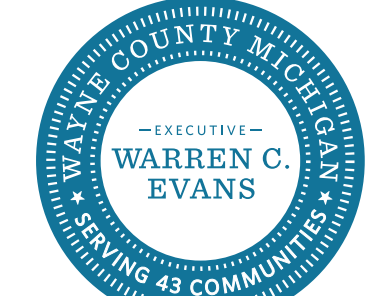




ROUGE RIVER AOC HABITAT RESTORATION DESIGN WILCOX/PHOENIX/INKSTER



Project Partners:

U. S. Environmental Protection Agency (USEPA), Great Lakes Restoration Initiative (GLRI) Grant - \$785,100 for design in 2021 and \$5,008,595 for implementation in 2022 at Wilcox & Phoenix Lake

In 2021 the Alliance of Rouge Communities (ARC) received grant funding from the USEPA GLRI to design habitat restoration at Wilcox Lake, Phoenix Lake, and Inkster Park within the Rouge River Watershed. In 2022 the ARC received grant funding from the USEPA GLRI for implementation of the habitat improvements for Wilcox and Phoenix Lakes.

The Rouge River watershed is a designated Area of Concern (AOC) under the Great Lakes Water Quality Agreement (GLWQA) and has three Beneficial Use Impairments (BUIs) associated with fish and wildlife habitat: Degraded Fish and Wildlife Populations, Degradation of Benthos, and Loss of Fish and Wildlife Habitat. The Rouge River Advisory Council (RRAC), the Public Advisory Council (PAC) for the Rouge AOC, in March 2016 approved a list of projects that need to be completed to remove the Rouge AOC habitat BUIs. As part of that list, habitat restoration at Wayne County's Wilcox Lake, Phoenix Lake and Inkster Park were considered as having a significant impact on the removal of the BUIs.

This project will create habitat in the floodplain by restoring degraded areas and converting mowed areas to habitat. This will provide habitat for birds, amphibians, and pollinators while providing stormwater storage and filtration to aid in the reduction of damaging flood flows within the river itself.

Overall Project Outcomes:

- 6 acres of restoration/enhanced in-lake habitat
- 6.5 acres of invasive species control
- Approximately 12,000 cubic yards of sediment removed
- Approximately 200 feet of streambank stabilization
- Aid in the removal of BUIs



Conditions Prior to Restoration at Wilcox/Phoenix/Inkster Park

As water quality in the Rouge River continues to improve, this project will build on past efforts to restore some of the damage done during the last century. Tributaries of the Rouge River have suffered from loss and impairment of aquatic habitat and increased frequency and magnitude of flood flows, primarily due to increasing urbanization within the watershed. The flat river slope and the meandering channel cannot pass the large flows associated with rain events. Upstream urbanization continues to exacerbate this problem as runoff from increased amounts of impervious surfaces culminates in flooding within the river system, bank erosion, and continued habitat degradation.

Wilcox Lake Restoration - City of Plymouth

The park is used for fishing, picnicking, and passive recreation. The project goal is to enhance the in-lake and riparian habitat at the site through:

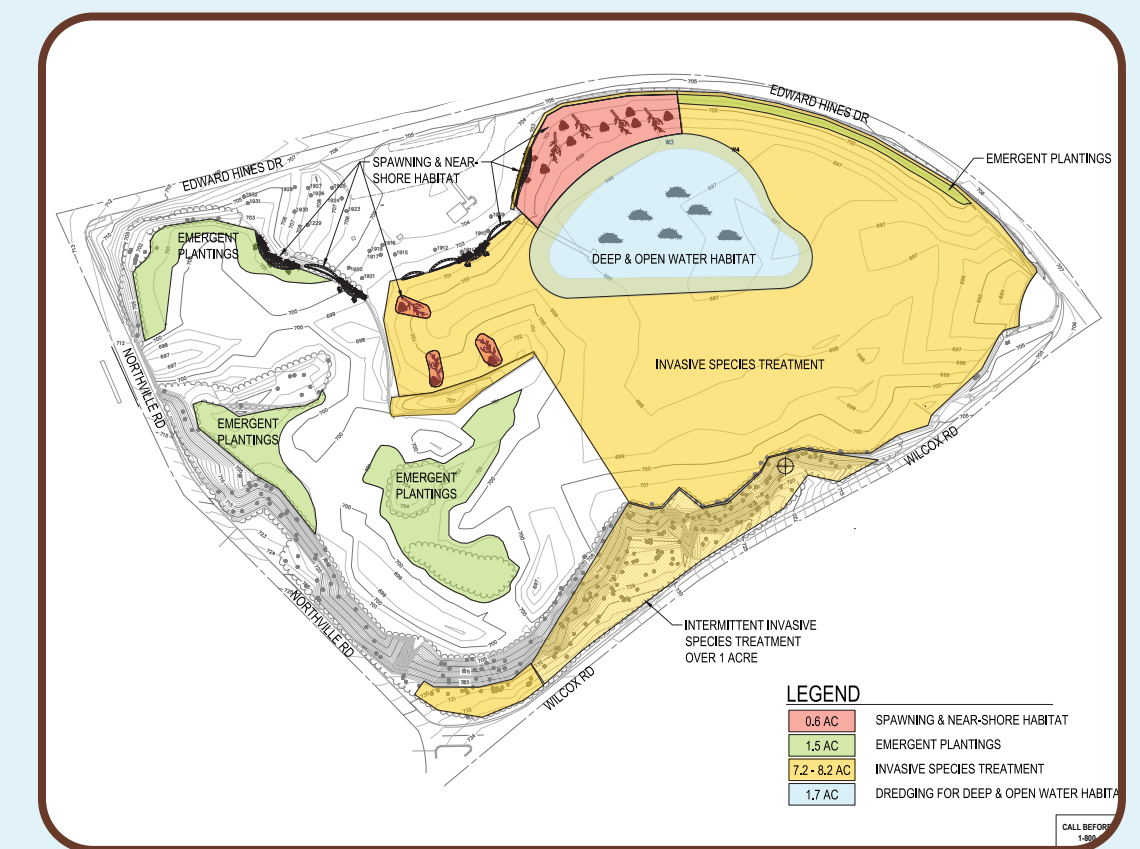
- Removal of sediment and re-shaping of the lake to create open water area, shallow and deep over-wintering habitats for fish spawning, nursery, and cover habitat.
- Restoration of aquatic benthic substrates submerged/emergent aquatic vegetation and riparian habitat. New substrates to include sandy gravel, cobbles, and boulders to provide spawning areas, attachment points, and cover for fishes, insects and fauna.
- Placement of woody debris along the shoreline to increase habitat diversity. Boulder clusters will be added offshore to add cover and feeding areas.
- Conducting invasive species management and planting of native shrubs and trees.
- Improvements to reduce direct non-point source pollution with bioswales/native plants.



Existing conditions at Wilcox Lake

Anticipated Outcomes

- Increased aquatic habitat
- Increased plant diversity
- More diverse riparian habitat



Wilcox Lake Concept Plan

Phoenix Lake Restoration - City of Plymouth

The goal of the project is to enhance the in-lake habitat value through:

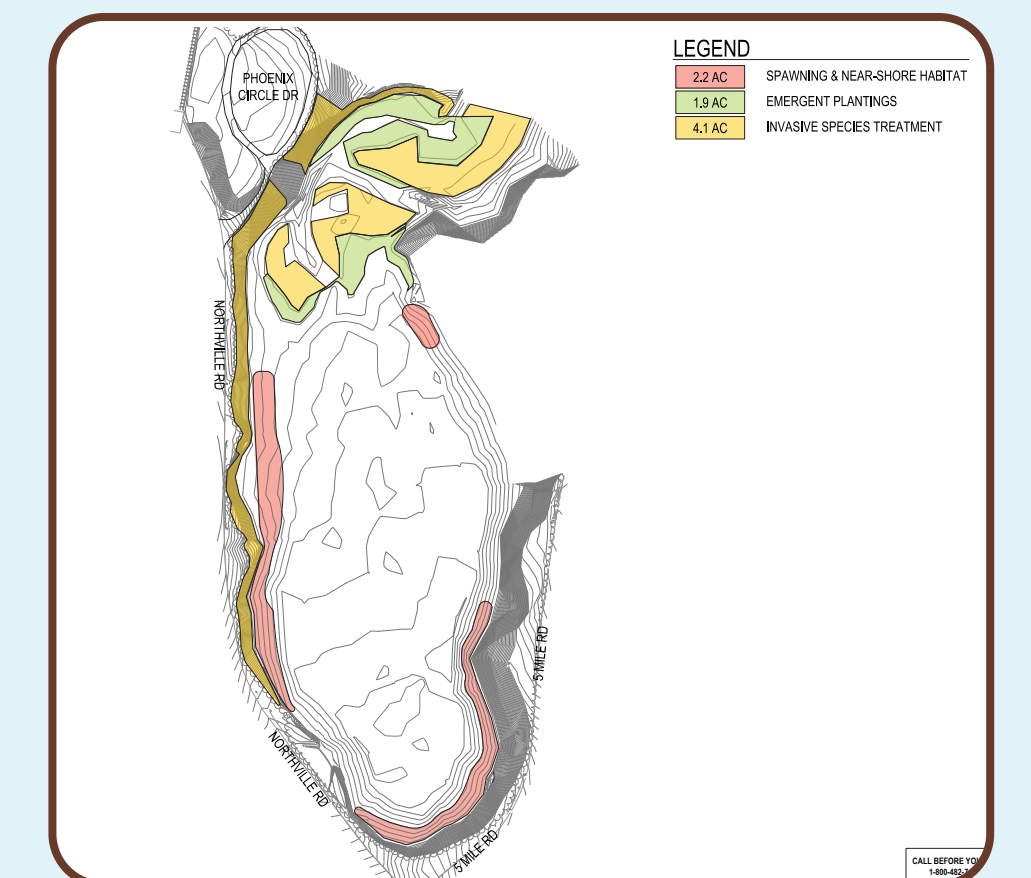
- Installation of new substrates that include sandy gravels, cobbles, and boulder clusters providing spawning substrate, attachment points, and cover for fishes, insects, crustaceans, and fauna. Submerged, emergent, and floating aquatic vegetation will be planted in shallow water to create lacustrine wetland habitat for waterfowl feeding, fish spawning and nursery habitat, and nutrient sequestration.
- Placement of woody debris along the shoreline and placed offshore to increase habitat diversity. Boulder clusters will be added offshore to add cover and feeding areas.

Anticipated Outcomes

- Increased aquatic habitat
- Increased plant diversity
- More diverse riparian habitat



Existing conditions at Phoenix Lake



Phoenix Lake Concept Plan

Inkster Park Restoration - City of Inkster

Most of the park area is routinely mowed and used for active recreation but is low and routinely floods. The project plan proposes to:

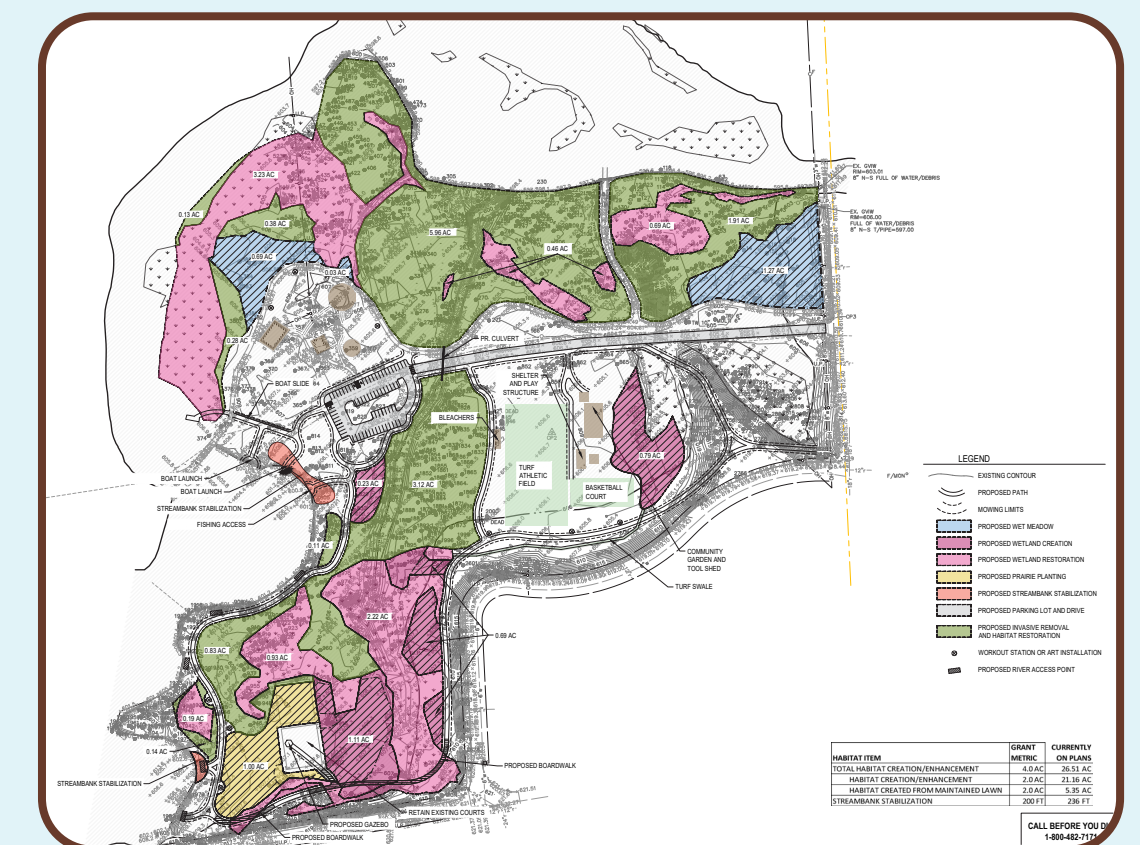
- Create 2-acres wetland/wet meadow area. The emergent wetland will contain a diversity of water depths and wetland plants, providing habitat for birds, amphibians, reptiles, and insects.
- Convert 2 acres of maintained lawn to habitat by planting native trees and shrubs and seeded with an understory seed mix.
- Stabilize bank section of the river that runs through the intended habitat area to prevent loss of habitat and erosion to the river.



Existing conditions at Inkster Park

Anticipated Outcomes

- Increased wetland habitat
- Improved floodwater storage
- Improved water quality
- Increased plant diversity
- More diverse riparian habitat



Inkster Park Concept Plan