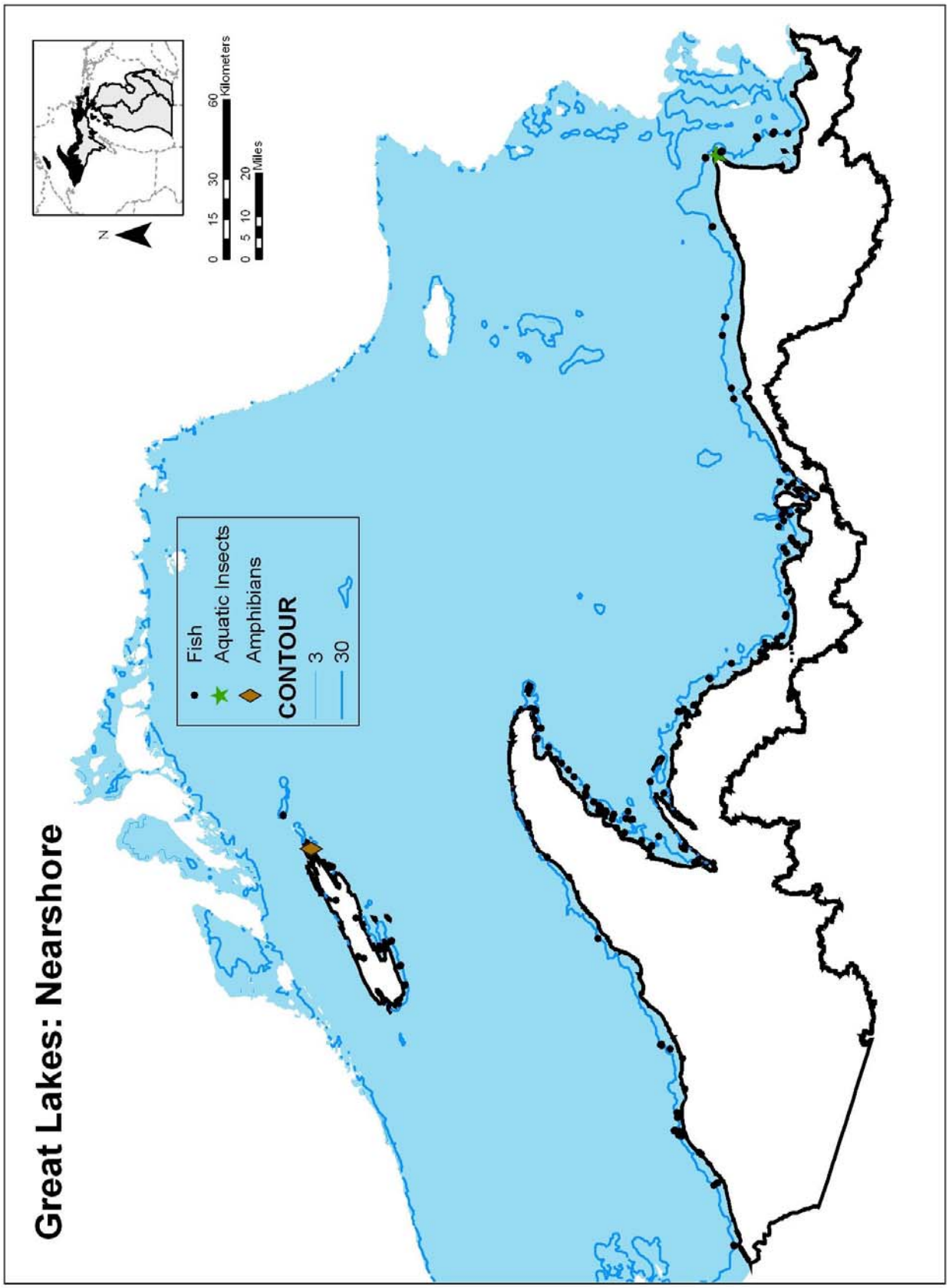
Great Lakes: Nearshore
Fish
Aquatic Insects
Amphibians
CONTOUR
3
30
N
0 15 30 60 Kilometers
0 5 10 20 Miles

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. This area is considered to be the Michigan waters of Lake Superior.

General Condition of Feature

This habitat is considered 85% in good to excellent condition, 15% in fair condition, and a very small percentage is in degraded to very degraded condition.

Associated Species of Greatest Conservation Need

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

FISH
lake sturgeon (*Acipenser fulvescens*)
brown bullhead (*Ameiurus nebulosus*)
cisco or lake herring (*Coregonus artedi*)

FISH cont.
shortjaw cisco (*Coregonus zenithicus*)
pygmy whitefish (*Prosopium coulterii*)
spoonhead sculpin (*Cottus ricei*)
sauger (*Sander canadensis*)

AMPHIBIANS
mudpuppy (*Necturus maculosus maculosus*)

Associated Threats

POLLUTION
- Altered nutrient inflows: (low threat)
- Altered sediment loads: Erosion
- Pesticides and herbicides: (low threat)
- Thermal changes: Thermal loading (industrial causes) (low threat)
- Urban, municipal, and industrial pollution: Asbestos and mercury; Industrial pollution from PCB's; Lost & abandoned fishing gear; Litter; Industrial effluents and waste

HABITAT CONVERSION
- Dredging and channelization: Dredging (low threat)
- Riparian modifications: Development (low threat)

BIOLOGICAL INTERACTIONS
- Invasive plants and animals: (low threat)

CONSUMPTIVE BIOLOGICAL RESOURCE USE
- Forestry practices: Log salvage (low threat)

NON-CONSUMPTIVE BIOLOGICAL RESOURCE USE
- Other structure removal: Shallow water log recovery (low threat)

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)
- Survey sediment loadings to lake and develop strategies to reduce identified problems (altered sediment loads)
- 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 aquatic invasive species establishments (invasive plants and animals)
- Enforce the use of sediment barriers and best management practices during road siting, construction, and maintenance (altered sediment loads)
- Implement and continually improve storm water and non-point source best management practices (urban, municipal, and industrial pollution)
- Restrict dredging and channelization activities, especially during spawning and migration seasons and around mussel beds (dredging and channelization)
- Strengthen existing environmental laws including air quality (urban, municipal, and industrial pollution)

EDUCATION & AWARENESS
- Educate landowners and shoreline users on preventing the spread of invasive aquatic species (invasive plants and animals)

Research and Survey Needs

- Determine effective prevention, control, and survey techniques for aquatic invasive species
- Continue to work with GLFC Lake Superior Technical Advisory Group implementing Lake Superior aquatic community objectives
- Inventory erosion sources and rehabilitate
- Model habitats relationships and linkages and responses of the biotic community
- Model ecosystem dynamics and functionality
- Survey erosion sites within watersheds and develop strategies to reduce identified problems

Monitoring

- Aquatic invasive species
- Dredging and channelization
- Effluent discharges: municipal and industrial
- Sedimentation from tributary streams
- Mining activities
- Commercial shipping ballast discharges