



## Inland wetlands/water: Swamp

### Description

Swamps are wetlands dominated by trees or shrubs with saturated soils during the growing season and standing or slowly moving water during certain times of the year. Swamps can be dominated by trees such as red maple (*Acer rubrum*), black ash (*Fraxinus nigra*), yellow birch (*Betula alleghaniensis*), northern white cedar (*Thuja occidentalis*) and tamarack (*Larix laricina*), or shrubs such as speckled alder (*Alnus rugosa*), buttonbush (*Cephalanthus occidentalis*), willow (*Salix sp.*), and dogwood (*Cornus sp.*). Composition and structure are influenced by disturbance factors such as flooding regime, windthrow, insect outbreak, and beaver (*Castor canadensis*).

### General Condition of Feature

About 40% of the swamp areas in the Western Upper Peninsula are considered to be in excellent condition. About 25% of swamps in the region are considered to be in fair or good condition and about 35% are considered degraded. Swamps include natural communities that are considered rare or uncommon in the State.

### Associated Natural Communities

Hardwood-Conifer Swamp  
Northern Swamp  
Poor Conifer Swamp

Rich Conifer Swamp  
Southern Floodplain Forest  
Wooded Dune and Swale Complex

### Associated Species of Greatest Conservation Need

#### SNAILS

eastern flat-whorl (*Planogyra asteriscus*)  
a land snail (*Euconulus alderi*)

#### CRAYFISH

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

#### INSECTS

muskeg damer (*Aeshna subarctica*)  
Henry's elfin (*Callophrys henrici*)

#### AMPHIBIANS

blue-spotted salamander (*Ambystoma laterale*)  
spotted salamander (*Ambystoma maculatum*)  
four-toed salamander (*Hemidactylium scutatum*)  
boreal chorus frog (*Pseudacris triseriata maculata*)  
western chorus frog (*Pseudacris triseriata triseriata*)

#### REPTILES

wood turtle (*Glyptemys insculpta*)

#### BIRDS

American Black Duck (*Anas rubripes*)  
American Bittern (*Botaurus lentiginosus*)  
Great Blue Heron (*Ardea herodias*)  
Green Heron (*Butorides virescens*)  
Osprey (*Pandion haliaetus*)  
Sora (*Porzana carolina*)  
Gray Jay (*Perisoreus canadensis*)  
Golden-winged Warbler (*Vermivora chrysoptera*)  
Northern Parula (*Parula americana*)

#### MAMMALS

arctic shrew (*Sorex arcticus*)  
pygmy shrew (*Sorex hoyi*)  
cougar (*Puma concolor*)  
lynx (*Lynx canadensis*)  
least chipmunk (*Tamias minimus*)  
snowshoe hare (*Lepus americanus*)

### Associated Threats

#### MODIFICATION OF NATURAL PROCESSES

- Altered hydrologic regimes

#### CONSUMPTIVE BIOLOGICAL RESOURCE USE

- Forestry practices: Failure to implement Best Management Practices and poorly timed logging impact swamps.

#### NON-CONSUMPTIVE BIOLOGICAL RESOURCE USE

- Non-consumptive recreation: Uncontrolled ATV and ORV use impacts swamps.

#### BIOLOGICAL INTERACTIONS

- Invasive plants and animals
- Other biological interactions: White-tailed deer (*Odocoileus virginianus*) browse hinders regeneration of cedar.

#### OTHER

- Historic status/current abundance: Swamp is not a common feature in the Western Upper Peninsula.

### 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

- Manage to approximate natural disturbance regimes by restoring water flow patterns. [Altered hydrologic regimes]

**MICHIGAN'S WILDLIFE ACTION PLAN**  
**TERRESTRIAL SYSTEMS: WESTERN UPPER PENINSULA**

- Develop and implement plans for invasive species control and prevention. [Invasive plants and animals]
- Manage deer densities to allow for regeneration of woody vegetation in swamps. [Other biological interactions]
- Develop forestry best management practices that address the needs and values of wildlife. Enforce existing best management practices which address wetland quality issues. [Forestry practices; Altered hydrologic regimes]
- 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). [Non-consumptive recreation]
- Wetland roads and trail crossings should preserve cross drainage [Industrial, residential, and recreational development]
- Support Landowner Incentive Programs to foster conservation on private land [variety of threats]
- Maintain or establish riparian buffers of at least 50 ft., but 500 ft. or wider maximizes conservation benefits [variety of threats]

**LAW & POLICY**

- Develop and enforce regulations to curtail recreational activities that cause significant damage. [Non-consumptive recreation]

**RECREATION**

- Promote responsible ATV and ORV use. [Non-consumptive recreation]

Research and Survey Needs

- Conduct a statewide wetlands inventory.
- Evaluate the impacts of modifications of natural hydrologic regimes and local water chemistry.
- A common classification system to define wetlands is needed.
- Determine the effects of microtopography on wetland function and its impact on wetland restoration.
- Determine the value to wildlife of intermittently flooded timber.
- Document the historic and current range of variation between swamps. This includes variables such as species composition and size.
- Identify invasive species and diseases that may degrade the value of swamps for wildlife. Develop techniques to control invasive species. Develop treatments for diseases that threaten swamps.
- An inventory needs to be conducted to determine the location, condition, and classification of swamps and of the opportunities for restoration.
- Identify the characteristics of swamps that provide benefits to wildlife and which species may be affected by changes in these characteristics.
- 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).
- Develop a classification system for lowland forest types (based on characteristics such as soil nutrients, moisture regimes, and successional pathways) similar to John Kotar's classification of upland forest types.

Monitoring

- Track swamp 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.