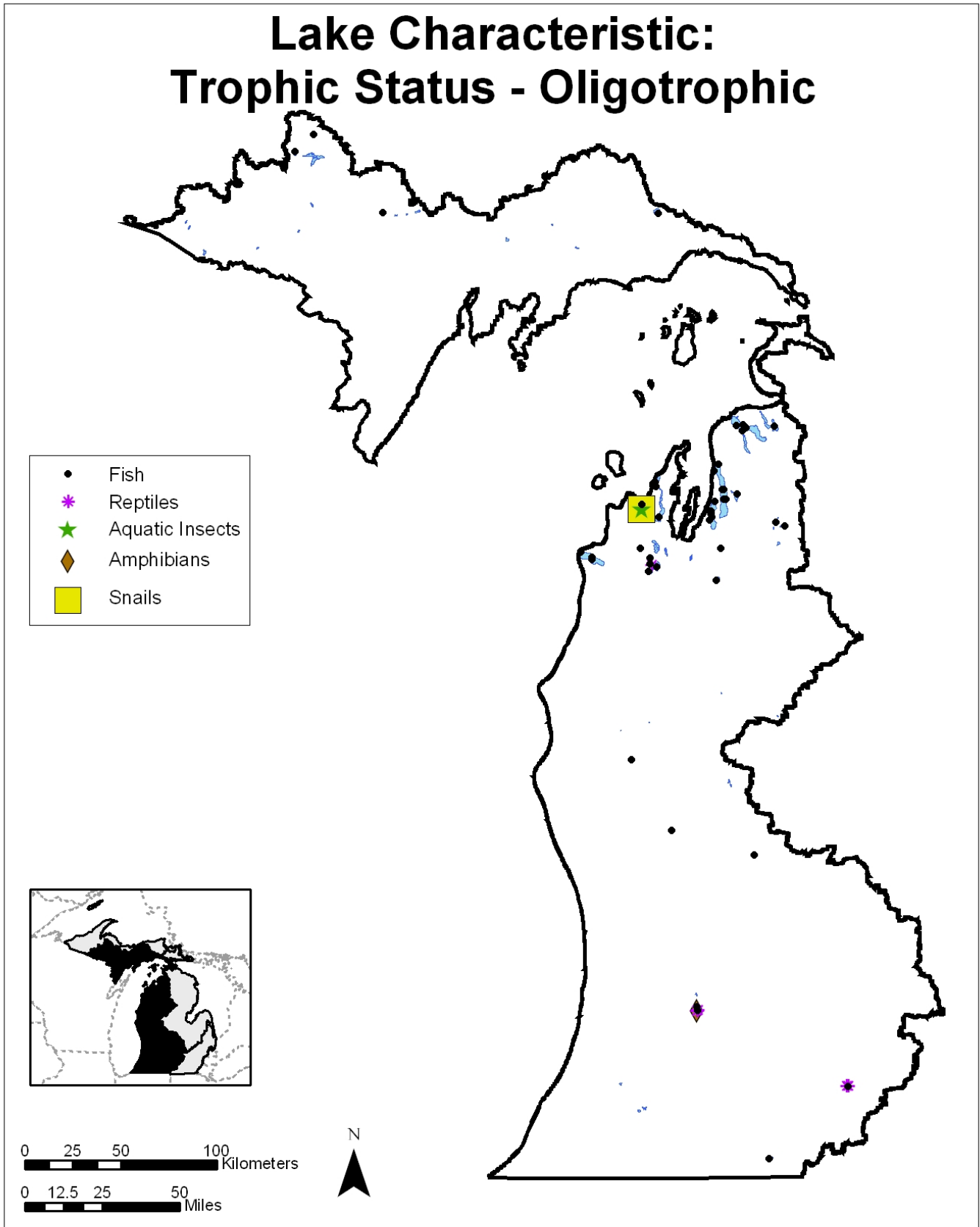


Lake Characteristic: Trophic Status - Oligotrophic



Lake Characteristic: Trophic Status – Oligotrophic

Description

Oligotrophic lakes with low concentrations of nutrients (total phosphorus < 15 µg/L) resulting in generally low biomass of algae. They generally have the highest water clarity and high oxygen concentrations in the hypolimnion and are not likely to have low winter oxygen concentrations under the ice.

General Condition of Feature

This habitat is considered 40% in good to excellent condition, 35% in fair condition, and 25% in degraded to very degraded condition.

Associated Species of Greatest Conservation Need

SNAILS

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

INSECTS

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

FISH

lake sturgeon (*Acipenser fulvescens*)
cisco or lake herring (*Coregonus artedii*)
kiyi (*Coregonus kiyi*)

FISH cont.

shortjaw cisco (*Coregonus zenithicus*)
slimy sculpin (*Cottus cognatus*)
deepwater sculpin (*Myoxocephalus thompsonii*)

AMPHIBIANS

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

REPTILES

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

Associated Threats

MODIFICATION OF NATURAL PROCESSES

- Climate change: (low threat)

POLLUTION

- Altered nutrient inflows: Agriculture; Excess nutrients; Increased nutrient input; Development
- Altered sediment loads
- Urban, municipal, and industrial pollution: Municipal effluent

HABITAT CONVERSION

- Incompatible natural resources management: Fish mgt practices, i.e., stocking (low threat)
- Riparian modification: Shoreline development; Armoring; Marinas

BIOLOGICAL INTERACTIONS

- Invasive plants and animals

Conservation Actions Needed (Threats addressed)

LAND, WATER & SPECIES MANAGEMENT

- 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 (riparian modification)
- Prevent and control the establishment of aquatic invasive species (invasive plants and animals)

LAW & POLICY

- Encourage townships to separate combined sewer systems (altered nutrient inflows)
- Restrict beach grooming (riparian modification)
- Strengthen existing water quality laws (variety of threats)
- Support and work with lake associations (variety of threats)
- Use best management practices to prevent nutrient and sediment runoff and inputs (variety of threats)
- 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 modification)

EDUCATION & AWARENESS

- Educate the public on the use of and reasons for maintaining septic systems (altered nutrient inflows)

Research and Survey Needs

- Determine effective prevention, control, and survey techniques of aquatic invasive species
- Determine use of oligotrophic lakes by snail, aquatic insect, amphibian, and reptile SGCN
- Inventory erosion sites and conduct remediation activities
- Survey nutrient loading and develop strategies to reduce identified problems

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

Monitoring

- Dissolved oxygen
- Effluent outflows: municipal wastewater treatment plants, septic systems
- Nutrients
- Sediment loadings
- Water temperatures
- Wetland modification