



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, 25% in fair condition, and 45% in degraded to very degraded condition.

Associated Species of Greatest Conservation Need

MUSSELS

- cylindrical papershell (*Anodontooides ferussacianus*)
- eastern pondmussel (*Ligumia nasuta*)

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*)

FISH

- brassy minnow (*Hybognathus hankinsoni*)
- finescale dace (*Phoxinus neogaeus*)
- spotted sucker (*Minytrema melanops*)
- brown bullhead (*Ameiurus nebulosus*)

FISH cont.

- grass pickerel (*Esox americanus*)
- pirate perch (*Aphredoderus sayanus*)
- least darter (*Etheostoma microperca*)

AMPHIBIANS

- spotted salamander (*Ambystoma maculatum*)
- four-toed salamander (*Hemidactylum scutatum*)
- Blanchard's cricket frog (*Acris crepitans blanchardi*)
- western chorus frog (*Pseudacris triseriata triseriata*)
- pickerel frog (*Rana palustris*)
- northern leopard frog (*Rana pipiens*)

REPTILES

- eastern fox snake (*Elaphe gloydi*)
- queen snake (*Regina septemvittata*)
- spotted turtle (*Clemmys guttata*)
- Blanding's turtle (*Emydoidea blandingii*)
- eastern box turtle (*Terrapene carolina carolina*)

Associated Threats

POLLUTION

- Altered sediment loads: Sedimentation (low threat)
- Urban, municipal, and industrial pollution: Heavy metals; Mercury bioaccumulation: mercury will methylate at much higher rates in organic and acidic (or more so acidic) ponds - mercury will be introduced (continual introduction) from atmospheric deposition (low threat)

HABITAT CONVERSION

- Dredging and channelization: Dredging; Filling
- Riparian modification: Shoreline modification (low threat)

BIOLOGICAL INTERACTIONS

- Invasive plants and animals

NON-CONSUMPTIVE BIOLOGICAL RESOURCE USE

- Macrophyte removal: Beach sanding (limited threat)

EDUCATION

- Social attitudes: Public attitudes ("mosquito infested swamp"); Most of these systems are in private ownership which makes them vulnerable to all types of disruptions because society does not see the value of these systems (low threat)

Conservation Actions Needed (Threats addressed)

LAND & WATER PROTECTION

- Support land conservancy purchase of undeveloped land (general threats)
- Support landowner incentive programs to foster conservation on private land (general threats)

LAND, WATER & SPECIES MANAGEMENT

- Continued vigilance and cooperation on preventing aquatic invasive species introductions and establishments (invasive plants and animals)
- Develop early detection and rapid response protocols for aquatic invasive species (invasive plants and animals)
- Restrict dredging activities during spawning & breeding and migration seasons and around mussel beds (dredging and channelization)
- Restrict herbicide use in ponds (macrophytes removal)
- 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

- Develop planning and zoning regulation and ordinances (macrophytes removal)
- Work with regulatory agencies to restrict dredging (dredging and channelization)

EDUCATION & AWARENESS

- Educate landowners about the spread of invasive species and preventative steps (invasive plants and animals)
- Educate landowners on the value of macrophytes (macrophytes removal)

Research and Survey Needs

- Determine affects of over zealous macrophyte removal on native vegetation and species communities
- Determine effective prevention, control, and survey techniques for aquatic invasive species
- Develop alternatives to current drainage practices
- Investigate life history requirements of SGCN that are not known
- Explore use of biological controls of invasive species
- Work with watershed councils and conservation groups on habitat rehabilitation

Monitoring

- Dredging and channelization
- Indicator species
- Land use changes
- Riparian modification