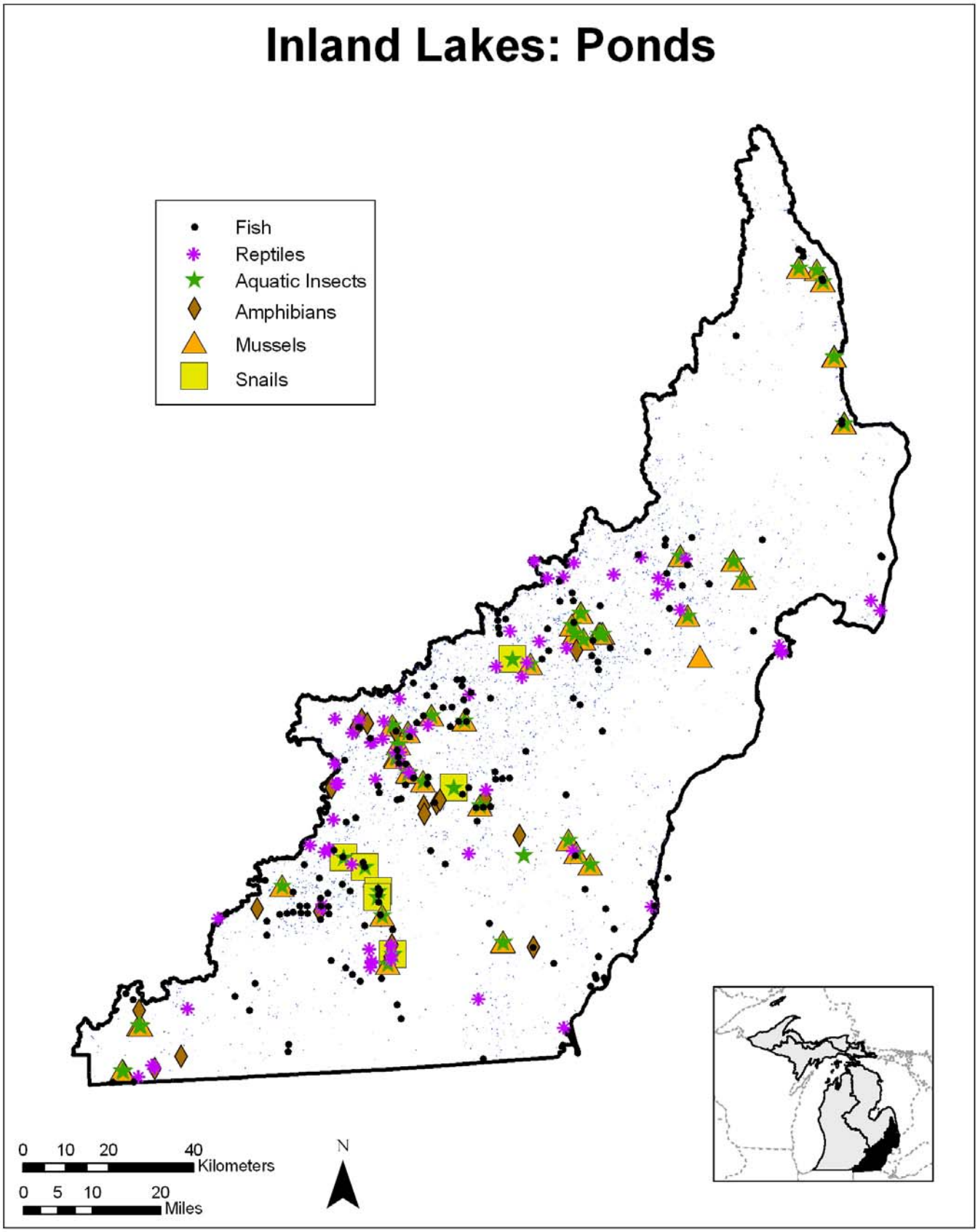
Inland Lakes: Ponds
Fish
Reptiles
Aquatic Insects
Amphibians
Mussels
Snails
0 10 20 40
Kilometers
0 5 10 20
Miles
N

Inland Lakes: Ponds

Description

Ponds are permanent standing water bodies <5 acres in area. This group is highly diverse in terms of chemical and biological variables. Most are shallow, unstratified, generally warmer, and higher in nutrient concentration than larger water bodies, and somewhat likely to have low winter oxygen levels. There are two states that ponds are generally found in. The first is characterized by high nutrients, high wind resuspension, no rooted plants, and turbid water. The second is characterized by low to medium nutrients, low wind resuspension, rooted plants dominant, and clear water. Because of their size, most ponds are privately owned and have no public access points.

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
- cylindrical papershell (*Anodontoides ferussacianus*)
- eastern pondmussel (*Ligumia nasuta*)
- lilliput (*Toxolasma parvus*)

SNAILS
- spindle lymnaea (*Acella haldemani*)

CRAYFISH
- devil crawfish (*Cambarus diogenes*)
- digger crayfish (*Fallicambarus fodiens*)

INSECTS
- spatterdock darner (*Aeshna mutata*)
- Cantrall's bog beetle (*Liodessus cantralli*)

FISH
- finescale dace (*Phoxinus neogaeus*)
- brown bullhead (*Ameiurus nebulosus*)
- tadpole madtom (*Noturus gyrinus*)
- grass pickerel (*Esox americanus*)
- pirate perch (*Aphredoderus sayanus*)
- least darter (*Etheostoma microperca*)

AMPHIBIANS
- spotted salamander (*Ambystoma maculatum*)
- smallmouth salamander (*Ambystoma texanum*)
- eastern tiger salamander (*Ambystoma tigrinum tigrinum*)
- four-toed salamander (*Hemidactylium scutatum*)
- Fowler's toad (*Bufo fowleri*)
- Blanchard's cricket frog (*Acris crepitans blanchardi*)
- western chorus frog (*Pseudacris triseriata triseriata*)
- pickerel frog (*Rana palustris*)
- northern leopard frog (*Rana pipiens*)

REPTILES
- copperbelly water snake (*Nerodia erythrogaster neglecta*)
- queen snake (*Regina septemvittata*)
- spotted turtle (*Clemmys guttata*)
- Blanding's turtle (*Emydoidea blandingii*)

Associated Threats

MODIFICATION OF NATURAL PROCESSES
- Altered hydrologic regimes: Water fluctuations - groundwater levels (especially fens, vernal ponds, and especially in spring + early summer); changing the surrounding land surge (water levels, runoff); Conversion to retention and detention
- Fragmentation

POLLUTION
- Altered nutrient inflows: Changing the surrounding land surge (runoff, nutrients); Eutrophication - chemical conditions
- Altered sediment loads
- Pesticides and herbicides: (low threat)
- Urban, municipal, and industrial pollution: Dumping toxics, oils, etc.

HABITAT CONVERSION
- Dams
- Dredging and channelization
- Riparian modification: Alteration of shoreline; Clearing
- Wetland modification: Draining and filling - loss of habitat; The main threat to this feature would be filling for sub-urban development

BIOLOGICAL INTERACTIONS
- Invasive plants and animals: Especially loosestrife; Fish introductions into fishless systems; Predator introductions into predatorless systems

NON-CONSUMPTIVE BIOLOGICAL RESOURCE USE
- Macrophyte removal: Vegetation control through mowing or chemical treatments

EDUCATION
- Lack of scientific knowledge: Lack of data on small ponds
- Social attitudes: Lack of education for public to understand value of small ponds

Conservation Actions Needed (Threats addressed)

LAND & WATER PROTECTION
- Create and expand conservation easements (variety of threats)
- Support land conservancy purchase of undeveloped land (variety of threats)

LAND, WATER & SPECIES MANAGEMENT
- Allow seasonal flooding (altered hydrologic regimes)
- Control and prevent aquatic invasive species (invasive plants and animals)
- Encourage use of natural materials or soft engineering techniques for any shoreline modification (riparian modification)
- Maintain or rehabilitate natural corridors between significant pond habitats and upland areas (fragmentation)
- Maintain or establish riparian buffers to at least 50 ft. (altered hydrologic regimes, altered sediment loads, riparian modification)
- Remove dams to rehabilitate natural connections between ponds and streams (altered hydrologic regimes, dams, fragmentation)

LAW & POLICY
- Protect the public trust by requiring dam owners to make appropriate financial provision for future dam removal (dams)
- Work with planners and developers to make sound landscape decisions when development is to occur (altered hydrologic regimes, altered sediment loads, riparian modification, wetland modification)
- Encourage clustered development rather than evenly spaced home lots (riparian modification)
- No dredging during spawning or migration seasons (dredging and channelization)
- When dams cannot be removed incorporate mechanisms to provide for release of water to mimic natural flows (altered hydrologic regimes)
- Encourage sound water withdrawal practices that take into account biotic species needs (altered hydrologic regimes)
- Work with law enforcement and local officials to prevent unauthorized land use changes (riparian modification)
- Encourage green-space planning (riparian modification)

EDUCATION & AWARENESS
- Educate private landowners on the value of riparian areas (altered hydrologic regimes, altered sediment loads, riparian modification)
- Educate legislators, local planning boards, and other policy makers on the importance of natural processes (all threats)
- Educate the public on prevention and control of aquatic invasive species and the affects of disturbance on the spread of aquatic invasive species (invasive plants and animals)

CAPACITY BUILDING
- Support watershed councils, regional conservation groups, and other local conservation groups (social attitudes)

Research and Survey Needs
- Determine effective prevention, control, and survey techniques for aquatic invasive species
- Determine life history requirements for SGCN associated with this landscape feature
- Determine effective methods of communicating with the public the role they play in stewardship
- Research the affects of landscape alterations on pond processes
- Quantify the number of dams that are present on ponds

Monitoring
- Assess education efforts to inform citizens of good stewardship practices
- Indicator species
- Hydrologic outflows from dams
- Land use changes
- Riparian modification