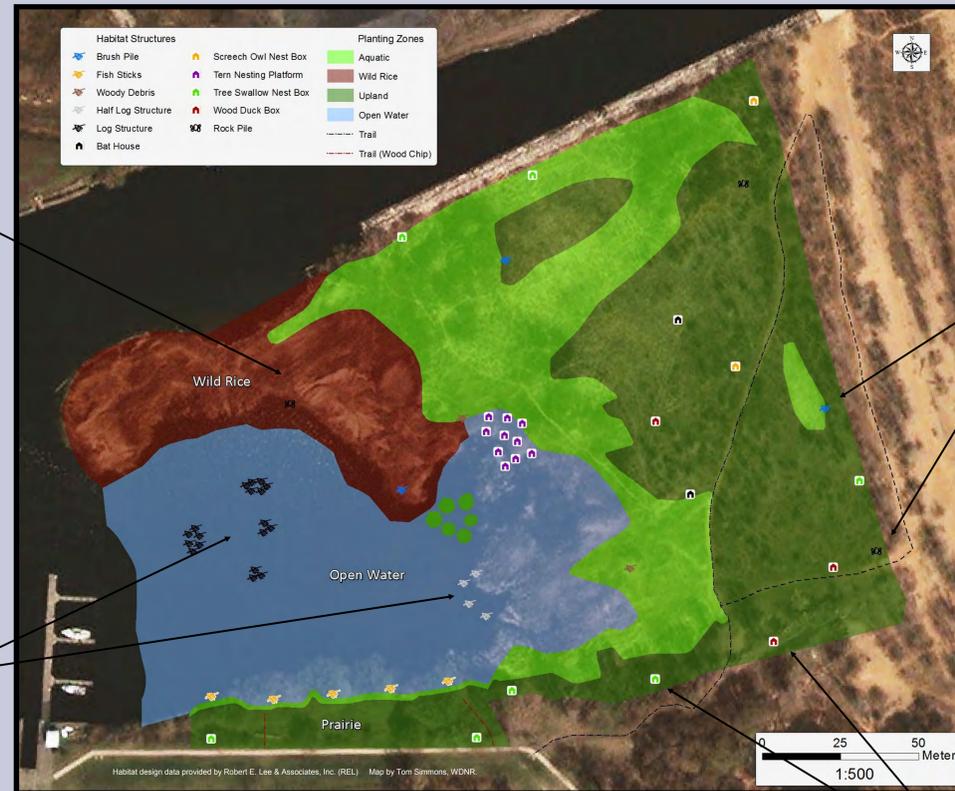


MENEKAUNEE HARBOR HABITAT RESTORATION

Sediment quality and fish and wildlife habitat in Menekaunee Harbor were degraded as a result of many years of industrial and urban activities in the Lower Menominee River Watershed. The City of Marinette and the Wisconsin Department of Natural Resources (WDNR) have been working together to improve the health of the harbor for fish, wildlife, and citizens. Contaminated and excess sediment were dredged from the harbor in 2014, leaving it cleaner and deeper. Then, habitat restoration work in the eastern part of the harbor and nearby wetland was completed in 2015 and early 2016. The work included planting native vegetation, controlling invasive plants, and installing various habitat structures, including rock piles, brush piles, bird nesting boxes, bat houses, and in-water wood structures for fish. The City and WDNR share a vision for the harbor that includes better public access, improved economic and recreational opportunities, a cleaner environment, and improved habitat for fish and wildlife.



WILD RICE
Wild rice was historically present in the Lower Menominee River. In addition to providing excellent opportunities for wildlife, wild rice has significant historical and cultural value. The seed has long been a staple within the diets of Native Americans living within its range, including the Menominee Tribe.



Menekaunee Harbor Planting Zones and Habitat Structures



ROCK AND BRUSH PILES
Rock piles and brush piles were constructed both on land and in the water. These structures help increase habitat diversity by providing cover, loafing, basking, and feeding opportunities both above and below water for a variety of invertebrate, fish, amphibian, reptile, mammal, and bird species.





NATIVE PLANTINGS
A variety of native ferns, grasses, sedges, forbs, shrubs, and trees were planted in the harbor area. Healthy and diverse native vegetation is more resilient and provides food and cover for fish, amphibians, reptiles, mammals, and birds.



LOG STRUCTURES
Sunken log structures provide cover and habitat for a variety of aquatic insects, amphibians, reptiles, and fish. Half logs do the same, but can also provide resting areas for amphibians, reptiles, birds, and mammals when exposed during low water levels. Old timbers salvaged during harbor dredging were re-used in these habitat structures.

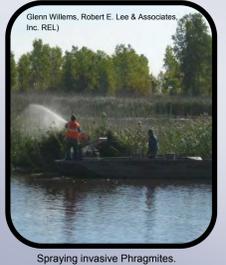




CLIMATE CHANGE
Enhancing habitat provides "insurance" against unpredictable weather caused by global warming. The planting of trees, shrubs, flowers, and grasses makes the harbor area more resilient to weather extremes and changes in water levels. By restoring the ecosystem services, planting habitat also provides space for wildlife on the move from other places.

BIRD AND BAT HOUSES
Bird and bat houses provide roosting and nesting opportunities for a variety of bird and bat species. Nest boxes were installed for eastern screech owls, tree swallows, eastern bluebirds, and wood ducks. Floating nesting platforms for endangered Forster's terns will be stored each winter and replaced each spring. The bat houses will provide roosting for several species, but little and big brown bats are expected to be the most common.



INVASIVE SPECIES CONTROL
Treatment and removal of non-native giant reed grass (*Phragmites australis*) and other invasive plants promoted growth of natives by creating open space and allowing in sunlight. Addressing invasive species will be an annual endeavor due to their ability to appear suddenly and spread quickly.

For more information.

Visit Marinette.wi.us (Search: Menekaunee Harbor), dnr.wi.gov or michigan.gov/deq (Search: Menominee River AOC).

Watch the Menekaunee Harbor Video: <https://youtu.be/d3nLkri-S18>. Find out how you can get involved with the

Lower Menominee River Citizens Advisory Committee: contact Keith West, UW-Marinette; 715-735-4300 x4352; keith.west@uwc.edu or Mark Erickson; 906-863-1954; merickson@lloydflanders.com or visit www.facebook.com (Search: Menominee River AOC).

