



Source: Digital Water Atlas Project data, Institute for Fisheries Research.

Inland wetlands/water: Pond

Description

Ponds are defined as 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.

Ponds in all Great Lakes Basins can be considered similar, with one exception. Ponds in the Lake Superior basin (particularly in the Western Upper Peninsula) are more likely to have low pH due to acidification and lower buffering capacity.

General Condition of Feature

About half of the ponds in the Eastern Upper Peninsula are considered to be in fair or good condition and about 15% are considered in excellent condition. The remaining ponds are considered degraded or very degraded.

Associated Natural Communities

N/A – no native natural communities

Associated Species of Greatest Conservation Need

SNAILS

six-whorl vertigo (*Vertigo morsei*)

CRAYFISH

devil crawfish (*Cambarus diogenes*)

digger crayfish (*Fallicambarus fodiens*)

INSECTS

zigzag darner (*Aeshna sitchensis*)

incurvate emerald dragonfly (*Somatochlora incurvata*)

AMPHIBIANS

blue-spotted salamander (*Ambystoma laterale*)

spotted salamander (*Ambystoma maculatum*)

eastern tiger salamander (*Ambystoma tigrinum tigrinum*)

four-toed salamander (*Hemidactylium scutatum*)

boreal chorus frog (*Pseudacris triseriata maculata*)

western chorus frog (*Pseudacris triseriata triseriata*)

pickerel frog (*Rana palustris*)

northern leopard frog (*Rana pipiens*)

REPTILES

western fox snake (*Elaphe vulpina*)

eastern massasauga (*Sistrurus catenatus catenatus*)

Blanding's turtle (*Emydoidea blandingii*)

BIRDS

Trumpeter Swan (*Cygnus buccinator*)

American Black Duck (*Anas rubripes*)

Blue-winged Teal (*Anas discors*)

Pied-billed Grebe (*Podilymbus podiceps*)

American Bittern (*Botaurus lentiginosus*)

Least Bittern (*Ixobrychus exilis*)

Green Heron (*Butorides virescens*)

Black-crowned Night-heron (*Nycticorax nycticorax*)

Osprey (*Pandion haliaetus*)

Bald Eagle (*Haliaeetus leucocephalus*)

American Coot (*Fulica americana*)

Killdeer (*Charadrius vociferus*)

Spotted Sandpiper (*Actitis macularia*)

Black Tern (*Chlidonias niger*)

Common Nighthawk (*Chordeiles minor*)

Black-backed Woodpecker (*Picoides arcticus*)

Olive-sided Flycatcher (*Contopus cooperi*)

Purple Martin (*Progne subis*)

Sedge Wren (*Cistothorus platensis*)

Yellow-headed Blackbird (*Xanthocephalus xanthocephalus*)

MAMMALS

water shrew (*Sorex palustris*)

silver-haired bat (*Lasionycteris noctivagans*)

red bat (*Lasiurus borealis*)

northern bat or northern myotis (*Myotis septentrionalis*)

woodland jumping mouse (*Napaeozapus insignis*)

Associated Threats

MODIFICATION OF NATURAL PROCESSES

- Altered hydrologic regimes: Use of bank stabilization measures (e.g., breakwalls) may alter water flow.

HABITAT CONVERSION

- Industrial, residential, and recreational development: Construction of cabins at the water's edge and maintenance of turf grass may contribute to altered hydrology, nitrification, erosion, and sedimentation.
- Wetland modifications
- Dredging and channelization: Ditching may alter water flows.
- Incompatible natural resource management: Fisheries management practices may impact community composition.

MICHIGAN'S WILDLIFE ACTION PLAN
TERRESTRIAL SYSTEMS: EASTERN UPPER PENINSULA

POLLUTION

- Urban, municipal, and industrial
- Pesticides and herbicides

NON-CONSUMPTIVE BIOLOGICAL RESOURCE USE

- Non-consumptive recreation: The use of personal watercraft may impact ponds.

BIOLOGICAL INTERACTIONS

- Invasive plants and animals

Conservation Actions Needed [Threats addressed]

LAND & WATER PROTECTION

- Expand conservation easement programs [variety of threats]
- Support and expand conservation purchase of high quality occurrences [variety of threats]

LAND, WATER & SPECIES MANAGEMENT

- Work with land and watershed managers to develop priorities for pond management. [Incompatible natural resource management]
- Where possible, motorized vehicle trails should be located a minimum of 100 feet (and preferably more than 500 feet) from rivers, streams, lakes and other wetlands except at designated crossings. [Non-consumptive recreation]
- Use best management practices for development, management, and recreational activities around lakes, streams, and wetlands to maintain natural shoreline stability (thereby reducing the need for restoration or artificial structures). [Industrial, residential, and recreational development, Wetland modifications, Non-consumptive recreation]
- Discourage stocking fish in fishless lakes and ponds to maintain habitat for aquatic invertebrates and species. [Incompatible natural resource management]
- Support efforts to reduce use of lead fishing tackle. [Pollution]
- Maintain or establish riparian buffers of at least 50 ft., but 500 ft. or wider maximizes conservation benefits [variety of threats]

LAW & POLICY

- Work with municipalities to promote planning and zoning insuring adequate protection for ponds, shorelines, and adjacent uplands. [Industrial, residential, and recreational development]
- Develop and enforce regulations to curtail recreational activities that cause significant damage. [Non-consumptive recreation]
- Develop new and enforce existing regulations restricting effluent discharge into ponds, including septic systems. [Pesticides and herbicides; Urban, municipal, and industrial pollution]

EDUCATION & AWARENESS

- Promote lawn maintenance practices which minimize the use of chemical fertilizers and herbicides. [Pesticides and herbicides]

Research and Survey Needs

- A better understanding is needed of the structural components of ponds and their relationships to wildlife.
- Assess management techniques used in and around ponds to develop management guidelines for landowners.
- Examine the impacts of chemical use, weed control, and fertilization in and around ponds on their value to wildlife.
- Evaluate the impacts of modifications of natural hydrologic regimes and local water chemistry.
- Develop best management practices for development, management, and recreational activities around lakes, streams, and wetlands to maintain natural shoreline stability (thereby reducing the need for restoration or artificial structures).
- A common classification system to define wetlands is needed.
- Document the historic and current range of variation between ponds. This includes variables such as species composition and size.
- Document pond use by migratory wildlife. Are there characteristics of ponds which increase their value to migratory wildlife?

Monitoring

- Track pond acreage and distribution across the landscape.
- Identify and track floristic composition and diversity.
- Track water level and flow fluctuations and its impacts on vegetation and wildlife.
- Track water chemistry and quality trends.