

Muskegon Lake AOC Habitat Restoration

The Lower Muskegon River Restoration Project will reconnect a former floodplain with the Muskegon River and restore fish passage and habitat for a variety of native fish and wildlife.



Project Highlights

- ◆ Restore 53.5 acres of emergent wetland, exceeding the emergent wetland acreage goal by 10 acres
- ◆ Soften 2,739 feet of shoreline
- ◆ Remove 5.3 acres of fill
- ◆ Complete restoration of Muskegon Lake to remove it from the list of Great Lakes Areas of Concern (AOCs) or “toxic hotspots” as early as 2020
- ◆ Funding is provided by the Great Lakes Restoration Initiative (GLRI) and U.S. Environmental Protection Agency (EPA) through the National Oceanic and Atmospheric Administration (NOAA) and the Great Lakes Commission (GLC)
- ◆ The West Michigan Shoreline Regional Development Commission (WMSRDC) is implementing this project
- ◆ The Grand Valley State University Annis Water Resources Institute (GVSU AWRI) is monitoring the impact of restoration on the aquatic ecosystem

Environmental Benefits

Healthier fish and wildlife habitat within the Lake Michigan / Muskegon River / Muskegon Lake estuary system

Economic Benefits

Enhanced recreational opportunities and scenic beauty for those using the Muskegon River

Community Benefits

Stormwater services through floodplain, wetland and water quality improvements

Background of the AOC

Within the lower Muskegon River watershed, lies the Muskegon Lake AOC, a 4,150-acre drowned river mouth lake that flows into Lake Michigan at a shoreline that is part of the world's largest assemblage of freshwater sand dunes. Muskegon Lake was designated an AOC in 1985 due to ecological problems caused by industrial discharges, shoreline alterations and the filling of open water and coastal wetlands. Since 1992, community groups, governmental and nongovernmental organizations have worked collaboratively to remediate contaminated sediments and to restore and protect fish and wildlife species and their habitats. Historic sawmill debris, foundry sand and slag filled 798 acres of open water and emergent wetlands in the AOC. Nearly 25% of Muskegon Lake's open water and shallow wetlands were filled, and approximately 74% of the shoreline was hardened with wood pilings, sheet metal and concrete. This resulted in the loss and degradation of shallow water communities, isolation and fragmentation of coastal wetlands, and the associated degradation of water quality and fish and wildlife populations. With completion of this and several other projects in development, the U.S. EPA now expects to remove Muskegon Lake from the list of Great Lakes "toxic hotspots" as early as 2020.

History of the Wetlands

This project sits within the Muskegon Lake AOC on the Muskegon River, 0.5 miles upstream of Muskegon Lake. Historically, the site was used for celery farming and was separated from the river by a series of constructed dikes. The project will reconnect the former floodplain wetlands with the Muskegon River and restore fish passage and habitat for a variety of native fish and wildlife. It is anticipated that restoration will involve the removal of three dikes (4,361 feet) composed of artificial fill, including broken concrete, soil and tree stumps. One dike (2,739 feet) separates Muskegon River from the former, 95-acre floodplain wetland that is pumped and farmed for hay and used for passive recreation, with two additional internal dikes (1,622 feet) within the project site.



"Muskegon County is happy to participate in the Lower Muskegon River project to preserve the beauty and sustainability of the Muskegon River, Muskegon Lake and Lake Michigan. The coastal marsh is an important West Michigan asset with many environmental, social and economic benefits."

- Terry Sabo, State Representative, 92nd District,
Former Chair, Muskegon County Board of Commissioners

Project Progress

The Lower Muskegon River restoration site is owned by Muskegon County and was acquired through a NOAA AOC Land Acquisition Grant in 2015. Engineering and design for the project is being completed by WMSRDC under a NOAA- Commission Regional Partnership. Construction is anticipated to be underway in the spring of 2019. The Muskegon Lake Watershed Partnership (MLWP) serves as the local Public Advisory Council for the AOC. The MLWP established habitat restoration targets to remove fish and wildlife-related Beneficial Use Impairments in 2008 and continues to oversee implementation of the habitat restoration plan.

Funding and Partners

Approximately \$7.9 million is available for this project through the GLRI, a regional program that is supporting implementation of a comprehensive restoration plan for the Great Lakes, including cleaning up the AOCs. The project funding comes from NOAA through a partnership with the GLC. The project is being managed locally by the West Michigan Shoreline Regional Development Commission (WMSRDC) and ecological monitoring is being performed by GVSU AWRI.

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