



Inland wetlands/water: Bog

Description

Bogs are peat-accumulating, acidic, low nutrient wetlands that receive all or most of their water and nutrients from precipitation. Sphagnum moss (*Sphagnum andersonianum*) mats are characteristic of bogs. Other characteristic vegetation includes carnivorous plants such as sundew (*Drosera sp.*) and pitcher plants (*Sarracenia purpurea*), shrubs from the Heath family, and sedges (*Carex sp.*).

General Condition of Feature

Many of the bogs in the Eastern Upper Peninsula are considered to be in fair to good condition (~50%) and about 10% are considered in excellent condition. Most of the remaining bog areas are considered degraded. The muskeg bog natural community is considered rare or uncommon and intermittent wetlands are considered rare or imperiled in the State.

Associated Natural Communities

Bog
Intermittent Wetland [Boggy Seepage Wetland]
Muskeg

Associated Species of Greatest Conservation Need

SNAILS

eastern flat-whorl (*Planogyra asteriscus*)
tapered vertigo (*Vertigo elatior*)
deep-throat vertigo (*Vertigo nylanderi*)
a land snail (*Euconulus alderi*)

INSECTS

muskeg damer (*Aeshna subarctica*)
lake emerald (*Somatochlora cingulata*)
incurvate emerald dragonfly (*Somatochlora incurvata*)
ebony boghaunter (*Williamsonia fletcheri*)
ringed boghaunter (*Williamsonia lintneri*)
subarctic bluethroat (*Coenagrion interrogatum*)
northern blue (*Lycæides idas nabokovi*)
frigga fritillary (*Boloria frigga*)
freija fritillary (*Boloria freija*)

AMPHIBIANS

blue-spotted salamander (*Ambystoma laterale*)
spotted salamander (*Ambystoma maculatum*)
four-toed salamander (*Hemidactylium scutatum*)
pickerel frog (*Rana palustris*)
northern leopard frog (*Rana pipiens*)

REPTILES

smooth green snake (*Liochlorophis vernalis*)
eastern massasauga (*Sistrurus catenatus catenatus*)
Blanding's turtle (*Emydoidea blandingii*)

REPTILES cont.

wood turtle (*Glyptemys insculpta*)

BIRDS

Sharp-tailed Grouse (*Tympanuchus phasianellus*)
American Bittern (*Botaurus lentiginosus*)
Yellow Rail (*Coturnicops noveboracensis*)
Sora (*Porzana carolina*)
American Coot (*Fulica americana*)
Upland Sandpiper (*Bartramia longicauda*)
Wilson's Snipe (*Gallinago delicata*)
Short-eared Owl (*Asio flammeus*)
Black-backed Woodpecker (*Picoides arcticus*)
Northern Shrike (*Lanius excubitor*)
Sedge Wren (*Cistothorus platensis*)
Ruby-crowned Kinglet (*Regulus calendula*)
Golden-winged Warbler (*Vermivora chrysoptera*)
Palm Warbler (*Dendroica palmarum*)
Connecticut Warbler (*Oporornis agilis*)
Canada Warbler (*Wilsonia canadensis*)

MAMMALS

arctic shrew (*Sorex arcticus*)
pygmy shrew (*Sorex hoyi*)
water shrew (*Sorex palustris*)
lynx (*Lynx canadensis*)
American marten (*Martes americana*)
southern red-backed vole (*Clethrionomys gapperi*)
southern bog lemming (*Synaptomys cooperi*)
snowshoe hare (*Lepus americanus*)

Associated Threats

MODIFICATION OF NATURAL PROCESSES

- Altered fire regime
- Altered hydrologic regimes: Changes in hydrology may impact bogs. Road construction may concentrate flows or increase discharge. Water extraction for sale may pose a potential threat.

HABITAT CONVERSION

- Industrial, residential, and recreational development
- Incompatible natural resource management: Landowners may convert bogs to ponds.

CONSUMPTIVE BIOLOGICAL RESOURCE USE

- Forestry practices: Inappropriate forestry practices may impact bogs.
- Mining practices: Peat mining may impact bogs.

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

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]
- Support Landowner Incentive Programs to foster conservation on private land [variety of threats]

LAND, WATER & SPECIES MANAGEMENT

- Manage to approximate natural disturbance regimes using prescribed fire and restoring water flow patterns. [Altered hydrologic regimes]
- Institute invasive species monitoring, prevention and control programs. [Invasive plants and animals]
- Work with land managers to develop priorities for bog retention and management. [Incompatible natural resource management]
- Develop and implement forestry best management practices which address the value of bogs to wildlife. [Forestry practices]
- Maintain or establish riparian buffers of at least 50 ft., but 500 ft. or wider maximizes conservation benefits [wetland modifications]

LAW & POLICY

- Work with municipalities to promote planning and zoning insuring adequate protection for bogs. [Industrial, residential and recreational development]
- Develop new and enforce existing regulations for mitigation of peat mining operations. [Mining practices]

LAND AND WATER PROTECTION

- Promote protection of significant bogs through purchase, easement or other economic incentives. [Industrial, residential and recreational development]

Research and Survey Needs

- Conduct a statewide wetlands inventory.
- Evaluate the impacts of modifications of natural hydrologic regimes and local water chemistry.
- Evaluate the potential for restoration and creation of bogs. What is the time frame required for the successful establishment of a bog? What management techniques are appropriate for bog creation and maintenance? Are any agencies or non-governmental organizations currently attempting to restore or create bogs?
- Examine variability among bog systems and determine whether differences are meaningful to wildlife. Should there be more "bog" natural communities in MNFI's classification?

Monitoring

- Track bog acreage and distribution across the landscape.
- Identify and track floristic composition and diversity.
- Track successional stage in wetlands to identify potential bog systems.