

Lake Characteristic: Wave-Washed Shore



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Description

Wave-washed shores are areas of lakes with constant wind-generated wave energy in relatively shallow water with natural substrates and with the absence of human altered shorelines. These areas are found primarily in the Great Lakes and large inland lakes.

General Condition of Feature

This habitat is considered 35% in good to excellent condition, 30% in fair condition, and 35% in degraded to very degraded condition.

Associated Species of Greatest Conservation Need

INSECTS

Douglas Stenelmis riffle beetle (*Stenelmis douglasensis*)

FISH

lake sturgeon (*Acipenser fulvescens*)
river herring (*Moxostoma carinatum*)

Associated threats

MODIFICATION OF NATURAL PROCESSES

- Altered hydrologic regimes: (low threat)
- Fragmentation: (low threat)

POLLUTION

- Altered nutrient inflows
- Altered sediment loads: Affects forage species that reside in this habitat; Sedimentation; Erosion
- Pesticides and herbicides
- Urban, municipal, and industrial pollution

HABITAT CONVERSION

- Dams
- Dredging and channelization: Navigation & shipping channels; Dredging
- Riparian modification: Industrial development; Dock construction; Filling; Residential development; Seawalls; Shoreline development; Marinas

BIOLOGICAL INTERACTIONS

- Invasive plants and animals

CONSUMPTIVE BIOLOGICAL RESOURCE USE

- Removal of wildlife: (low threat)

NON-CONSUMPTIVE BIOLOGICAL RESOURCE USE

- Macrophyte removal

EDUCATION

- Lack of scientific knowledge

Conservation Actions Needed (Threats addressed)

LAND, WATER & SPECIES MANAGEMENT

- Ensure roads near lakes are not contributing sediment to the system (altered sediment loads)
- Maintain or establish riparian buffers of at least 50 ft., but 500 ft. or wider maximizes conservation benefits, but 500 ft. or wider maximizes conservation benefits (altered sediment loads, riparian modification)
- Soften or remove hard shoreline structures (riparian modification)
- Survey erosion sites within watersheds and develop strategies to reduce identified problems (altered sediment loads)

LAW & POLICY

- Enact and enforce shoreline protection regulations (riparian modification)
- Encourage use of natural materials or soft engineering techniques for any shoreline modification (riparian modification)
- Enforce the use of sediment barriers and best management practices during road siting, construction, and maintenance (altered sediment loads)
- Restrict beach grooming (riparian modification)
- Restrict dredging and channelization activities (dredging and channelization)
- Strengthen existing environmental laws (variety of threats)
- Use best management practices (variety of threats)
- Work with Drain Commissioners to use natural channel processes to manage sediment and flow and decrease the amount of channelization needed (variety of threats)
- Work with local governments to develop and refine planning and zoning regulations and ordinances that consider natural processes (riparian modification)

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

- Work with local officials on setback and buffer ordinances (riparian modification)

EDUCATION & AWARENESS

- Educate landowners of the importance of shoreline vegetation (riparian modification)

Research and Survey Needs

- Determine effective prevention, control, and survey techniques for aquatic invasive species
- Determine other species that use wave-washed shores
- Determine the amount of hard shoreline modification
- Establish effective methods of communication with the public and their stewardship role
- Determine effects of jet skis on spawning and migrating aquatic species

Monitoring

- Aquatic invasive species
- Beach sanding
- Effectiveness of local ordinances
- Jet ski use
- Land use changes
- Nearshore dredging
- Riparian modification
- Shoreline modification (dredging, shoreline structures, etc.)
- Use of best management practices