

Title:

Final Report for Rare Wetlands: Abstracts, Assistance, Field Key, and Workshops

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For:

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INTRODUCTION

This project was initiated to encourage the protection of rare wetlands by providing information to wetland professionals and the general public on rare wetland resources needing protection and management.

To meet this goal, Michigan Natural Features Inventory (MNFI) performed the following tasks:

- 1) delivered four full-day seminars on rare wetlands
- 2) prepared 21 abstracts on rare natural features that are available on the MNFI Web site
- 3) produced a field guide to the natural communities of Michigan
- 4) worked on updating the Floristic Quality Assessment with Wetland Categories for Michigan
- 5) Assisted with development of DEQ Web site for rare wetlands
- 6) Assisted DEQ staff with wetland assessments

METHODS

Training Seminars on Rare Wetlands

During 2009, four training seminars were held at the locations listed below (Table 1).

The training seminars were attended by 144 participants, including members of the general public, wetland consultants, wetland regulators, wildlife biologists, students, and teachers. Each seminar included three hours of indoor presentations, lunch, and three or more hours of field visits with the presenters. The indoor presentations included talks on the following topics, which were tailored to the region (southern or northern):

- 1) Wetlands of Michigan
- 2) Ecology of Prairie Fens (southern MI) or Ecology of Northern Fens (northern MI).
- 3) Rare wetland animals of Michigan
- 4) Rare wetland plants Michigan.

During, the field-based portion of each training session, participants were shown wetland soil cores and pH samples and were taught important characteristics for identifying numerous wetland plant species. In addition, they participated in conversations on wetland hydrology, hydric soils, native and invasive plants, ecological restoration, fire ecology, and natural disturbance.

Table 1. Training seminars on rare wetlands: dates, locations, and natural communities.

Date	Location	Natural Communities Observed
7/30/09	Ebersole Environmental Education Center, Wayland, MI (Allegan County)	Prairie Fen, Southern Wet Meadow, Southern Shrub-carr, Emergent Marsh, Submergent Marsh, Rich Tamarack Swamp, Hardwood-Conifer Swamp, Southern Hardwood Swamp, and Mesic Southern Forest

Table 1. Continued

Date	Location	Natural Communities Observed
8/4/09	Hagerty Center at Northwest Michigan University, Traverse City, MI and Sand Lakes Quiet Area (Grand Traverse County)	Northern Fen, Emergent Marsh, Submergent Marsh, Dry-mesic Northern Forest
8/11/09	Stockbridge Town Hall, Stockbridge, MI and Park Lyndon North (Washtenaw County)	Prairie Fen, Southern Wet Meadow, Southern Shrub-carr, Dry-mesic Southern Forest
8/13/09	Kensington Metropark, Brighton, MI (Oakland County)	Prairie Fen, Rich Tamarack Swamp, Emergent Marsh, Submergent Marsh, Dry-mesic Southern Forest

Abstracts

Twenty one abstracts were prepared including six focusing on rare wetland natural communities, five on rare wetland animals, nine on rare wetland plants, and one on vernal pools (Table 2). All abstracts are available on the MNFI Web site and contain detailed descriptions of the element, color photos, and a comprehensive list of references.

Table 2. List of abstracts completed and available on MNFI Web site.

Types	Scientific Name	Common Name	US Status	State Status	Global Rank	State Rank
Natural Communities						
	Coastal Fen	Coastal Fen			G1G2	S2
	Inundated Shrub Swamp	Inundated Shrub Swamp			G4	S3
	Patterned Fen	Patterned Fen			GU	S2
	Wet Prairie	Wet Prairie			G3	S2
	Wet-mesic Flatwoods	Wet-mesic Flatwoods			G2G3	S2
	Wet-mesic Prairie	Wet-mesic Prairie			G2	S2
Rare Plants						
	<i>Armoracia lacustris</i> (<i>A. aquatica</i>)	Lake cress		T	G4?	S2
	<i>Beckmannia syzigachne</i>	Slough grass		T	G5	S2
	<i>Carex lupuliformis</i>	False hop sedge		T	G4	S2
	<i>Chelone obliqua</i>	Purple turtlehead		E	G4	S1
	<i>Lycopus virginicus</i>	Virginia water-horehound		T	G5	S2

Table 2. Continued

Types	Scientific Name	Common Name	US Status	State Status	Global Rank	State Rank
	Mertensia virginica	Virginia bluebells		E	G5	
	Plantago cordata	Heart-leaved plantain		E	G4	
	Populus heterophylla	Swamp or Black cottonwood		E	G5	S1
	Silphium perfoliatum	Cup plant		T	G5	S2
Rare Animals						
	Ambystoma opacum	Marbled salamander		E	G5	S1
	Ambystoma texanum	Smallmouth salamander		E	G5	S1
	Asio otus	Long-eared owl		T	G5	S2
	Clonophis kirtlandii	Kirtland's snake		E	G2	S1
	Nerodia erythrogaster neglecta	Copperbelly water snake	LT	E	G5T3	S1
Other Natural Features						
	Vernal pool					

Field Guide to the Natural Communities of Michigan

A field guide to the natural communities of Michigan was produced. The field guide contains lists of the 76 recognized natural communities and a dichotomous key to help users identify community types. For each natural community, the field guide includes a photograph, global and state conservation ranks, a short description, a county distribution map, and a list of characteristic plants. The community descriptions provide information on physiography, distribution, hydrology, soils, vegetation, and natural processes.

Floristic Quality Assessment

Significant progress was made toward completing an update of the Floristic Quality Assessment with Wetland Categories (FQA) for Michigan. Completion of this task hinges on two critical elements, both of which are currently in progress. First, the nomenclature for the flora of Michigan is undergoing significant revision. MNFI staff are currently working with the authors of new Michigan flora to update the nomenclature and the Coefficient of Conservatism values. Secondly, the Wetland Coefficient values are presently under review by the Army Corp of Engineers. When the updates to the plant nomenclature and wetland coefficients are complete, MNFI staff will work with staff from the University of Michigan Herbarium and the Department of Natural Resources and Environment to complete an update of the FQA for Michigan.

Assisting DEQ staff with wetland assessments

In the original work plan, we planned for MNFI staff to help train DEQ staff to recognize and assess rare wetlands while conducting field permit reviews. However, because permit applications significantly slowed due to the economy, there was little need for MNFI's assistant in the field. Although MNFI staff did help assess one field site and assisted with wetland soils identification, the resources for this task were otherwise redirected toward updating the FQA for

Michigan and including lists of characteristic plants within the field guide, which had not been originally planned.

Assistance with Rare Wetlands Web site.

A short description of rare wetlands was produced and will appear on the DEQ web site. The description discusses several reasons why many wetland types are rare and highlights their important role in sustaining plant and animal diversity and providing critical ecological services.

DISCUSSION

The four wetland workshops were well attended. In addition to publicizing the workshops to wetland consultants and state employees, an announcement went out through The Stewardship Network, which helped significantly in reaching interested members of the general public. The format of morning indoor presentations followed by an afternoon of field visits was effective for teaching about a broad range of wetland communities and related species and providing participants hands-on opportunities with a variety of wetland ecosystems, soils, and plants.

With the completion of the five wetland natural community abstracts produced for this project, all of the 26 rare wetland natural communities in Michigan now have full abstracts, and all are available through the MNFI Web site. Because the abstracts are widely used by natural resource professionals, educators and students, the completion of these last five community abstracts marks a significant step in making available critical information for understanding and valuing these rare natural features.

Producing the field guide took substantially more time than originally planned. Writing the community descriptions, finding appropriate photos of each community, and developing the lists of characteristic plants required considerably more time than was anticipated. However, the extra time in developing the field guide was well justified given the potential for its use by a broad array of natural resource professionals, naturalists, and teachers.

In general the project ran smoothly. However, we did not anticipate the economy would significantly slow and that this would result in fewer requests for wetland permit applications. Consequently, there was less of a need for MNFI to assist with identifying rare wetlands, and thus, work was redirected to other parts of the project, namely updating the FQA for Michigan and adding lists of characteristic plants to the natural community field guide.

I am very grateful for the opportunity to have worked with the DNRE Water Resources Staff, and in particular Amy Lounds, to accomplish the tasks discussed above. I look forward to working together in the future to provide useful information for protecting biodiversity and the rare wetland resources of Michigan.