



Muskegon Lake AOC Habitat Restoration

The **Amoco** habitat restoration will restore coastal wetlands and natural shoreline habitat, improving habitat for fish and wildlife.



Project location along southern shoreline of Muskegon Lake

Project Highlights

Restore approximately 2.7 acres of emergent wetland, 7.6 acres of open water wetland, and 325 linear feet of shoreline

Remove 1,446 feet of existing concrete wall structure and 4,250 metric tons of unnatural fill

Funding is provided by the Great Lakes Restoration Initiative (GLRI) and U.S. Environmental Protection Agency 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

Environmental Benefits

- Restore fish habitat
- Reconnect coastal wetland to Muskegon Lake

Economic Benefits

- Increase property values
- Enhance the fishery of Muskegon Lake

Community Benefits

- Improve fishing
- Enhance recreation
- Improve shoreline appearance

Background of the Area of Concern (AOC)



Project site (Photo by Jill Estrada/GLC)

Within the lower Muskegon River watershed lies the **Muskegon Lake AOC**, a 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 or concrete. This resulted in the loss and degradation of shallow water benthic (lake bottom) communities, isolation and fragmentation of coastal wetlands, and the associated degradation of water quality and fish and wildlife populations.

This project, along with three others already under development, will complete all of the management actions needed for the U.S. Environmental Protection Agency (U.S. EPA) to remove Muskegon Lake from the list of Great Lakes "toxic hotspots."

History of the Amoco Property

The Muskegon Lake Amoco project is located on the south shoreline of Muskegon Lake, within the Muskegon Lake Area of Concern. This 23-acre shoreline property, owned by the City of Muskegon, was once emergent wetland and shallow aquatic habitat. It was initially filled with sawmill wood debris waste from a historic, lumber-era sawmill that operated on the site. It was later filled with foundry sand and broken concrete to provide a foundation for the development of the Standard Oil dock and tank farm (later known as Amoco). A 5-foot-high, 2,300-foot-long concrete wall separates the former wetland property from Ruddiman Creek and the shoreline of Muskegon Lake.

During the 1980s-1990s, the tank farm was razed and remedial activities were undertaken by the responsible parties. Today, there is strong community support for restoration of fish and wildlife habitat to increase public uses of the property for passive outdoor recreation, including public access fishing, kayaking, canoeing and wildlife-watching. Several partners including the City of Muskegon (landowner), Muskegon Lake Watershed Partnership, Michigan Department of Environment, Great Lakes, and Energy – Remediation Division, and Michigan Department of Natural Resources support the project moving forward.

Funding and Partners

Approximately \$3.13 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 AOCs. The project funding comes from NOAA through a Regional Partnership with GLC. The project is being managed locally by WMSRDC and ecological monitoring is being performed by the GVSU AWRI.

For More Information

Eric Ellis, Habitat Restoration Project Manager
Great Lakes Commission, 734-396-6089, eellis@glc.org

Kathy Evans, Project Manager, West Michigan Shoreline
Regional Development Commission, 231-722-7878 x 17,
kevans@wmsrdc.org / www.wmsrdc.org

WMSRDC
WEST MICHIGAN SHORELINE
REGIONAL DEVELOPMENT COMMISSION