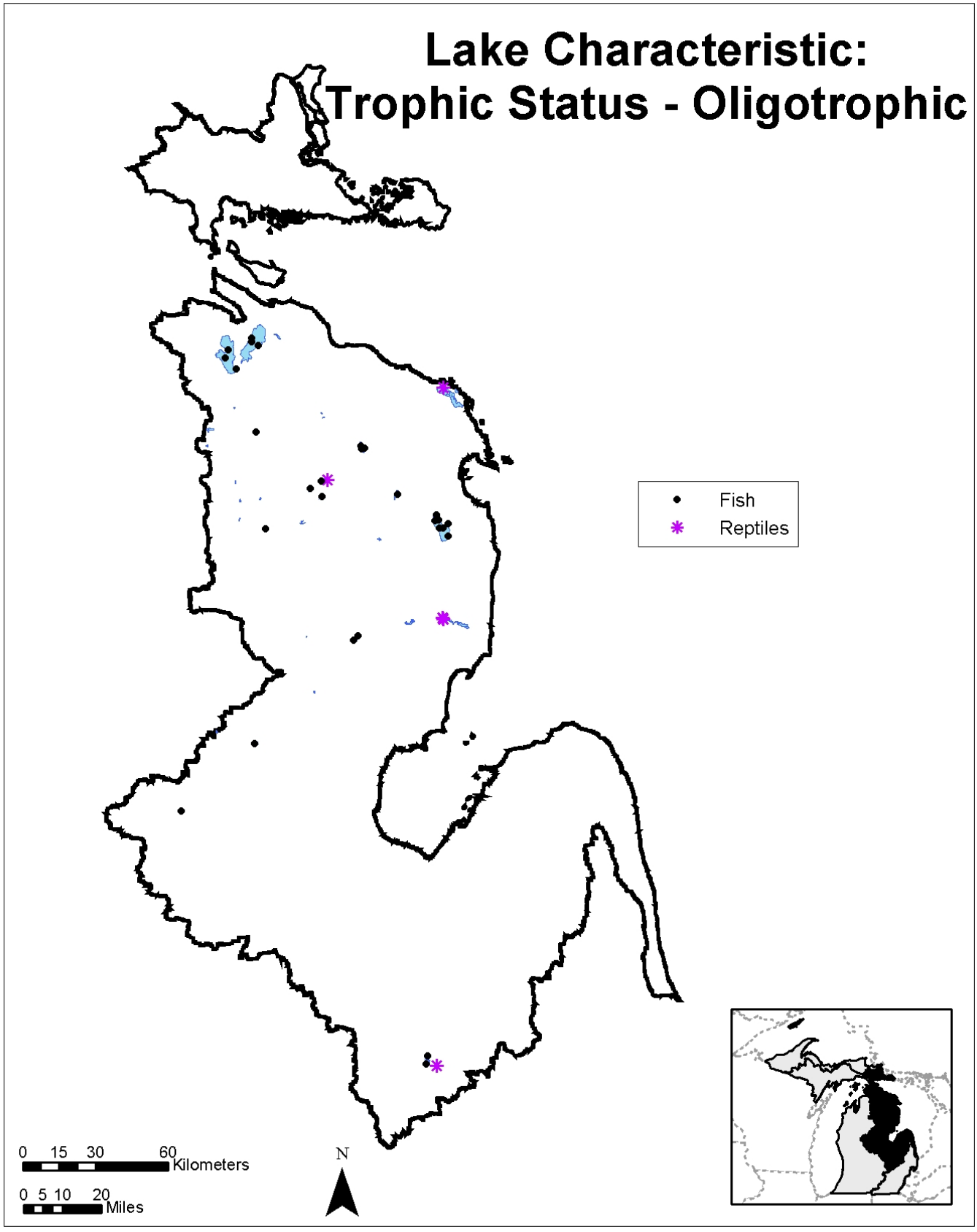
Lake Characteristic:
Trophic Status - Oligotrophic
Fish
Reptiles
0 15 30 60
Kilometers
0 5 10 20
Miles
N

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 50% in good to excellent condition, 30% in fair condition, and 20% in degraded to very degraded condition.

Associated Species of Greatest Conservation Need

SNAILS
aquatic snail (*Planorbella smithi*)

FISH
slimy sculpin (*Cottus cognatus*)

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

Associated Threats

POLLUTION
- Altered nutrient inflows: Septic pollution
- Altered sediment loads: Runoff

HABITAT CONVERSION
- Riparian modification: Shoreline development

BIOLOGICAL INTERACTIONS
- Invasive plants and animals: Cormorants

Conservation Actions Needed (Threats addressed)

LAND, WATER & SPECIES MANAGEMENT
- Encourage best management practices (altered nutrient inflows, altered sediment loads, Pesticides and herbicides, riparian modification)
- Encourage implementation of USDA soil conservation practices to reduce erosion (altered sediment loads)
- Encourage maintaining or restoring riparian vegetation buffers (altered nutrient inflows, altered sediment loads, Pesticides and herbicides, riparian modification, Urban, municipal, and industrial pollution)
- Encourage townships to separate combined sewer systems (altered nutrient inflows)
- Rehabilitate or maintain natural hydrology (altered nutrient inflows, altered sediment loads)
- Upgrade septic systems (altered nutrient inflows)
- Vegetation management should be performed in conjunction with watershed management practices that consider all physical, biological, and social factors (invasive plants and animals)

LAW & POLICY
- Continue working with townships to develop and improve planning and zoning regulations and ordinances (altered nutrient inputs, altered sediment loads, riparian modification, wetland modification)
- Enforce the use of sediment barriers and best management practice's during road siting, construction, and maintenance (altered nutrient inputs, altered sediment loads)
- Ensure that existing environmental laws are enforced (sedimentation, endangered species, etc.)

EDUCATION & AWARENESS
- Educate riparian owners about nutrient and sediment inputs and the importance of riparian vegetation buffers (altered nutrient inflows, altered sediment loads, riparian modification)
- Increase awareness of affects of disturbance on spread of aquatic invasive species (invasive plants and animals)
- Educate the public on the use of and reasons for maintaining septic systems (altered nutrient inputs)

ECONOMIC & OTHER INCENTIVES
- Encourage organic farming practices (altered nutrient inflows, altered sediment loads, Pesticides and herbicides)

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

Monitoring
- Dissolved oxygen
- Effluent outflows: municipal wastewater treatment plants, septic systems

- Sediment loadings
- Water temperatures
- Wetland modification