NOAA

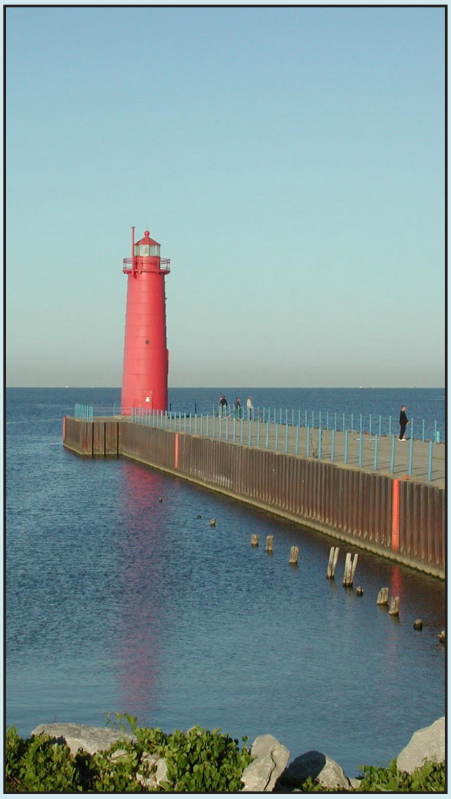
Habitat Blueprint

# NOAA Selects Muskegon Lake as Habitat Focus Area

Muskegon Lake has been selected as a Habitat Focus Area under NOAA's Habitat Blueprint. This is an important step to increase the effectiveness of NOAA's habitat conservation science and management efforts by identifying places where NOAA offices work to meet multiple habitat conservation objectives on a watershed scale.

## A Watershed in Need

Muskegon Lake is a 4,149 acre inland coastal lake located on the west shoreline of Michigan's lower peninsula and connected to Lake Michigan by a deep-draft navigation channel. Since the late 1800s when Muskegon Lake was a center of the lumber era, several other industries were based there including chemical and petrochemical companies, foundries, a coal-fired power plant, and a paper mill. Muskegon Lake has suffered water quality concerns and habitat degradation from extensive shoreline filling and sediment contamination from compounds such as mercury and polycyclic aromatic hydrocarbons.



## What Can NOAA Do?

NOAA's expertise in integrated monitoring, habitat protection and restoration, stakeholder education, and coastal planning and management will be critical to addressing these issues.

The objectives we have identified in Muskegon Lake include:

- addressing loss of fish and wildlife habitat by funding targeted restoration projects within Muskegon and Bear lakes;
- rebuilding sport fisheries and populations of aquatic organisms to sustainable levels through habitat protection and restoration;
- monitoring the effects of aquatic habitat restoration on the fishery, aquatic organisms and vegetation in Muskegon Lake;
- monitoring the socio-economic impacts of habitat restoration on the Muskegon Lake community;
- engaging in socio-economic research; and
- increasing coastal tourism, access and recreation opportunities.

Part of the Muskegon Lake shoreline where debris was removed and stabilized with native vegetation to restore coastal habitat.

Mill debris removed from restoration project site.

## Collaboration

Multiple NOAA offices join an already active community of partners working on these issues in Muskegon Lake. NOAA's National Ocean Service, NOAA Fisheries, and the Great Lakes Environmental Research Laboratory have implemented numerous projects that are already yielding measurable results. This work, to date, has achieved more than 40 percent of the fish and wildlife habitat restoration targets for Muskegon Lake as identified by the community.

## Next Steps

NOAA will now develop an implementation plan for Muskegon Lake. We will build off of recently completed projects funded under the Recovery Act and the Great Lakes Restoration Initiative. An engineering and design project will result in design plans for restoring a former celery farm near Bear Lake a tributary to Muskegon Lake. Land near Muskegon Lake is also being considered for acquisition under the NOAA Coastal and Estuarine Land Conservation Projects program. Restoration planning and engineering of the property would be completed through a NOAA Fisheries partnership with Ducks Unlimited.

## *Habitat Restoration in Michigan: A Big Bang for the Buck*

In Muskegon, we restored wetlands and stabilized shorelines at 15 separate locations. The effort helped Muskegon Lake, the Muskegon River, and Lake Michigan recover from impairments to wetlands and the loss of fish and wildlife.

The ecological benefits of this project are clear. Our partners removed more than 200,000 tons of sawmill waste and demolition material from shallow water and wetlands. They replaced more than 13,000 feet of hardened shoreline with native vegetation and restored nearly 33 acres of wetland. These changes will help fish and other wildlife return to their native habitat.

The economic benefits are clear as well. We invested $10 million in the project with our partner, the Great Lakes Commission. A study undertaken by the Commission suggests that the project will generate:

- a $12 million increase in property values,
- $600,000 in new tax revenues annually
- more than $1 million a year in new recreational spending in Muskegon
- 65,000 additional visitors annually
- an additional 55 cents in the local economy for every federal dollar spent

All told, for a $10 million investment, the project created $66 million in economic benefits. The project also created jobs in an area with an unemployment rate higher than 12 percent, while creating healthier habitat and more fish.