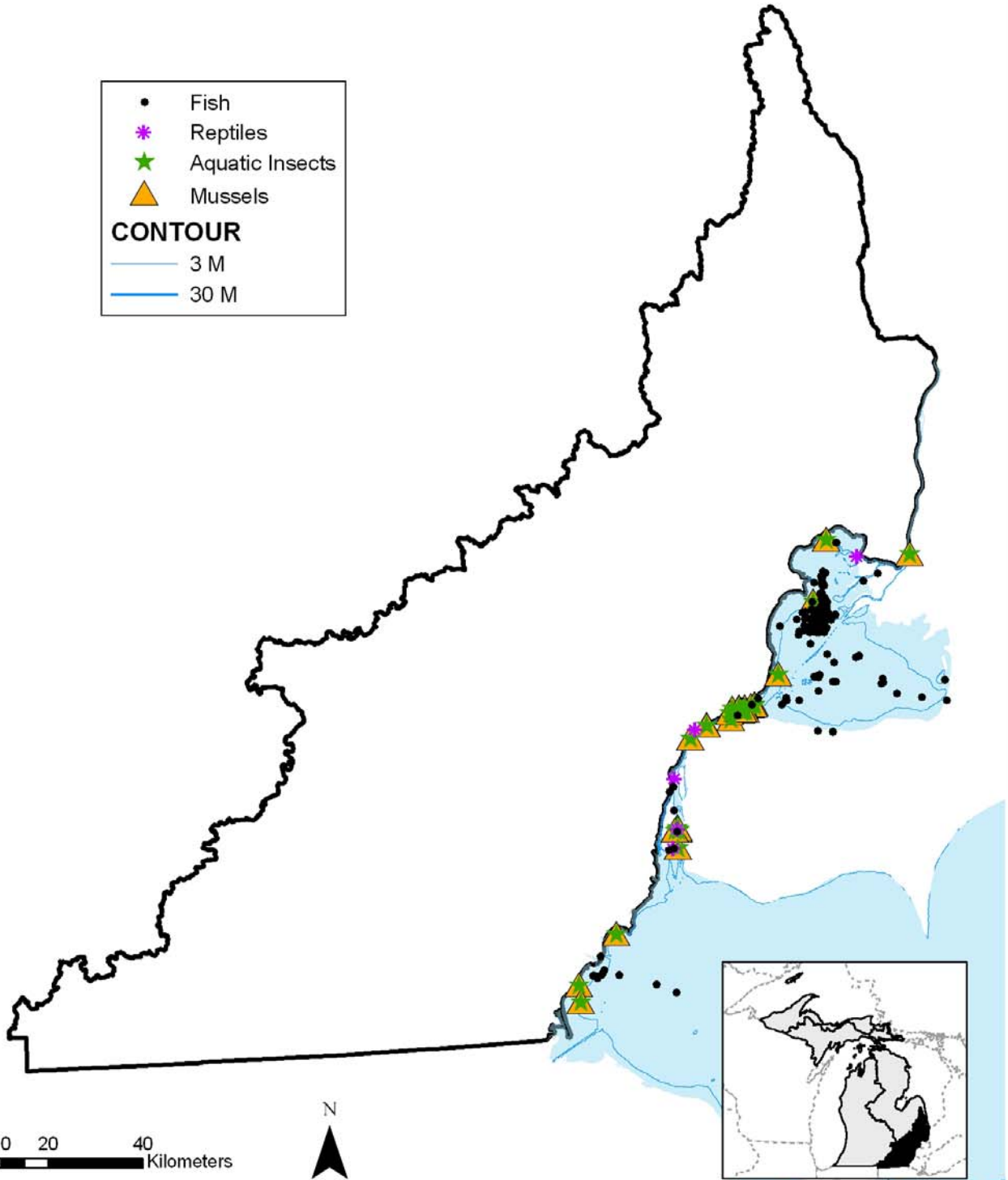
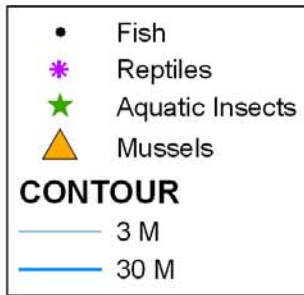


Great Lakes: Nearshore



Great Lakes: Nearshore

Description

Nearshore areas of the Great Lakes range from 3 to 30 meters in depth. This area includes both submergent and emergent aquatic vegetation, but not marshes. For the Lake Erie basin this is the Michigan waters of Lake Erie and the connecting waterways of St. Clair and Detroit rivers and Lake St. Clair.

General Condition of Feature

Lake Erie near shore areas are considered 40 % in good to excellent condition, 25% in fair condition, and 35% degraded to very degraded.

Associated Species of Greatest Conservation Need

MUSSELS

Specific associations with this landscape feature were not found in the literature

FISH

lake sturgeon (*Acipenser fulvescens*)
mooneye (*Hiodon tergisus*)
brassy minnow (*Hybognathus hankinsoni*)
silver chub (*Macrhybopsis storeriana*)
black buffalo (*Ictiobus niger*)
spotted sucker (*Minytrema melanops*)
stonecat (*Noturus flavus*)

FISH cont.

tadpole madtom (*Noturus gyrinus*)
brindled madtom (*Noturus miurus*)
cisco or lake herring (*Coregonus artedii*)
eastern sand darter (*Ammocrypta pellucida*)
channel darter (*Percina copelandi*)
river darter (*Percina shumardi*)
sauger (*Sander canadensis*)

AMPHIBIANS

mudpuppy (*Necturus maculosus maculosus*)

Associated Threats

MODIFICATION OF NATURAL PROCESSES

- Climate change: (low threat)

POLLUTION

- Altered nutrient inflows: Water quality – Dissolved oxygen issues (low threat)
- Altered sediment loads: Water quality - turbidity (low threat)
- Pesticides and herbicides: Contaminated sediments (low threat)
- Urban, municipal, and industrial pollution: (low threat)

HABITAT CONVERSION

- Dredging and channelization: Dumping dredge spoil; Open water disposal; Combined disposal facility (CDF) placement; Expanded commercial navigation

BIOLOGICAL INTERACTIONS

- Invasive plants and animals: Zebra mussels, Quagga mussels; Round gobies; Sea lamprey

NON-CONSUMPTIVE BIOLOGICAL RESOURCE USE

- Non-consumptive recreation: Extra wave energy from recreational boating

EDUCATION

- Social attitudes: Lack of understanding by riparian owners; Level of societal education of aquatic issues- how much do people understand and how will they vote for environmental issues

Conservation Actions Needed (Threats addressed)

LAND, WATER & SPECIES MANAGEMENT

- 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)
- Facilitate the shift from a transient food web dominated by exotic species to one dominated by native species (invasive plants and animals)

LAW & POLICY

- Continue and expand enforcement of permits regulating effluent discharge (altered nutrient inflows, Urban, municipal, and industrial pollution)
- Continue working with ACOE to limit dredging to agreed upon windows to protect spawning aquatic species (dredging and channelization)

EDUCATION & AWARENESS

- Expand the education programs for the general public regarding natural processes, invasive species, hydrologic cycles, and stewardship issues (altered hydrologic regimes, altered nutrient inflows, invasive plants and animals, social attitudes)

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

Research and Survey Needs

- Investigate affects of invasive species on the native and naturalized aquatic community
- Determine ballast control practices that reduce or eliminate invasive species (from virus up through fish)
- Continue to work with GLFC Lake Erie Technical Advisory Group implementing fish-community objectives
- Continue interagency cooperation on invasive species prevention and control
- Establish baseline estimates of *Dreissena* abundance
- Investigate methods to monitor and control current established aquatic invasive species
- Model habitat dynamics and species relationships and linkages to better understand community dynamics

Monitoring

- Continue monitoring lake sturgeon and lake herring populations to prevent extinction
- Continue monitoring summer water transparencies to ensure they remain in the 3-5 m range
- Expand monitoring of the lower trophic levels to track changes in the food web and contaminant uptake
- Monitor phosphorus levels to attain 10-20 ug L-1