



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 90% in good to excellent condition, 5% in fair condition, and 5% in degraded to very degraded condition.

Associated Species of Greatest Conservation Need

MUSSELS

eastern elliptio (*Elliptio complanata*)

SNAILS

spindle lymnaea (*Acella haldemani*)

CRAYFISH

devil crawfish (*Cambarus diogenes*)

digger crayfish (*Fallicambarus fodiens*)

INSECTS

sedge darner (*Aeshna juncea*)

spatterdock darner (*Aeshna mutata*)

zigzag darner (*Aeshna sitchensis*)

muskeg darner (*Aeshna subarctica*)

FISH

brassy minnow (*Hybognathus hankinsoni*)

finescale dace (*Phoxinus neogaeus*)

FISH cont.

brown bullhead (*Ameiurus nebulosus*)

least darter (*Etheostoma microperca*)

AMPHIBIANS

spotted salamander (*Ambystoma maculatum*)

eastern tiger salamander (*Ambystoma tigrinum tigrinum*)

four-toed salamander (*Hemidactylium scutatum*)

boreal chorus frog (*Pseudacris triseriata maculata*)

pickerel frog (*Rana palustris*)

northern leopard frog (*Rana pipiens*)

REPTILES

Blanding's turtle (*Emydoidea blandingii*)

eastern box turtle (*Terrapene carolina carolina*)

Associated Threats

MODIFICATION OF NATURAL PROCESSES

- Altered hydrologic regimes: Altered hydrology; Draining; Low water levels

HABITAT CONVERSION

- Dams: (low threat)
- Dredging and channelization: (low threat)
- Riparian modifications: Development; Loss of riparian habitat; Shoreline development
- Wetland modifications

BIOLOGICAL INTERACTIONS

- Invasive plants and animals: (low threat)

CONSUMPTIVE BIOLOGICAL RESOURCE USE

- Forestry practices: Logging affects (low threat)
- Removal of wildlife: (low threat)

Conservation Actions Needed (Threats addressed)

LAND & WATER PROTECTION

- Continue to support landowner incentive programs to foster conservation on private lands (variety of threats)
- Create and expand conservation easements (riparian modifications, wetland modification)
- Support land conservancy purchase of undeveloped land (riparian modifications, wetland modification)

LAND, WATER & SPECIES MANAGEMENT

- Close roads during breeding seasons or install tunnels along migration pathways to allow amphibians and reptiles access to breeding areas (species issue)
- Maintain natural water levels and fluctuations (altered hydrologic regimes)
- Maintain or establish riparian buffers of at least 50 ft., but 500 ft. or wider maximizes conservation benefits (riparian modifications)
- Maintain or rehabilitate natural corridors between ponds and other habitats significant to amphibians and reptiles (species issue)

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

- Protect existing natural wetlands and rehabilitate degraded wetlands (wetland modification)
- Protect or rehabilitate original hydrologic functions, i.e., throughflow and wetlands (altered hydrologic regimes)

LAW & POLICY

- Include wetland protections in zoning and planning ordinances (wetland modification)
- Limit water withdrawals in flow-limited and groundwater-fed systems (altered hydrologic regimes)
- Protect and rehabilitate groundwater recharge by requiring that all development-related runoff be captured by infiltration basins (altered hydrologic regimes)
- Protect existing hydrologic conditions of ponds and remaining natural pond outlets by prohibiting construction of new pond-level control structures (altered hydrologic regimes)
- Strengthen wetland regulations, mitigation requirements, and enforcement (wetland modification)
- Use best management practices (variety of threats)
- Work with Drain Commissioners to allow or closely mimic natural hydrologic processes on lake-level control structures (altered hydrologic regimes)
- Work with Drain Commissioners to use natural processes to manage sediment and flows and decrease the amount of channelization needed (dredging and channelization)
- 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 modifications)

EDUCATION & AWARENESS

- Educate legislators, other policy makers, and landowners on the value of ponds and the species that rely on them (social attitudes)

Research and Survey Needs

- Determine effective prevention, control, and survey techniques for aquatic invasive species
- Determine critical migration pathways of amphibians and reptiles at productive ponds
- Determine life history requirements of SGCN that are not known
- Develop alternatives to current drainage practices
- Establish effective methods of communicating with the public the role they play in stewardship
- Investigate the affects of landscape alterations on pond processes to get a better understanding

Monitoring

- Aquatic invasive species
- Indicator species
- Dredging and channelization
- Land use changes
- Logging operations
- Riparian modifications
- Shoreline development
- Wetland modification