaries of Wisconsin, depend on the management decisions of landowners. WWA works directly with Wisconsin landowners and local Federal, State and private agencies when restoring both public and private wetland and upland habitats in Wisconsin. WWA will work closely with the partnership and help facilitate communications with federal and state wildlife agencies on issues pertaining to waterfowl and habitat found in the Little Manitowoc Coastal Wetland. Their goal is to continue to cultivate the relationships to further increase wetland and upland habitat in the Little Manitowoc Watershed.

Other Supporting Organizations:

- Ducks Unlimited
- Wisconsin Waterfowl Association
- Wisconsin Maritime Museum
- Trout Unlimited
- Lincoln Park Zoological Society
- Woodland Dunes Nature Center & Preserve
- Manitowoc Marina
- YMCA
- Northeastern Wisconsin Great Lakes Sport Fishermen
- Bay-Lake Regional Planning Commission



Little Manitowoc River Partnership - *Fixing Our Past & Improving Our Future!*