



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

Most of the bogs in the Northern Lower Peninsula are considered to be in fair to good condition (~70%). Most of the remaining bogs are degraded or very 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 nylanderii*)
spike-lip crater (*Appalachina sayana*)

INSECTS

ebony boghaunter (*Williamsonia fletcheri*)
ringed boghaunter (*Williamsonia lintneri*)
subarctic bluet (*Coenagrion interrogatum*)
secretive locust (*Appalachia arcana*)
Davis's shield-bearer (*Atlantius davisii*)
Doll's merolonche (*Merolonche dollii*)

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

blue racer (*Coluber constrictor foxii*)
black rat snake (*Elaphe obsoleta obsoleta*)
smooth green snake (*Liochlorophis vernalis*)
eastern massasauga (*Sistrurus catenatus catenatus*)
spotted turtle (*Clemmys guttata*)

REPTILES cont.

Blanding's turtle (*Emydoidea blandingii*)
wood turtle (*Glyptemys insculpta*)
eastern box turtle (*Terrapene carolina carolina*)

BIRDS

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*)
Ruby-crowned Kinglet (*Regulus calendula*)
Golden-winged Warbler (*Vermivora chrysoptera*)
Connecticut Warbler (*Oporornis agilis*)
Canada Warbler (*Wilsonia canadensis*)

MAMMALS

pygmy shrew (*Sorex hoyi*)
water shrew (*Sorex palustris*)
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: A lack of fire may result in succession to forested feature types.
- Altered hydrologic regimes

HABITAT CONVERSION

- Industrial, residential, and recreational development: Development in adjacent uplands may alter water flow and affect runoff.
- Wetland modifications

POLLUTION

- Urban, municipal, and industrial

CONSUMPTIVE BIOLOGICAL RESOURCE USE

- Mining practices: Peat mining may impact bogs.

NON-CONSUMPTIVE BIOLOGICAL RESOURCE USE

- Non-consumptive recreation: Uncontrolled ATV and ORV use may impact bogs in the Northern Lower Peninsula.

MICHIGAN'S WILDLIFE ACTION PLAN
TERRESTRIAL SYSTEMS: NORTHERN LOWER PENINSULA

BIOLOGICAL INTERACTIONS

- Invasive plants and animals: Species like glossy buckthorn (*Rhamnus frangula*) may affect community composition.

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 using prescribed fire and restoration of water flow patterns. [Altered fire regime; Altered hydrologic regimes]
- Institute invasive species monitoring, prevention and control programs. [Invasive plants and animals]
- 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]
- 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 [wetland modifications]

LAW & POLICY

- Work with municipalities to promote planning and zoning insuring adequate protection for bog systems. [Industrial, residential and recreational development; Wetland modifications]
- Develop new and enforce existing regulations for mitigation of peat mining activities. [Mining practices]
- Develop and enforce regulations to curtail recreational activities that cause significant damage. [Non-consumptive recreation]
- Develop new and enforce existing regulations restricting emissions which contribute to acid rain. [Urban, municipal, and industrial pollution]

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.
- 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).
- 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.