



MICHIGAN'S WILDLIFE ACTION PLAN
AQUATIC SYSTEMS: LAKE SUPERIOR BASIN

Great Lakes: Shoreline

Description

Shoreline areas of the Great Lakes range from zero to 3 meters in depth. This area includes coastal marshes. Great Lakes are considered to be the Michigan waters of Lake Superior.

General Condition of Feature

This habitat is considered 70% in good to excellent condition, 20% in fair condition, and 10% in degraded to very degraded condition.

Associated Natural Communities

Great Lakes Marsh
Northern Fen

Associated Species of Greatest Conservation Need

FISH

lake sturgeon (*Acipenser fulvescens*)
cisco or lake herring (*Coregonus artedii*)
slimy sculpin (*Cottus cognatus*)

FISH cont.

sauger (*Sander canadensis*)

AMPHIBIANS

mudpuppy (*Necturus maculosus maculosus*)

Associated Threats

POLLUTION

- Altered nutrient inflows: Nutrient loading (low threat)
- Altered sediment loads: Erosion; Sedimentation

HABITAT CONVERSION

- Dredging and channelization: Dredging; Shoreline hardening and marinas
- Riparian modifications: Historic and still existing commercial loading structures; Marinas; Urbanization; Development; Piers

BIOLOGICAL INTERACTIONS

- Invasive plants and animals: Such as gobies

CONSUMPTIVE BIOLOGICAL RESOURCE USE

- Forestry practices
- Mining practices: (low threat)
- Removal of wildlife

Conservation Actions Needed (Threats addressed)

LAND, WATER & SPECIES MANAGEMENT

- Control and prevent aquatic invasive species introductions and establishments (invasive plants and animals)
- Develop integrated pest management plans (invasive plants and animals)
- Maintain or establish riparian buffers of at least 50 ft., but 500 ft. or wider maximizes conservation benefits (altered sediment loads, riparian modifications)
- Work with road commissions on maintenance and placement of new bridges (altered sediment loads)

LAW & POLICY

- Avoid open water disposal of uncontaminated materials (dredging and channelization)
- Continued vigilance and cooperation on preventing more aquatic invasive species establishments (invasive plants and animals)
- Enact and enforce shoreline protection regulations (riparian modifications)
- Encourage clustered development rather than evenly spaced home lots (riparian modifications)
- Encourage greenspace planning (riparian modifications)
- Enforce the use of sediment barriers and best management practices during road siting, construction, and maintenance (altered sediment loads)
- Restrict beach grooming (riparian modifications)
- Restrict dredging and channelization activities, especially during spawning and migration seasons and around mussel beds and around mussel beds (dredging and channelization)
- Soften or remove hard shoreline structures (riparian modifications)
- Survey sediment loadings to lake and develop strategies to reduce identified problems (altered sediment loads)
- Use natural materials or soft engineering techniques for any shoreline modification (riparian modifications)
- Work with local governments to develop and refine planning and zoning regulations and ordinances that consider natural processes (variety of threats)
- Work with local officials on setback and buffer ordinances (riparian modifications)

EDUCATION & AWARENESS

- Educate landowners and shoreline users on preventing the spread of invasive aquatic species (invasive plants and animals)
- Educate landowners of the importance of shoreline vegetation, including macrophytes and riparian areas (riparian modifications)
- Educate legislators and other policy makers on the value of natural shorelines, macrophytes, and riparian areas (variety of threats)

Research and Survey Needs

- Aquatic invasive species—control of established species; prevention of new establishments; rapid response protocols
- Classify all Lakes Superior shoreline
- Continue interactive governmental decision making from local to international levels
- Continue to work with GLFC Lake Superior Technical Advisory Group implementing Lake Superior aquatic community objectives
- Model hydrology of Great Lakes tributaries
- Survey erosion sites within watersheds and develop strategies to reduce identified problems
- Survey shoreline and inventory aquatic species and physical features of this landscape feature
- Survey shoreline areas to determine relationships between cumulative shoreline armoring at a landscape scale

Monitoring

- Aquatic invasive species
- Continue cooperation between agencies on invasive species prevention and control
- Dredging and channelization
- Mining activities
- Commercial shipping ballast discharges