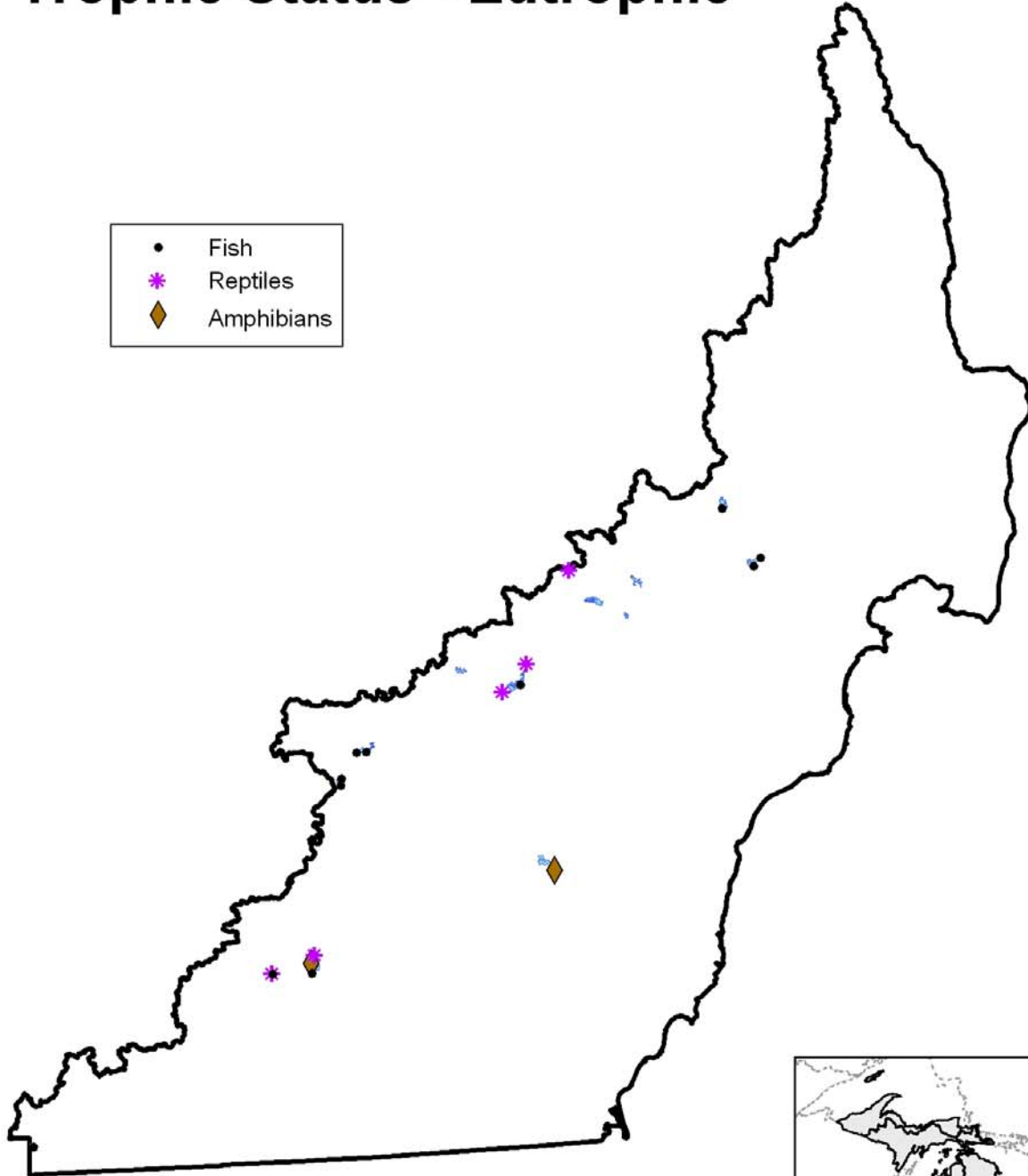


Lake Characteristic: Trophic Status - Eutrophic

- Fish
- * Reptiles
- ◆ Amphibians



Lake Characteristic: Trophic Status – Eutrophic

Description

Eutrophic lakes have high concentrations of nutrients (total phosphorus >25 µg/L) resulting in generally high biomass of algae. They also generally have lower water clarity and potentially low oxygen concentrations in the hypolimnion. They are more likely to have low winter oxygen concentrations under the ice depending on lake depth and basin shape.

General Condition of Feature

This habitat is considered 30% in good to excellent condition, 30% in fair condition, and 40% in degraded to very degraded condition.

Associated Species of Greatest Conservation Need

MUSSELS

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

SNAILS

spindle lymnaea (*Acella haldemani*)

INSECTS

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

FISH

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

AMPHIBIANS

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

REPTILES

Blanding's turtle (*Emydoidea blandingii*)

Associated Threats

MODIFICATION OF NATURAL PROCESSES

- Altered hydrologic regimes: Runoff rates increase due to development
- Climate change

POLLUTION

- Altered nutrient inflows: Fertilizer- increase eutrophication rate and influence status; Runoff from impervious surfaces; Surface runoff - extra nutrients; Eutrophic systems may be increasing due to nutrient loading
- Urban, municipal, and industrial pollution: Surface runoff - contaminants

HABITAT CONVERSION

- Riparian modification: If considerable surrounding forest, its removal or modification may accelerate lake ontology (low threat)
- Wetland modification

BIOLOGICAL INTERACTIONS

- Invasive plants and animals

CONSUMPTIVE BIOLOGICAL RESOURCE USE

- Removal of wildlife: May be some removal of Blanding's turtles for pet trade and uninformed public (low threat)

EDUCATION

- Lack of scientific knowledge: (low threat)
- Social attitudes: (low threat)

Conservation Actions Needed (Threats addressed)

LAND, WATER & SPECIES MANAGEMENT

- When removing exotic macrophytes, at least 60-80% of native vegetation should be preserved (macrophyte removal, invasive plants and animals)
- Control and prevent the introduction of aquatic invasive species (invasive plants and animals)
- Encourage agricultural conservation practices (tilling, decreased use of pesticides and herbicides) (altered hydrologic regimes, altered nutrient inputs, altered sediment loads, pesticides and herbicides)
- For inland lakes have lake management plans (general)
- Maintain or establish riparian buffers to at least 50 ft. (altered hydrologic regimes, altered sediment loads, riparian modification)
- Rehabilitate native flora (macrophyte removal, riparian modification)
- Use Best management practices (altered hydrologic regimes, altered sediment loads, riparian modification)

LAW & POLICY

- Enact and enforce shoreline protection (i.e. restrict beach grooming) (riparian modification)
- Strengthen water quality laws and continue to enforce permits controlling effluent discharge (Urban, municipal, and industrial pollution)
- Work with local officials on setback and buffer ordinances (riparian modification)

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

EDUCATION & AWARENESS

- Educate the public on the use of and reasons for maintaining septic systems (altered nutrient loads, social attitudes)
- Educate the public on the value of riparian areas (riparian modification, social attitudes)

Research and Survey Needs

- Determine effective prevention, control, and survey techniques for aquatic invasive species
- Determine effects on native communities by aquatic invasive species
- Determine use of eutrophic lakes by SGCN
- Document effective methods of communicating with the public and their stewardship role
- Assess the amount of wetlands under 5 acres that are being converted to other use
- Develop quick and effective lake management plans

Monitoring

- Agricultural practices
- Aquatic invasive species
- Beach grooming
- Nutrient inflows: local septic systems and municipal waste water treatment plants
- Riparian development