

Preliminary Management Plan
for the Stroebe Island Marsh,
Guckenberg property (phase 2)
Town of Menasha, Winnebago County, WI

Prepared by
Robert J. Welch, Ecologist
EnvirInTAC
Environmental Investigations-Technicians, Associates, Consultants
Waupaca Field Station
E110 Emmons Creek Road
Waupaca, WI 54981
September 14, 2003

Amended January 20, 2006

Location and Basic Description of the Site

This project area is located on the west shore of Little Lake Butte des Morts (Fox River) South of Stroebe Road and West of Stroebe Island in Section 3, T20N – R17E. The marsh, floodplain forest, old field and home site lie east of Butte des Morts Beach Road. Part of this project site is part of one of the last remaining pristine, open cattail marshes found along the lower Fox River drainage (other parcels of this marsh are protected by warranty deed transferred to Northeast Wisconsin Land Trust and conservation easement held by WI-DNR as a result of NRDA settlements reached in 2003). The remainder of this project site is an old agricultural field intended for upland grass habitat renovation, and a modern (ca. 1994) residential structure on a ½ acre yard.

Historically, the Fox River was lined with a complex of cattail marshes and extensive floating marsh mats covering hundreds of acres. This habitat type originally covered thousands of acres within present day Lake Butte des Morts, Lake Winneconne, and Lake Poygan. The dramatic increases in water levels within the Fox River system through dam construction and high speed motorized boat traffic effectively destroyed over 99 percent of the original cattail marsh by 1965. This remaining high quality habitat is now very rare and continues to provide critical food and cover for a myriad of wetland species trying to continue their life cycles surrounded by the pressures of land development and severe habitat destruction.

Owner and Parcels

G & H of Neenah, LLC, parcel # 008-0101 and (part of) 008-0108, per warranty deed recorded in Winnebago County register's office on 10/19/2005, approx. 12.5 acres

G & H of Neenah, LLC, parcel # 008-0101-07, per warranty deed recorded in Winnebago County register's office on 12/08/2003, approx. .5 acre

Historical Use of the Project Area

This marsh was traditionally used as a privately-owned wildfowl production area and refuge with limited waterfowl and deer hunting until 1998, when the use of firearms were banned by the township. Waterfowl hunting and furbearer trapping has been practiced by the Guckenbergs family for at least four generations. Limited trapping is still being practiced on the marsh during both fall and spring seasons.

The old field was part of the Guckenbergs family farm, and was last cultivated in

Site Inspection and Preliminary Resource Inventory

A project site inspection for phase 1 of this project (marsh north of current property) was conducted on 14 September 2003 from 1115-1530 hours. Mr. and Mrs. Guckenberger were interviewed about historical uses, management concerns, and current problems facing this high quality marsh. A preliminary resource inventory was conducted to document dominant vegetation, presence of invasive species, and the presence and/or use by rare and endangered species. These lists are by no means an attempt at a complete picture of the project site. Many species were easily recognized and available for observation. Many plants were well past their prime, others were in full bloom. Information was gathered and observations were made to determine the level of importance of this marsh to local and migratory wildlife species. Please remember that this one day inventory was conducted beginning in a steady rain and ended after about 3 hours of observation.

See attached Tables for species observed during this inspection and species known to consistently use this marsh for feeding, reproduction, and as a migratory staging area.

Documented Threats to the Site

Several threats to the site were observed or anticipated based on its location and surrounding human activities. One very critical threat is a significant long-term change in annual and seasonal water levels controlled by the U.S. Army Corps of Engineers. The marsh must be maintained by its flood periods. Changes in the flood regime, especially the timing and duration could significantly affect the success of the surrounding bottomland forest and the dominant cattail beds. Too dry or too wet for too long a period or during the wrong period would also destroy the value of the marsh for its inhabitants.

An additional primary threat is the presence of non-point source pollution through storm sewer water and accelerated sedimentation. Since this basin is conveniently located for the discharge of street, rail, industrial, and residential runoff, storm sewer effluent could significantly affect water quality and the amount of sediment being collected in the basin.

The development of the old field into residential use, as allowed under current zoning, would increase the likelihood of direct non-point source pollution and destroy both upland grass and wetland habitats.

See the attached Table 6 to identify additional primary and secondary threats.

Resource Management Concerns and Recommendations

Marsh Diversity

This marsh complex and surrounding bottomland floodplain forest represents one of the few remaining acreages of diverse cattail marsh along the Lower Fox River

drainage. A brief survey of the property, without accessing the waters edge provided a relatively long list of native marsh plants. Many of these species are indicators of a quality wetland showing little disturbance. Table 1 provides a list of the species identified during a short visit in mid-September, 2003. More work should be conducted to document the species not seen or identified during this visit. This survey should be completed during several visits throughout the growing season. The variety of emergent species already identified and gradual slope of the littoral zone indicates a potential of a wider range of species along the waters edge, as submergent, and floating species.

Migratory Bird Refuge

The obvious value of these properties to both resident and migratory birds was easy to measure, based on the number of young waterfowl using the open water and marsh edges for feeding and resting with their parents. Several flocks were observed working the tree tops and confidently landing in this important waterfowl production area during our visit. After interviewing Mr. and Mrs. Guckenberger, we learned that this marsh has provided a nesting and migration staging site for hundreds, if not thousands of years. Their long history with this property involved maintaining a nesting refuge, a hunting location for pass shooting both local and migratory waterfowl flocks, and seasonal trapping of furbearing mammals, primarily muskrats. Additional research of this site with local birders and DNR personnel helped to complete a short bird list in Table 5.

Endangered Resources

Tables 3 and 4 identify the rare species known to use these properties and those species which range in the area and can be potentially found using the site. More emphasis should be placed on completing this survey to identify additional species and work with respective agencies to try to maintain or increase their populations.

Invasive Plants and Animals

Invasive species continue to threaten our landscape with their highly adaptable characteristics. Table 2 lists a few species which have started establishing a foothold. Immediate management practices can reduce and eliminate any additional spread. European buckthorn appears to be the greatest threat at this time.

Water Levels and Water Quality

The U.S. Army Corps of Engineers maintain several lock and dam systems on the Lower Fox River which determine ultimately how much water will be found within the marsh and the surrounding lake. The annual and seasonal flood dynamics are critical to maintain the integrity of the marsh and the surrounding bottomland forests. It is highly suggested to begin immediately to monitor water levels at several locations and determine water levels at several designated historical monitoring stations to get a better idea just how much water should be provided by the Corps to manage this marsh. Since all species are adapted for periodic changes in the water levels, it is imperative to maintain these cycles as closely as possible through the cooperation of the Corps.

Access and Disturbance

Development of the existing residential structure as a Center for Environmental Stewardship will encourage controlled public access to the marsh for wildlife viewing and scientific study. A boardwalk access through the marsh to open water adjacent to the Center building is part of the proposed management plan for this property.

Some trash and debris from winter storms and spring breakup has accumulated within the outer edges of the bottomland forests, wherever lake levels flood deep within the bottomlands. Use of the property as a Center for Environmental Stewardship will provide opportunities for volunteers to routinely clean the property of this debris as well as invasive species such as European buckthorn.

Sedimentation

Natural sedimentation always occurs during normal flooding activities, however man-induced sedimentation also impacts wetlands through storm water drainage from streets and parking lots, construction areas, road cuts, erosion of steep embankments, and through intentional dumping into low areas. A rain garden is planned for the Center to reduce the impact of sedimentation/runoff from the roadway and yard on the current quality of the marsh and bottomland forests. This rain garden will serve as a living laboratory and demonstration project for residents of Fox Valley area communities to learn how to protect/improve the water quality of the river by installing similar gardens in their own yards.

In cooperation with WI-DNR and Northeast Wisconsin Land Trust, other projects will be developed where recommended using water retention landscaping techniques and native aquatic plants to reduce sedimentation and clean run-off water entering the Fox River.

Toxic Sediments

Sediments within the marsh should be tested for heavy metals, PCBs, and other chemicals which have made the pollution of the Fox River such a contentious issue. Base lines would be important to establish to determine how the “clean up activities” may affect water quality and the overall health of the marsh and its inhabitants.

Table 1. - Dominant vegetation observed within the Guckenbergh Marsh Family Trust parcels and the Holbrook Bottomland Forest and Marsh parcel, 14 September 2003.

Common Name	Scientific Name	Location in Project Area
Narrow-leaved Cattail	<i>Typha angustifolia</i>	Shallow and Deep Marsh
Wide-leaved Cattail	<i>Typha latifolia</i>	Shallow and Deep Marsh
Softstem Bulrush	<i>Scirpus validus</i>	Shallow Marsh
Spike Rush	<i>Eleocharis palustris</i>	Shallow Marsh
Burreed	<i>Sparganium eurcarpum</i>	Shallow Marsh
Nodding Smartweed	<i>Polygonum lapathifolium</i>	Shallow Marsh
Arrowhead	<i>Sagittaria</i> sp.	Shallow Marsh
Marsh Boltonia	<i>Boltonia asteriodes</i>	Shallow Marsh
New England Aster	<i>Aster novae-angliae</i>	Moist edges
Water Arum	<i>Calla palustris</i>	Shallow Marsh
Spatterdock	<i>Nuphar advena</i>	Open Marsh
Duckweed	<i>Spirodela polyrhiza</i>	Open Marsh
Northern Bedstraw	<i>Galium boreale</i>	Bottomland Forest
Tickseed	<i>Bidens</i> sp.	Bottomland Forest
False Nettle	<i>Boehmeria cylindrical</i>	Bottomland Forest
Stinging Nettle	<i>Urtica dioica</i>	Bottomland Forest
Canada Goldenrod	<i>Solidago canadensis</i>	Wet edges
Blue Flag Iris	<i>Iris versicolor</i>	Marsh, Bottomland Forest
Bluejoint Grass	<i>Glyceria canadensis</i>	Marsh, forest edges
Large Flowering Trillium*	<i>Trillium grandiflorum</i>	Moist forest edges
Nodding Trillium*	<i>Trillium cernuum</i>	Moist forest edges
Jack-in-the-Pulpit*	<i>Arisaema atrorubens</i>	Moist forest edges
Bloodroot*	<i>Sanguinaria canadensis</i>	Moist forest edges
Several Sedge Species	<i>Carex</i> sp.	Marsh, Bottomland Forest
Wood Fern	<i>Dryopteris spinulosa</i>	Bottomland Forests
Red Raspberry	<i>Rubus idaeus</i>	Drier Bottomland Forest
Thorn Apple	<i>Crataegus</i> sp.	Drier Bottomland Forests
Swamp White Oak	<i>Quercus bicolor</i>	Drier Bottomland Forest
Northern Red Oak	<i>Quercus borealis</i>	Drier Bottomland Forest
Slippery Elm	<i>Ulmus fulva</i>	Drier Bottomland Forest
Box Elder	<i>Acer negundo</i>	Bottomland Forests
Silver Maple	<i>Acer saccharinum</i>	Bottomland Forests
Red Maple	<i>Acer rubrum</i>	Drier Bottomland Forests
White Ash	<i>Fraxinus americana</i>	Drier Bottomland Forests
Black Ash	<i>Fraxinus nigra</i>	Wet Bottomland Forests
Black Willow	<i>Salix nigra</i>	Bottomland Forest
Cottonwood	<i>Populus deltoids</i>	Drier Bottomland Forests
Red Mulberry	<i>Morus rubra</i>	Drier Bottomland Forests
Service Berry	<i>Amelanchier canadensis</i>	Drier Bottomland Forests

Pussy Willow *Salix discolor* Roadside, Bottomland Forest
 *These Spring ephemerals were not observed, but included based on landowner observations

Table 2. - Presence of invasive species within the Guckenbergh Marsh Family Trust parcels and the Holbrook Bottomland Forest and Marsh parcel, 14 September 2003.

Common Name	Scientific Name	Location in Project Area
European Buckthorn	<i>Rhamnus frangula</i>	Drier Bottomland Forests
Chicory	<i>Cichorium itybus</i>	Roadside only
Queen Anne's Lace	<i>Daucus carota</i>	Roadside Only
Common Mullein	<i>Verbascum thapsus</i>	Roadside and embankment
Purple Loosestrife	<i>Lythrum salicaria</i>	No evidence, whenever local plants show up nearby, they have been removed
Stinging Nettle	<i>Urtica dioica</i>	Wet edges, disturbed portions of the bottomland forests

Table 3. - Presence and/or use by rare and endangered species within the project area with emphasis on the Guckenbergh Marsh Family Trust parcels and the Holbrook Bottomland Forest and Marsh parcel, 14 September 2003.

Common Name	Scientific Name	Relative Abundance
American Bittern	<i>Botaurus lentiginosus</i>	Uncommon
Yellow-headed Blackbird	<i>Xanthocephalus xanthocephalus</i>	Uncommon
Red-shouldered Hawk	<i>Buteo lineatus lineatus</i>	Rare
Bald Eagle	<i>Haliaeetus leucocephalus</i>	Common
Osprey	<i>Pandion haliaetus</i>	Uncommon
Red-headed Woodpecker	<i>Melanerpes erythrocephalus</i>	Uncommon
Forster's Tern	<i>Sterna forsteri</i>	Rare
Caspian Tern	<i>Sterna caspia</i>	Uncommon
Common Tern	<i>Sterna hirundo</i>	Rare
Common Moorhen	<i>Gallinula chloropus</i>	Rare
Blandings Turtle	<i>Emydoidea blandingii</i>	Uncommon
Musk Turtle	<i>Sternotherus odoratus</i>	Uncommon
Bull Frog	<i>Rana catesbeiana</i>	Uncommon

Table 4.- Wisconsin Endangered Species and Species of Concern which range within this area of the Fox River Valley and may possibly be found, thus requiring additional survey time and effort to document presence or absence from this wetland.

Common Name	Scientific Name
Marsh Valerian	<i>Valeriana sitchensis</i> spp. <i>uliginosa</i>
Lake Cress	<i>Armoracia aquatica</i>
Tubercled Orchid	<i>Habenaria (Platanthera) flava</i> var. <i>herbiola</i>
Small White Lady's-slipper	<i>Cypripedium candidum</i>
False Asphodel	<i>Tofieldia glutinosa</i>
Snow Trillium	<i>Trillium nivale</i>
Vasey's Pondweed	<i>Potamogeton vaseyi</i>
Olivaceous Capitulate Spike-rush	<i>Eleocharis olivacea</i>
Plantain-leaved Wood Sedge	<i>Carex plantaginea</i>
Blanchard's Cricket Frog	<i>Acris crepitans blanchardi</i>
Pickerel Frog	<i>Rana palustris</i>
Spiny Softshell Turtle	<i>Apalone spinifera</i>
Lancet Clubtail Dragonfly	<i>Gomphus exilis</i>
Lake Darner Dragonfly	<i>Aeshna eremita</i>
Several Species of Freshwater Mussels	

Table 5. - Importance of project area to local and migratory wildlife species with emphasis on the Guckenbergh Marsh Family Trust parcels and the Holbrook Bottomland Forest and Marsh parcel. List reported by land owner and/or observed on 14 September 2003.

Common Name	Type of Habitat Use within the Project Area		
	Reproduction	Feeding	Migratory Staging
Pied-billed Grebe		X	X
Canada Goose	X	X	X
Mallard	X	X	X
American Black Duck		X	X
American Widgeon		X	X
Shoveler		X	X
Blue-winged Teal		X	X
Green-winged Teal		X	X
Wood Duck	X	X	X
Canvasback		X	X
Ring-necked Duck		X	X
Bufflehead		X	X
Common Goldeneye		X	X
Hooded Merganser		X	X
Common Merganser		X	X
Red-tailed Hawk	X	X	
Red-shouldered Hawk		X	
Bald Eagle		X	X
Osprey		X	
Great Blue Heron		X	
Green Heron	X	X	
American Bittern	X	X	
Sora Rail	X	X	X
Virginia Rail		X	X
King Rail		X	X
American Coot		X	X
Killdeer	X	X	
Lesser Yellowlegs	X	X	
Spotted Sandpiper	X	X	
American Woodcock	X	X	
Ring-billed Gull		X	
Herring Gull		X	
Forster's Tern		X	
Caspian Tern		X	
Common Tern		X	
Red-headed Woodpecker	X	X	
Great Horned Owl	X	X	
Barred Owl	X	X	
Belted Kingfisher	X	X	

Table 6. – Types of threats to the project area with emphasis on the Guckenberg Marsh Family Trust parcels, 14 September 2003.

Type of Threat	Possible Source
Plastic and other trash	Local Residents, Boaters, Windblown from lake
Non-point Storm Sewer	Local Infrastructure And Sedimentation
Disturbance to open water areas	Local Lake Users
Invasive plants	Local Roadsides and Disturbed Edges
Vehicular access (4x4)	Local Residents
Long-term Flooding	Corps of Engineers and Lake Levels
Lack of annual recharge and natural discharge	Corps of Engineers and Lake Levels
Little Lake Butte des Mort Water Quality	Local Infrastructure, Local Residents, Boaters
PCB and Mercury within Sediments and Water Chem.	Local Infrastructure, Local Businesses and Industry, Regional Air Emissions