



**SITE-SPECIFIC MANAGEMENT SHEET
TIER-3 RESOURCE MANAGEMENT PROPERTY**

Property Name: Big and Little Marsh

Property Designation or Type: State Natural Area

SNA Designation Number: 391

Property Location: Door County

Real Estate:

Project boundary acreage: 571

Fee acres owned: 322

Dedicated acres: 129, DNR file #D213 (2007)

DNR Easement acres: 0.2

Federal aid interest: USFWS grant C-14-L, federal cost-share for acquisition (file #NA 793, NA 796, NA 804, NA 811, NA 812, NA 813); USFWS grant C-13-L-1, federal cost-share for acquisition (file #NA 822, NA 860, NA 882, NA 884)

Land use agreements: None

Maps:

A. Project Boundary

B. Existing Roads and Infrastructure

Property Manager: **Joe Henry, Upper Lake Michigan Ecologist**
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Prepared By (District Ecologist):

Name: Joe Henry

Title: Conservation Biologist

Date: 4/10/2017

Reviewed/Approved By: (Bureau)

Name: Drew Feldkirchner

Title: Bureau Director, Natural Heritage Conservation Date: 4/10/2017

Approved by Natural Resources Board: Date: 6/28/2017

A. Regional and Property Assessment

- 1. General Property Description (topography, soils, vegetation, water resources):** Big and Little Marsh features a complex of boreal rich fen, northern wet-mesic forest, and a large emergent aquatic marsh on marl. Located on Washington Island, off the tip of the Door County peninsula, the site harbors numerous rare species. An extensive lowland conifer swamp is dominated by white cedar with lesser amounts of balsam fir and tamarack; the groundlayer is comprised of three-leaved gold-thread, Canada mayflower, starry false Solomon's-seal, and three-seeded sedge. Soft-stem bulrush dominates the unusual aquatic marsh, which contains large expanses of seasonally dry marl and a pavement of dolomite gravel and cobbles. Frequent in the shallow pools is common bog-arrow grass. Also present are false mermaid weed, northern bladderwort, pondweeds, and water smartweed. An upland hardwood forest of white cedar and hemlock surrounds the wetlands. Included within the natural area is 200' of the Lake Michigan shoreline. Many birds funnel through this area during spring and fall migrations and a diversity of neotropical migrants breed here in summer.
- 2. Ecological Landscape:** The [Northern Lake Michigan Coastal Ecological Landscape](#) borders Lake Michigan and Green Bay, encompassing over 200 miles of Great Lakes coast. The shorelines and related habitats, some of them unique to the Great Lakes, are used during the spring and fall by large numbers of migratory birds. In recent years, tens of thousands of diving ducks have been recorded wintering in offshore Lake Michigan habitats. Both Lake Michigan and Green Bay are highly significant for fish.

The northern Door Peninsula and associated Grand Traverse Islands present conservation opportunities offered nowhere else in Wisconsin. Unusual physiographic features such as ridge and swale complexes, embayment lakes and freshwater estuaries are rich in rare natural communities, including beach, dune, bedrock shore, coastal fen and boreal forest. These, in turn, support one of Wisconsin's greatest concentrations of rare species, some of them endemic to Great Lakes shoreline environments.

The dolomite Niagara Escarpment is a dominant geological feature of this landscape. On the west side of the Door Peninsula the Escarpment is exposed as cliffs, ledges and talus slopes. Springs and seeps are present, and some of Wisconsin's oldest trees grow on the Escarpment. To the east, along Lake Michigan, the same bedrock forms extensive horizontal

rock "beaches."

Management opportunities vary greatly in different parts of the Northern Lake Michigan Coastal Ecological Landscape because of its variability. The factors responsible for this include the past and present influence of Lake Michigan and Green Bay, the dolomite bedrock, the composition of the glacial till and the highly variable landforms and their effects on land use.

3. **Ownership and Adjacent Land Uses:** Residential, agriculture, town roads, northern forest, wetlands, Lake Michigan, Percy Johnson County Park. Lands owned by Door County Land Trust to the northeast, south, and west. Land under easement held by Door County Land trust to the west.

4. **Property Management Issues, Trends and Needs:**

[Note: Some of the lands in this natural area were purchased with federal grant funds that require they be managed in perpetuity for the protection of coastal wetland ecosystems and associated rare species of plants and animals.]

Invasives: European marsh thistle, hound's tongue, *Phragmites*, reed canary grass, glossy buckthorn, honey suckle, autumn olive, and barberry.

Invasives control history: An effort is made to control priority invasive species on an annual basis.

Forestry/Silviculture: Opportunities exist to use commercial timber harvests to help reach ecological restoration goals for the property.

Prescribed burning: Prescribed fire will not be used as a management practice to maintain this property.

5. **Facility/Amenity development:**

- a. **Existing:** One parking lot is located off of Michigan Road.
- b. **Future:** Add one additional lot if use warrants the need.

6. **Endangered, Threatened, Special Concern Species or Habitats, and wildlife Species of Greatest Conservation Need:** 2 state endangered species, 5 state threatened species, 9 state special concern species, 1 state special concern habitat, 1 federal endangered species, 1

federal threatened species, and 1 federal species of concern are known to occur here and/or in the general area. For detailed EO data, see Appendix A.

7. **Conservation Opportunity Area:** Big and Little Marsh (14.03) and adjacent to Lake Michigan (A.02)
8. **Easements:**
 - a. 0.2, DNR file #NA 20012, public access easement
9. **Land use Agreements:** None
10. **Significant Cultural and Archaeological Features:** State Natural Areas (SNAs) may contain historic Native American or Euro-American sites. Activities with potential to disturb archaeological sites will only be undertaken after consultation with the DNR Archaeologist. Any sites with cultural or historical value will be managed in accordance with guidance and statutory requirements (see ss. 44.40 and DNR Manual Code 1810.10). More details can be found in Appendix B.
11. **Refuges and other Closed Areas:** None
12. **Primary Public Use:** Recreational uses such as hiking, fishing, cross country skiing, hunting, trapping, scientific research, wild edibles collection, , and wildlife viewing are allowed. Reference the State Natural Areas [Visitation Guidelines](#) and the property's specific [webpage](#) for more information.
13. **Biotic Inventory needs:** Currently, no plant or vertebrate inventory needs have been identified beyond normal monitoring through established SNA Site Inspection protocol.

B. **Property Purpose and Goals/ Management Objectives and Prescriptions**

1. **Property Purpose and Goals**
 - a. **Purpose:** The purpose of the SNA Program is to protect outstanding examples of Wisconsin's native landscape of natural communities, significant geological formations and archeological sites. Natural areas are valuable for research and educational use, the preservation of genetic and biological diversity, and for providing ecological benchmarks for determining the impact of use

on managed lands. They also provide habitat for numerous rare plants and animals.

- b. Goal:** Manage the site as a reserve for northern wet-mesic forest and boreal rich fen, as a rare animal protection area, as an aquatic and wetland reserve, and as an ecological reference area. Natural processes will determine the structure of the wet-mesic forest and wetlands. Provide opportunities for research and education on the highest quality native northern wet-mesic forests and boreal rich fens.

2. Management Objectives by Natural Community Type:

- a.** Restore approximately 20 acres of boreal rich fen, 48 acres of cedar swamp, and 93 acres of northern hardwoods
- b.** Reforest pastures and old fields to northern hardwoods
- c.** Maintain northern hardwoods stands via managed old-growth or extended rotation.
- d.** Retain snags and important habitat features, unless they conflict with other objectives (such as hazard trees near roads)
- e.** Retain or increase existing populations of Species of Greatest Conservation Need.
- f.** Prevent the introduction of new invasive species, and ensure long-term limitation of the spread, reproduction and impact of existing invasive species.
- g.** Monitor dwarf lake iris populations and assess habitat conditions.
- h.** Protect and monitor the critical habitat for the Hine's Emerald dragonfly (HED).

3. Management Prescriptions by Natural Community Type:

- a.** Contain or eradicate invasive species through the use of department approved manual, chemical, biological, and mechanical practices.
- b.** Continue outreach to secure volunteer site stewards to help reach management objective and strengthen the joint public/private partnership.
- c.** In northern hardwood stands use uneven-aged selection (single tree or group) harvests to encourage long-term multi-aged diversity. Canopy gaps will be created to encourage age class diversity and edge cover.
- d.** Apply for a forestry afforestation grant to machine plant and fence new northern hardwood tree plantations.

- e. Conduct field trials on dwarf lake iris populations to determine specific habitat requirements (limiting factors) for vegetative and sexual reproduction.
- f. Perform biannual SNA site inspections and conduct presence/absence surveys for HED.

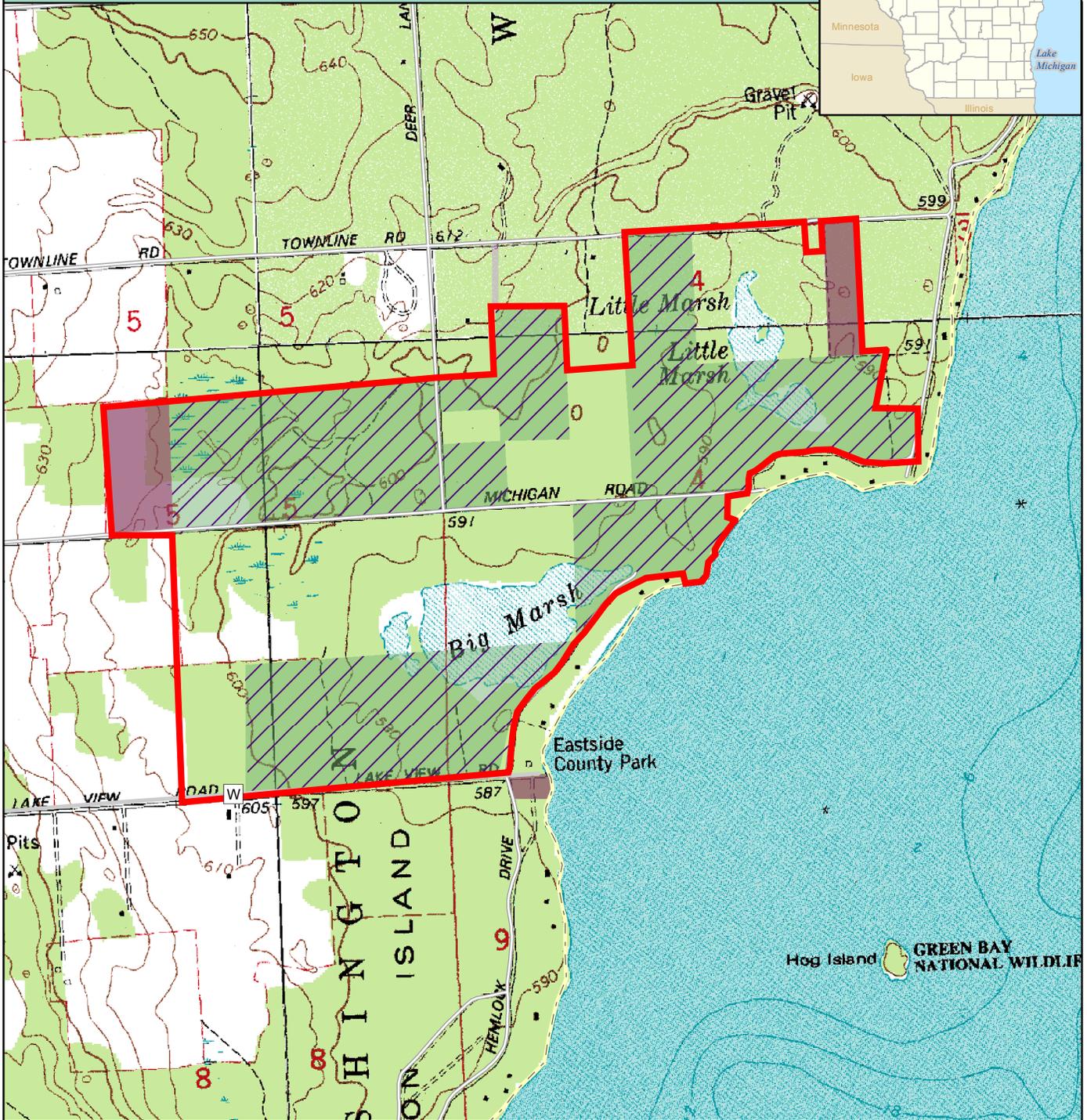
4. Special Management Issues and/or constraints:

- a. Access to suppress wildfires is allowed.
- b. Salvage of trees in northern hardwoods stands after a major wind event may be allowed if the volume of trees is merchantable.

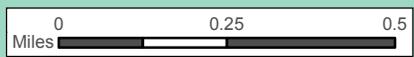
Table 1: Current Facilities or Infrastructure

Type of Facility	Total (number/length)	Management Activities	Management Issues and Constraints
Roads – public	None		
Roads – maintenance/service	None		
Roads – access easement	None		
Parking lots	1 (native surface)		
Boat landings	None		
Designated trails	None		
Dikes, ditches	None		
Dams	None		
Other			

Big and Little Marsh State Natural Area PROJECT BOUNDARY



- Project Boundary
- State Natural Area
- DNR Owned
- Stewardship Grant Land
- DNR Easement



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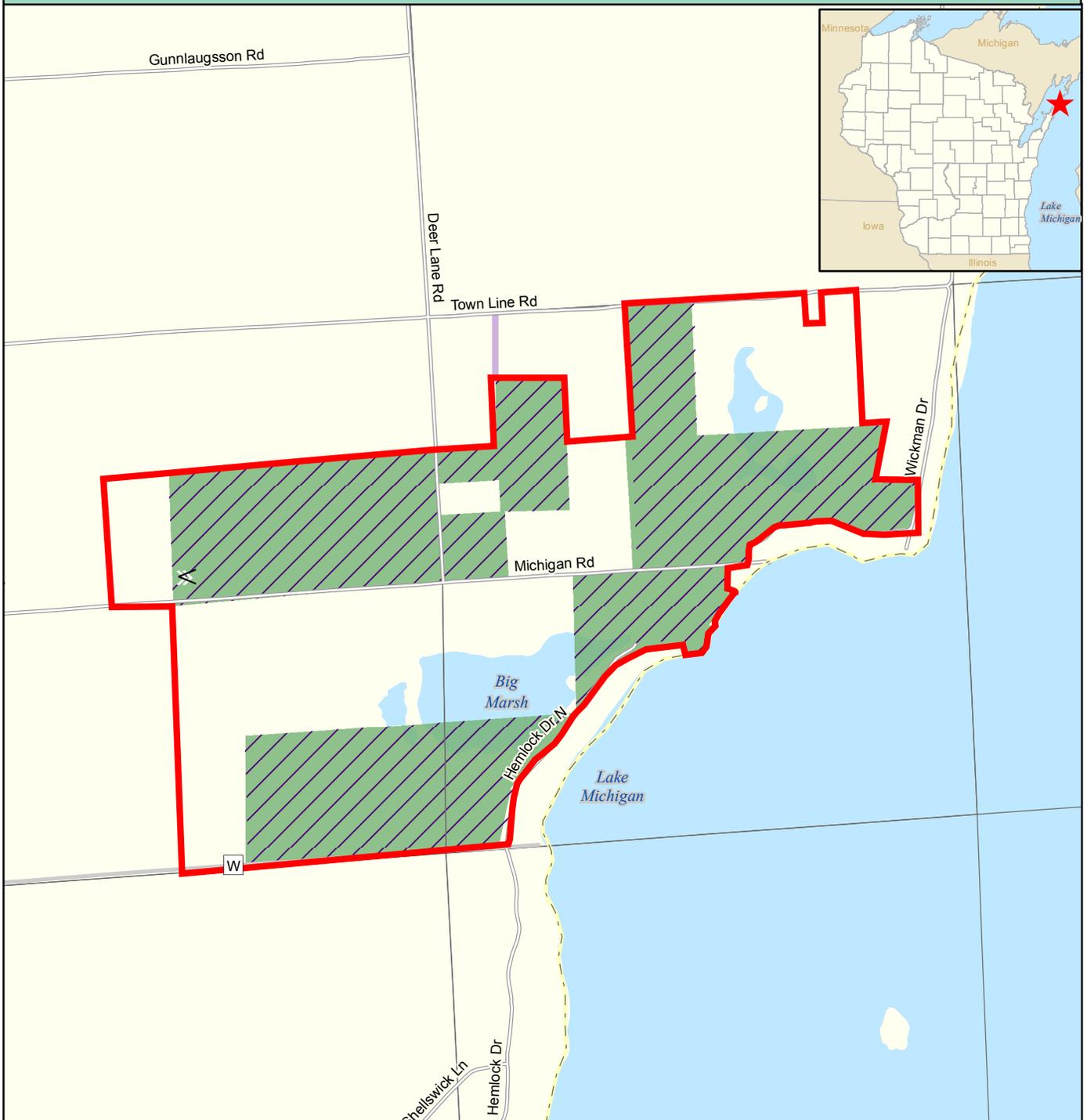
SNA Tier 3 dmh

MAP A

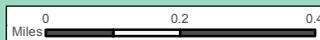
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Big and Little Marsh State Natural Area

EXISTING ROADS AND INFRASTRUCTURE



-  Project Boundary
-  State Natural Area
-  DNR Owned
-  DNR Easement
-  Parking Lot



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MAP B

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