

Beaver Island Recreation Resource Project

Ecological Evaluation of Publically Accessible Wetlands of Interest on Beaver Island, Michigan

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Introduction

The purpose of this study is to assess the ecological characteristics of selected publically accessible wetlands on Beaver Island in Lake Michigan. The study constitutes Phase Two of the two-part Beaver Island Recreation Resource Project directed by Dr. John R. Kelly. We have chosen areas of the island associated with inland lakes that are accessible for recreation via automobile, walking, or boating. Although there are additional wetlands of interest on Beaver Island, we did not include them in this study because their location is entirely on private land. Lake Michigan shoreline public lands are described in Phase One of this project.

Wetlands are defined as regions where the water table is at or near ground level. There are four types of wetlands found on Beaver Island. *Swamps* are wetlands dominated by trees. *Marshes* are wetlands dominated by grasses, sedges, and other herbaceous vegetation. *Bogs* are characterized by acid soils and sphagnum moss, which serves as a substrate for other plants that are often uniquely adapted to live in cool, acid water. Bogs depend on precipitation for moisture and usually have no inlet or outlet. *Fens* are similar to bogs, but they contain mineral soils and are dominated by sedges rather than sphagnum moss. They depend on seepage through the soil to stay moist.

Lake Geneserath Bog

Location: On the north shore of the North Arm of Lake Geneserath, west of the public boat launch.

Accessibility: By boat (recommended) or walking.

Coordinates (approximate): East end: 45°36'13"N, 85°31'37"W
West end: 45°36'13"N, 85°31'54"W

This narrow bog along the north shore of Lake Geneserath consists primarily of sedges, an non-native grass (*Phragmites australis*), and royal fern (*Osmunda regalis*). It grades into tamarack (*Larix laricina*) and paper birch (*Betula papyrifera*) and then into the northern hardwood forest ecotype that typically surrounds Lake Geneserath. Although the bog is accessible via land, it is more visible from the lake. The floating sphagnum mat extends into the lake making the characteristics of this bog easy to observe.



Lake Geneserath Bog



Floating sphagnum mat with royal ferns

Miller's Marsh

Location: West Side Drive

Accessibility: By vehicle and walking.

Coordinates (approximate): East end: 45°36'43"N, 85°35'19"W
West end: 45°36'48"N, 85°35'38"W

This wetland is owned and maintained by Central Michigan University. It consists of a main marsh area and a minor, less-accessible leather-leaf (*Chamaedaphne calyculata*) bog. There is a guided nature trail that encircles the main marsh. The water area of Miller's Marsh contains pond-lilies (*Nuphar variegata*) and is surrounded by a combination of sedges, grasses, and hardwoods.

Miller's Marsh is one of the most publically accessible inland wetlands on Beaver Island due to its proximity to West Side Drive and because of the loop trail that follows the water.



Entrance to Miller's Marsh off West Side Drive



Main marsh area showing pond-lilies and hardwoods along the shore

Greene's Lake Bog

Location: Accessible portion is along the shore of Greene's Lake west of the public boat launch.

Accessibility: By walking.

Coordinates (approximate): East end: 45°38'11"N, 85°35'06"W
West end: 45°38'09"N, 85°35'22"W

Greene's Lake is a shallow lake characterized by a large bog at the southeast end, which is difficult to access. However, there is a narrow strip of marsh vegetation and an interesting island/peninsula located west of the public boat launch, both which are easily visited via a walking trail. The vegetation along the shoreline of Greene's Lake consists of a shrub layer of Michigan holly (*Ilex verticellata*). The island, which becomes a peninsula when water levels are low, is covered with low-bush blueberry (*Vaccinium angustifolium*) and black huckleberry (*Gaylussacia baccata*) as well as white pine (*Pinus strobus*). The strip of wetland that connects the island with the shore of Greene's Lake is comprised mainly of leather-leaf (*Chamaedaphne calyculata*), manna grass (*Glyceria borealis*), sedges (*Carex spp.*), and rushes (*Juncus spp.*). There are pond-lilies (*Nuphar variegatum*) in the shallow portions of the lake, and some of the largest northern red oaks (*Quercus rubra*) and red maples (*Acer rubrum*) on the island are located along the shore.



Island to the west of the public boat launch on Greene's Lake with pond-lilies in the foreground



Canopy of large oaks and maples along shoreline trail with view of island/peninsula

Fox Lake Bog

Location: Along the northeast corner of Fox Lake.

Accessibility: By boat (recommended) or walking.

Coordinates (approximate): East end: 45°38'53"N, 85°33'04"W
West end: 45°39'04"N, 85°33'49"W

The Fox Lake Bog is a large bog that extends southeast from the east side of Fox Lake. It is composed primarily of leather-leaf (*Chamaedaphne calyculata*) and sphagnum moss, although it contains other plants generally restricted to bog habitats, such as pitcher plants (*Sarracenia purpurea*), cotton grass (*Eriophorum spp.*), and sundews (*Drosera spp.*). The most visible part of the bog is east of the public boat launch and can be accessed via boat, although a small portion is privately owned. The largest publically owned part of the bog is accessed via Middle Perron's Trail, although the road is only seasonally maintained and is not always passable. Approximately one mile from where Middle Perron's Trail turns off from the intersection of Old Fox Lake Road and Hannigan's Road, the bog is visible through the trees to the west. At this point the bog consists of many acres of sphagnum moss hummocks covered primarily with leather-leaf and white pine (*Pinus strobus*).



Approach to Fox Lake Bog from Fox Lake



Bog showing sphagnum moss, cotton grass, and leather-leaf

Barney's Lake Fen

Location: Along the southeast end of Barney's Lake, southeast of the public boat launch.

Accessibility: By walking.

Coordinates (approximate): East end: 45°42'31"N, 85°33'09"W

West end: 45°42'34"N, 85°33'22"W

This is the only fen on Beaver Island. It is accessible by walking southeast along either the shore of Barney's Lake or along Barney's Lake Road from the public boat launch. It is separated from the road by a small stand of cedars. The fen is dominated by sedges (*Carex spp.*, *Schoenoplectus spp.*) and rushes (*Juncus spp.*). Sundews (*Drosera spp.*) are common along the edge, and white cedar (*Thuja occidentalis*) and tamarack (*Larix laricina*) comprise the back of the fen that grades into a hardwood forest.



Barney's Lake Fen with Barney's Lake in the background



Looking south from the fen toward the tamaracks and cedars at the back of the fen

Font Lake (Tract A)

Location: Southeast end of Font Lake behind Peaine Township Hall.

Accessibility: By walking.

Coordinates (approximate): East end: 45°43'45"N, 85°31'48"W
West end: 45°43'50"N, 85°31'55"W

This small wetland has a well-developed trail and boardwalk that lead from a parking area behind Peaine Township Hall out into a marsh. The trail begins in a cedar swamp and ends in a sedge marsh. Plants that are easily observed along the trail include white cedar (*Thuja occidentalis*), skunk cabbage (*Symplocarpus foetidus*), royal fern (*Osmunda regalis*), cinnamon fern (*Osmunda cinnamomea*), and Labrador tea (*Ledum groenlandicum*). The boardwalk ends in an observation deck where sweet gale (*Myrica gale*) and tamarack (*Larix laricina*) can be seen. Unfortunately the marsh has been invaded by the non-native grass, *Phragmites australis*.

Along with Miller's Marsh, this is one of the most publically accessible inland wetlands on Beaver Island. The well-built boardwalk would be enhanced by the addition of interpretive brochures or signage along the boardwalk.



Boardwalk through a cedar swamp at the southeast edge of Font Lake



Observation deck overlooking a marsh at the edge of Font Lake

Font Lake (Tract B)

Location: In Font Lake south of the public boat launch.

Accessibility: By boat.

Coordinates (approximate): East end: 45°44'33"N, 85°32'14"W
West end: 45°44'32"N, 85°33'03"W

The northern end of Font Lake is characterized by several unique floating wetland islands. These vary in number depending on the water levels of the lake. The islands are composed of bulrushes (*Schoenoplectus spp.*), cattails (*Typha sp.*), and sweet gale (*Myrica gale*). The islands are held together by the roots of the bulrushes and cattails. Another island located at the southwest corner of the lake is more anchored and harbors a typical bog flora of sphagnum moss, sweet gale, pitcher plants (*Sarracenia purpurea*), tamarack (*Larix laricina*), and black spruce (*Picea mariana*). It is recommended that these islands be enjoyed from a boat; they are unstable and may not support the weight of humans walking on them.



Two small floating islands at the north end of Font Lake



Large anchored island in southwest Font Lake with typical bog vegetation