Proposed Road Improvements at Wisconsin Rapids: A Wetland Determination and Description of Upland Resources

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COPIES: File

DATE: July 6, 2006

Introduction

An improved connection between portions of Wisconsin Highway 54 east and west of the Wisconsin River is proposed. The improvement will involve two new bridges over the Wisconsin River, several miles of new road, and slightly more than a mile of widening County Road Z. As a part of a feasibility study, wetland boundaries in the project area were estimated based on vegetation and obvious indicators of wetland hydrology with a field walk through, wetland functions were assessed, upland plant communities were characterized, and basic stream characteristics were assessed.

Wetland functional assessment forms are in Appendix A. A list of plant species observed in the project area is in Appendix B.

Wetland Determinations

Several published sources were examined prior to and during wetland fieldwork, including the Wisconsin Wetland Inventory, the Wood County Soil Survey, aerial photography, and U.S. Geological Survey topographical maps.

Wetland boundaries within the project area were estimated by observing and recording dominant vegetation and visible indicators of wetland hydrology. Wetland boundaries were recorded with a Garmin e-trex Legend hand-held Global Positioning System (GPS). Points recorded with the GPS were uploaded to a Geographic Information System (GIS) shapefile. The heavily forested canopy throughout much of the project area introduced some error in the accuracy of the GPS; however, ancillary sources were useful in adjusting the boundaries of the wetland polygons.

In all, the boundaries of 28 wetland polygons were recorded in the project area. The total acreage of wetland within the project area is 49.92 acres. Acreage of impacts to these wetlands will be calculated as the design of the Preferred Alternative is refined. Table 1 summarizes information about each wetland including location, dominant species, evidence of wetland hydrology, total size, and wetland functionality. Figure 1 shows the locations of each wetland in the project area.

TABLE 1

Summary of Wetland Characteristics in the Project Area

Wetland #	Location	Wisconsin Wetland Inventory Mapping [1]	Field-Truthed Wetland Types [2]	Dominant Vegetation	Evidence of Wetland Hydrology	Total wetland Size (ac)	Dominant Wetland Functions
1	West-central portion of Domtar Island	Wetland smaller than 2 acres (marsh symbol)	FO, SS	Tussock sedge, sensitive fern, speckled alder, black willow	Saturation to surface, bare areas devoid of vegetation (water-related)	0.29	Floodwater retention, wildlife habitat,
2	Northwest portion of Domtar Island	Wetland smaller than 2 acres (marsh symbol)	FO	Lakebank sedge, black ash, cursed buttercup, speckled alder	Standing water, saturation to surface, bare areas devoid of vegetation (water-related)	0.79	Shoreline stabilization, floodwater retention, wildlife habitat
3	Northern tip of Domtar Island	Wetland smaller than 2 acres (marsh symbol)	FO, SS	Eastern cottonwood, river birch, silver maple	5 inches standing water, saturation to surface, bare areas devoid of vegetation (water-related), exposed roots	1.16	Floodwater retention, wildlife habitat,
4	Northern tip of Domtar Island	Wetland smaller than 2 acres (marsh symbol)	FO	Green ash, sensitive fern	Saturation to surface, bare areas devoid of vegetation (water-related), exposed roots	0.18	Floodwater retention, wildlife habitat,
5	Northern tip of Domtar Island	Wetland smaller than 2 acres (marsh symbol)	FO	Sedge species, green ash, quaking aspen	Saturation to surface, bare areas devoid of vegetation (water-related)	0.03	Floodwater retention, wildlife habitat,
6	Northern tip of Domtar Island	Wetland smaller than 2 acres (marsh symbol)	FO	Sedge species, green ash	Bare areas devoid of vegetation (water-related), soil moist in low spots	0.01	Floodwater retention, wildlife habitat,
7	East-central portion of Domtar Island, west of north-south	Wetland smaller than 2 acres (marsh symbol)	FO, SS	Tussock sedge, lakebank sedge, blue flag iris, speckled alder	6 inches standing water, saturation to surface, deep tire ruts	1.05	Floodwater retention, wildlife habitat,

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	gravel road						
8	Central portion of Domtar Island	Wetland smaller than 2 acres (marsh symbol)	FO	Reed canary grass, speckled alder, sedge species	6 inches standing water, saturation to surface, deep tire ruts	2.08	Floodwater retention, wildlife habitat,
9	East-central portion of Domtar Island	Wetland smaller than 2 acres (marsh symbol)	SS	Rush species, speckled alder,	6 inches standing water, saturation to surface,	0.06	Floodwater retention, wildlife habitat,
10	Central portion of Domtar Island	Wetland smaller than 2 acres (marsh symbol)	FO, WM	Reed canary grass, speckled alder, lakebank sedge, touch-me-not	Standing water in low spots, bare areas devoid of vegetation (water-related)	1.34	Floodwater retention, wildlife habitat,
11	Central portion of Domtar Island	Wetland smaller than 2 acres (marsh symbol)	FO	Sedge species, quaking aspen,	Standing water in low spots, saturation to surface	0.07	Floodwater retention, wildlife habitat,
12	Central portion of Domtar Island	Wetland smaller than 2 acres (marsh symbol)	FO	Sedge species, speckled alder, river birch, box elder, eastern cottonwood	Depressional on landscape, saturation to surface in low spots	0.68	Floodwater retention, wildlife habitat,
13	West-central portion of Domtar Island	Wetland smaller than 2 acres (marsh symbol)	FO, SS, WM	Sedge species, reed canary grass, speckled alder, box elder	Depressional on landscape, saturation to surface in low spots	0.34	Floodwater retention, wildlife habitat,
14	Western edge of Domtar Island	Wetland smaller than 2 acres (marsh symbol)	FO	Sedge species, eastern cottonwood, silver maple	Standing water, saturation to surface	0.85	Shoreline stabilization, floodwater retention, wildlife habitat
15	(There is not a Wetland #15)	--	--	--	--	--	--
16	South-central portion of Domtar	Wetland smaller than 2 acres	WM	Stinging nettle, motherwort, box elder,	Saturation to surface in low spots	5.47	Floodwater retention, wildlife habitat,

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Summary of Wetland Characteristics in the Project Area

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	Island	(marsh symbol)		black willow			
17	South-central portion of Domtar Island – just west of north-south gravel road	Wetland smaller than 2 acres (marsh symbol)	SS	Reed canary grass, sensitive fern, sandbar willow, speckled alder	Standing water in low spots, saturation to surface	0.31	Floodwater retention, wildlife habitat,
18	South-central portion of Domtar Island – just east of north-south gravel road	Wetland smaller than 2 acres (marsh symbol)	PO	duckweed	Permanent standing water 2-3 feet deep	0.40	Floodwater retention, wildlife habitat,
19	Four areas along the eastern edge of Domtar Island	Wetland smaller than 2 acres (marsh symbol)	FO	Sedge species, river birch, silver maple	Driftlines of herbaceous vegetation observed 18 inches above elevation of River surface	1.35	Shoreline stabilization, floodwater retention, wildlife habitat
20	East of the Wisconsin River and north of the east-west utility corridor	T3/8K	FO, WM	Sedge species, sensitive fern, speckled alder	Standing water in low spots, saturation to surface	3.80	Floodflow desynchronization, wildlife habitat
21	East of the Wisconsin River and north of the east-west utility corridor	T3/8K and T3/S3K	FO, SS	Sensitive fern, speckled alder	Standing water, saturation to surface	7.47	Floodflow desynchronization, wildlife habitat
22		--	--	--	--		
23	East of the Wisconsin River and south of the east-west utility	T3/S3K	FO	Sedge species, sensitive fern, smooth buckthorn (*Rhamnus*	Saturation to surface	0.33	Floodflow desynchronization, wildlife habitat

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Wetland #	Location	Wisconsin Wetland Inventory Mapping [1]	Field-Truthed Wetland Types [2]	Dominant Vegetation	Evidence of Wetland Hydrology	Total wetland Size (ac)	Dominant Wetland Functions
	corridor			*frangula*)			
24	East of the Wisconsin River and south of the east-west utility corridor	T3/8K	FO, WM	Sedge species, speckled alder, smooth buckthorn	Saturation to surface	0.81	Floodflow desynchronization, wildlife habitat
25	East of the Wisconsin River and south of the east-west utility corridor	T3/8K	FO, WM	Sedge species, speckled alder, smooth buckthorn, American elm	Saturation to surface	0.45	Floodflow desynchronization, wildlife habitat
26	Between Nepco Lake and the Airport	S3H	EM, SS	Narrow-leaved cattail, spikerush species, speckled alder	Standing water, saturation to surface	2.70	Shoreline stabilization, floodflow desynchronization, wildlife habitat
27 and 28	North of and across County Road Z from the Nepco Lake pumping station	Portions not mapped, other portions T3Kw	FO, SS, WM	Skunk cabbage, touch-me-not, speckled alder	Standing water, saturation to surface	17.9	Groundwater discharge, shoreline stabilization, floodflow desynchronization, floodwater retention, wildlife habitat

[1] Wisconsin Wetland Inventory Codes are explained in the text of this Technical Memo.

[2] Field-Truthed Wetland Types are: **FO** = forested Wetland, **SS** = Scrub-Shrub Wetland, **EM** = Emergent Wetland, **WM** = Wet Meadow Wetland, and **PO** = Pond Wetland

Assessment of Wetland Functions

Wetland functions were assessed for wetlands in the project area using the *Rapid Assessment Methodology for Evaluating Wetland Functional Values* (Wisconsin Department of Natural Resources, January, 2001 version). Many wetlands identified in the project area expressed a similar suite of wetland functions. Thus, for efficiency, wetlands in the project area were categorized into several wetland functional groups. The wetland functional groups and individual wetlands included in each group are summarized in Table 2. Appendix B shows forms summarizing the wetlands functions of each wetland functional group in the project area.

TABLE 2

Description of Wetland Functional Groups Identified in the Project Area

Functional Group	Characteristics of Functional Groups	Individual Wetlands Included in Functional Groups	Dominant Wetland Functions	Total Acreage of Functional Groups
1	Forested/ scrub-shrub wetlands on Domtar Island. All with well-defined outlets.	W#1, W#3, W#7, W#8, W#9	Flood retention, wildlife habitat, water quality	4.64
2	Forested/ scrub-shrub wetlands on Domtar Island. None have inlets or outlets.	W#4, W#5, W#6, W#10, W#11, W#12, W#13, W#16, W#17	Flood retention, wildlife habitat, water quality	8.43
3	Forested/ Scrub-shrub wetlands on Domtar Island. All at shoreline edge of the island.	W#2, W#14, W#19	Shoreline protection, flood retention, wildlife habitat, water quality	2.78
4	Pond wetland on Domtar Island.	W#18	Flood retention, wildlife habitat, water quality	0.40
5	Forested/ Scrub-shrub wetlands east of the Wisconsin River within 1000 feet north and south of the Utility Corridor	W#20, W#21, W#23, W#24, W#25	Flood desynchronization, wildlife habitat, water quality	12.86
6	Forested/ Scrub-shrub wetlands east of the Wisconsin River near Nepco Lake pumping station	W#27, W#28	Groundwater discharge, shoreline protection, floral diversity, wildlife habitat, water quality	17.88
7	Emergent marsh at north end of Nepco Lake	W#26	Shoreline protection, flood retention, wildlife habitat, aesthetics/ recreation	2.70

Wetlands located on Domtar Island are mostly oriented in a north-south direction and are likely remnants of abandoned channels of the Wisconsin River. The primary source of hydrology for wetlands on Domtar Island is overbank flooding of the Wisconsin River, precipitation, and limited sheetflow. These wetlands are in a landscape position where they can express the function of floodflow retention during flooding events on the Wisconsin River. Those wetlands on the edge of Domtar Island, i.e. in contact with the Wisconsin River provide the additional function of shoreline stabilization. Domtar Island, including wetlands and uplands provides a quality mosaic of wildlife habitat. Domtar Island has a long history of disturbance resulting from road and railroad construction and wetland drainage. A series of drainage ditches approximately 4 feet deep partially drain several wetlands in the interior of Domtar Island. As a result of historical disturbances, the floristic quality of wetlands on Domtar Island has been compromised.

Wetlands located east of the Wisconsin River and within 1000 feet north and south of the east-west utility corridor are slightly higher in elevation than wetlands on Domtar Island. Thus, they are not in a landscape position to express the function of floodflow retention. However, they do contribute to flood desynchronization by retaining sheetflow and slowing hydrologic outflow into the Wisconsin River. This mosaic of wetlands and uplands provides good wildlife habitat. These wetlands have a limited disturbance history, thus the floristic quality is relatively high.

Wetlands east of the Wisconsin River near the southern portion of the project area are fed hydrologically primarily through groundwater discharge. The mosaic of upland and wetland communities provides good wildlife habitat. These wetlands have very little disturbance history, thus the floristic quality is quite high.

Upland Resources

Upland forests within the project area were characterized with respect to floristic quality, wildlife habitat, age structure, and indicators of disturbance. Upland forests in the project are summarized in Table 3. The most outstanding upland forest parcel in the project area is Upland Forest Parcel #4 – the assemblage of spring flora is remarkable and indicative of a very low disturbance history. Upland Forest Parcel #4 had a relatively high number of snags. The floristic quality of Upland Forest Parcel #3 is quite good as well. Floristic quality of upland forest on Domtar Island west of the main gravel road (Upland Forest Parcel #1) is relatively poor as a result of historical disturbances. East of the gravel road on Domtar Island, the upland forest (Upland Forest Parcel #2) is of relatively good floristic quality. Upland forest near the DNR Service Center (Upland Forest Parcel #5) is of moderate floristic quality. Upland Forest Parcels #6 - #10 are mostly plantations – valuable as timber resources but of poor floristic quality.

TABLE 3

Summary of Upland Forests in the Project Area.

Upland Forest #	Location	Dominant Species	Age Structure	Notes
1	Domtar Island, west of gravel road	Green ash, eastern cottonwood, American elm, box elder	Sub-mature to mature, moderate number of snags	Relatively low floristic quality indicative of high disturbance history
2	Domtar Island, east of gravel road	Basswood, black oak, sugar maple	Sub-mature to mature, moderate number of snags	Relatively good floristic diversity is indicative of moderate disturbance history
3	East of Wisconsin River, within 1000 feet north and south of the utility corridor	Mixed deciduous /coniferous. White pine, black oak, sugar maple, hop hornbeam	Sub-mature to mature, moderate number of snags.	Relatively good floristic diversity is indicative of moderate disturbance history
4	East of Wisconsin River near southern portion of project area	black oak, basswood, sugar maple, hop hornbeam	Sub-mature to mature, high number of snags	Excellent quality forest. Good assemblage of spring flora is indicative of low disturbance history
5	North and south of County Road Z, between Airport and west of Highway 13.	Mixed deciduous/ coniferous	Sub-mature to mature, moderate number of snags	Relatively good floristic diversity is indicative of moderate disturbance history
6	East of Highway 13, south of Kuhn Ave. and north of County Road Z.	Mixed deciduous/ coniferous. White pine, black oak.	Sub-mature to mature, moderate number of snags.	Relatively good floristic diversity is indicative of moderate disturbance history
7	East of Highway 13, south of Whitrock Ave. and north of Kuhn Ave.	Red pine plantation.	Young to sub-mature, low number of snags	Straight rows, no undergrowth. Poor floristic quality.
8	East of Highway 13, west of 20th Street, south of 2-Mile Ave. and north of Whitrock Ave	Jack pine, white pine	Young to sub-mature, low number of snags	Scrubby growth. Relatively poor floristic quality
9	East of 20th Street, south of 2-Mile Ave. and north of Whitrock Ave.	Mixed coniferous/ deciduous. Jack pine and black oak.	Sub-mature, moderate number of snags	2nd growth, relatively intact. Moderate floristic quality.
10	North of Grove Ave. and south of the northern project area terminus	Red pine plantation	Young to sub-mature, low number of snags	8-10 inch Diameter at Breast Height. Poor floristic quality.

Streams

Two streams were cursorily assessed in the project area; One Mile Creek, and Two Mile Creek. The Wisconsin River was not assessed as part of this Technical Memorandum. Basic physical observations of reaches of these streams within the project are described as follows:

One-Mile Creek. One-mile Creek flows into the north end of Nepco Lake along the southeast edge of The Wisconsin Rapids Airport (Alexander Field). On the north side of County Road Z, One-Mile Creek is approximately 1 foot deep and flows sluggishly into Nepco Lake. The Creek meanders through a dense cover of narrow-leaved cattail before passing under County Road Z. One-Mile Creek is not notably incised below the surrounding landscape. A fairly dense growth of filamentous algae was observed in the stream from the foot bridge north of County Road Z.

Two-Mile Creek. Two-Mile Creek flows generally east-west between Airport Road and Two-Mile Avenue and flows under 20th Street. Two-Mile Creek is a tributary of One-Mile creek (see above), their confluence being near the southeast edge of the Wisconsin Rapids Airport (Alexander Field). Two-Mile Creek has been channelized and is incised approximately 3-4 feet below the elevation of the surrounding landscape. Rip-rap has been placed at the stream edges near the 20th Street bridge. The stream substrate is sandy. Stream banks near the 20th Street bridge are eroding as a result of poor re-vegetation. Stream depth at the 20th Street bridge is approximately 6-8 inches.

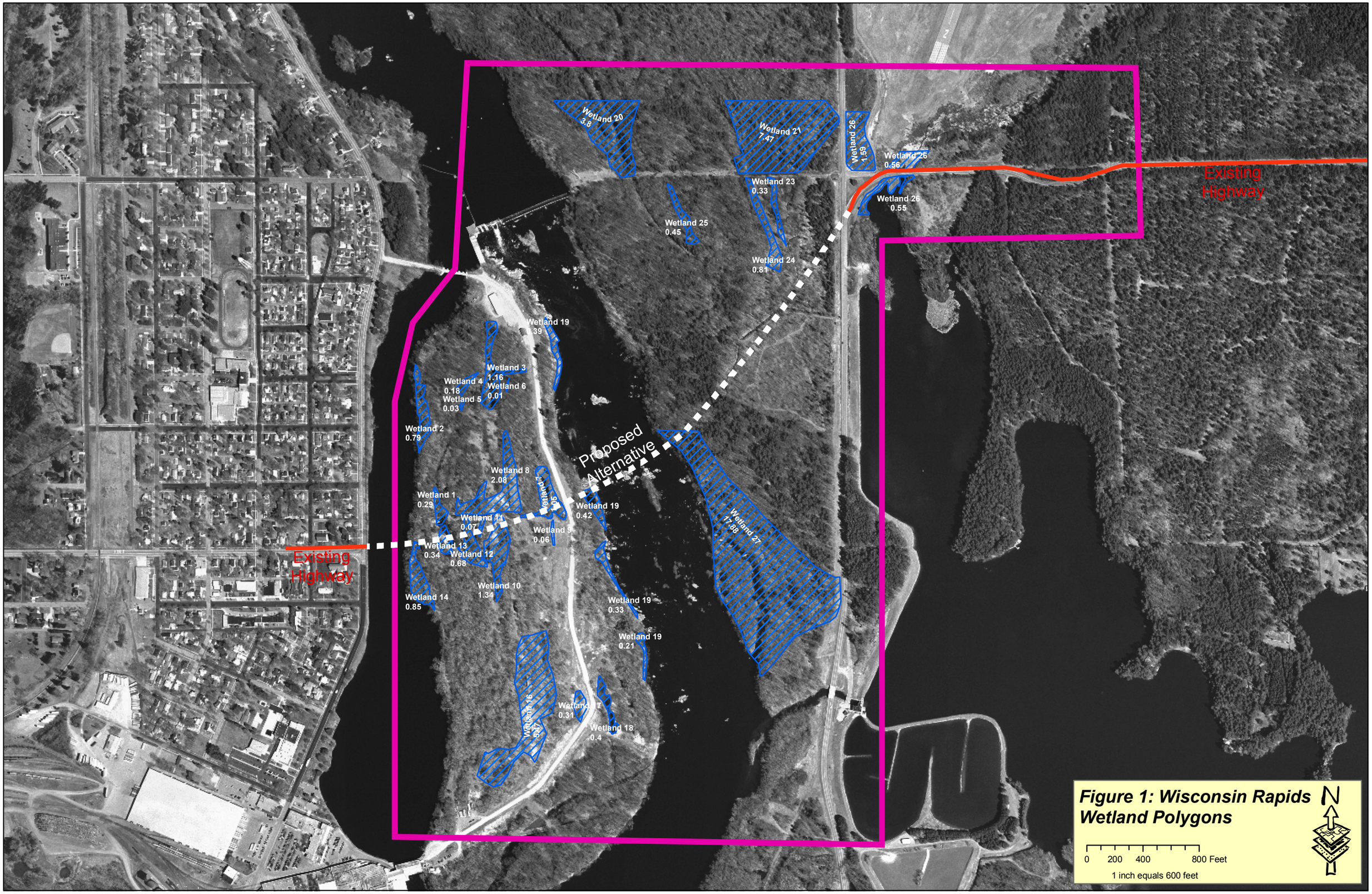

Figure 1: Wisconsin Rapids Wetland Polygons

Appendix A: Wetland Functional Assessment Forms

January, 2001

WETLAND FUNCTIONAL GROUP #1

wetlands #1, #3, #7, #8, #9

File or Docket Number

Wisconsin Department of Natural Resources

RAPID ASSESSMENT METHODOLOGY FOR EVALUATING WETLAND FUNCTIONAL VALUES

GENERAL INFORMATION

Name of Wetland/Owner:
Location: County WOOD ; ¼, ¼, Section , Township , Range
Project Name: WISCONSIN RAPIDS, HWY 54 Improvements
Evaluator(s): J. OISON
Date(s) of Site Visit(s): MAY 8-11, 2006

Description of seasonality limitations of this inspection due to time of year of the evaluation and/or current hydrologic and climatologic conditions (e.g. after heavy rains, snow or ice cover, during drought year, during spring flood, during bird migration): Full leaf out, scattered thunderstorms

WETLAND DESCRIPTION

Wisconsin Wetlands Inventory classification:
Wetland Type: shallow open water, deep marsh, shallow marsh, seasonally flooded basin, bog, floodplain forest, alder thicket, sedge meadow, coniferous swamp, fen, wet meadow, shrub-carr, low prairie, hardwood swamp
Estimated size of wetland in acres:

SUMMARY OF FUNCTIONAL VALUES

Based on the results of the attached functional assessment, rate the significance of each of the functional values for the subject wetland and check the appropriate box. Complete the table as a summary.

FUNCTION	SIGNIFICANCE				
	Low	Medium	High	Exceptional	N/A
Floral Diversity		✓			
Wildlife Habitat		✓			
Fishery Habitat					✓
Flood/Stormwater Attenuation					
Water Quality Protection		✓			
Shoreline Protection					✓
Groundwater	✓				
Aesthetics/Recreation/Education	✓				

List any Special Features/"Red Flags": — NONE

WETLAND FUNCTIONAL GROUP #1

SITE DESCRIPTION

I. HYDROLOGIC SETTING

A. Describe the geomorphology of the wetland(s) :

- [x] Depressional (includes slopes, potholes, small lakes, kettles, etc.)
- [ ] Riverine
- [ ] Lake Fringe
- [ ] Extensive Peatland

B. (Y) N Has the wetland hydrology been altered by ditching, tiles, dams, culverts, well pumping, diversion of surface flow, or changes to runoff within the watershed (circle those that apply)?

C. (Y) N Does the wetland have an inlet, outlet, or both (circle those that apply)?

D. (Y) N Is there any field evidence of wetland hydrology such as buttressed tree trunks, adventitious roots, drift lines, water marks, water stained leaves, soil mottling/gleying, organic soils layer, or oxidized rhizospheres (circle those that apply)?

E. (Y) N Does the wetland have standing water, and if so what is the average depth in inches? 6 "
Approximately how much of the wetland is inundated? 40 %

F. How is the hydroperiod (seasonal water level pattern) of the wetland classified?

- [ ] Permanently Flooded
- [x] Seasonally Flooded (water absent at end of growing season)
- [ ] Saturated (surface water seldom present)
- [ ] Artificially Flooded
- [ ] Artificially Drained

G. (Y) N Is the wetland a navigable body of water or is a portion of the wetland below the ordinary high-water mark of a navigable water body? List any surface waters associated with the wetland or in proximity to the wetland (note approximate distance from the wetland and navigability determination). Note if there is a surface water connection to other wetlands.

All wetlands in wetland functional group #1 are in the interior of Domtar Island. Associated with Wisconsin River; within 600 feet of the River.

wetland functional Group #1

II. VEGETATION

A. Identify the vegetation communities present and the dominant species.

	floating leaved community dominated by:
	submerged aquatic community dominated by:
	emergent community dominated by:
✓	shrub community dominated by: Speckled alder,
✓	deciduous broad-leaved tree community dominated by: Black willow, E. cottonwood, river birch
	coniferous tree community dominated by:
	open sphagnum mat or bog
	sedge meadow/wet prairie community dominated by:
	other (explain)

B. Other plant species identified during site visit:

NONE

III. SOILS

A. NRCS Soil Map Classification: _____

B. Field description:

☐ Organic (histosol)? If so, is it a muck or a peat?

☑ Mineral soil?

- Mottling, gleying, sulfidic materials, iron or manganese concretions, organic streaking (circle those that apply)
- Soil Description: Undetermined for feasibility study.
- Depth of mottling/gleying: _____
- Depth of A Horizon: _____
- Munsell Color of matrix and mottles
  - -Matrix below the A horizon (10"depth): _____
  - -Mottles: _____

wetland functional Group #1

V. SURROUNDING LAND USES

A. What is the estimated area of the wetland watershed in acres? ~150 acres (DOMTAR ISLAND)

B. What are the surrounding land uses?

LAND-USE	ESTIMATED % OF WETLAND WATERSHED
Developed (Industrial/Commercial/Residential)	5%
Agricultural/cropland	
Agricultural/grazing	
Forested	90%
Grassed recreation areas/parks	
Old field	
Highways or roads	5%
Other (specify)	

VI. SITE SKETCH

SEE EXHIBIT 1 in WETLAND DETERMINATION TECH MEMO.

wetland functional group #1

FUNCTIONAL ASSESSMENT

The following assessment requires the evaluator to examine site conditions that provide evidence that a given functional value is present and to assess the significance of the wetland to perform those functions. Positive answers to questions indicate the presence of factors important for the function. The questions are not definitive and are only provided to guide the evaluation. After completing each section, the evaluator should consider the factors observed and use best professional judgement to rate the significance. The ratings should be recorded on page 1 of the assessment.

SPECIAL FEATURES/"RED FLAGS"

1. **Y (N)** Is the wetland in or adjacent to an area of special natural resource interest (NR 103.04, Wis. Adm. Code)? If so, check those that apply:

- ☐ Cold water community as defined in s. NR 102.04(3)(b), Wis. Adm. Code, including trout streams, their tributaries, and trout lakes
- ☐ Lakes Michigan and Superior and the Mississippi River
- ☐ State or federal designated wild and scenic river
- ☐ Designated state riverway
- ☐ Designated state scenic urban waterway
- ☐ Environmentally sensitive area or environmental corridor identified in an area-wide water quality management plan, special area management plan, special wetland inventory study, or an advanced delineation and identification study
- ☐ Calcareous fen
- ☐ State park, forest, trail or recreation area
- ☐ State and federal fish and wildlife refuges and fish and wildlife management areas
- ☐ State or federal designated wilderness area
- ☐ Designated or dedicated state natural area
- ☐ Wild rice water listed in ch. NR 19.09, Wis. Adm. Code
- ☐ Surface water identified as an outstanding or exceptional resource water in ch. NR 102, Wis. Adm. Code

2. **Y (N)** According to the Natural Heritage Inventory (Bureau of Endangered Resources) or direct observations, are there any rare, endangered, or threatened plant or animal species in, near, or using the wetland or adjacent lands? If so, list the species of concern:

3. **Y (N)** Is the project located in an area that requires a State Coastal Zone Management Plan consistency determination?

Floral Diversity

1. **(Y) N** Does the wetland support a variety of native plant species (i.e. not a monotypic stand of cattail or giant reed grass and/or not dominated by exotic species such as reed canary grass, brome grass, buckthorn, purple loosestrife, etc.)?

2. **Y (N)** Is the wetland plant community regionally scarce or rare?

wetland functional group #1

Wildlife and Fishery Habitat

1. List any species observed, evidenced (e.g. tracks, scat, nest/burrow, calls), or expected to utilize the wetland: wood ducks, white-tailed deer, raccoon, 2 sand hill cranes observed at fringe (edge) of these wetlands

2. **Y (N)** Does the wetland contain a number of diverse vegetative cover types and a high degree of interspersion of those vegetation types?

3. **(Y) N** Is the estimated ratio of open water to cover between 30 and 70 percent? What is the estimated ratio? 40 %

4. **(Y) N** Does the surrounding upland habitat likely support a variety of animal species?

5. **Y (N)** Is the wetland part of or associated with a wildlife corridor or designated environmental corridor?

6. **(Y) N** Is the surrounding habitat and/or the wetland itself a large tract of undeveloped land important for wildlife that requires large home ranges (e.g. bear, woodland passerines)?

7. **(Y) N** Is the surrounding habitat and/or the wetland itself a relatively large tract of undeveloped land within an urbanized environment that is important for wildlife?

8. **(Y) N** Are there other wetland areas near the subject wetland that may be important to wildlife?

9. **Y (N)** Is the wetland contiguous with a permanent waterbody or periodically inundated for sufficient periods of time to provide spawning/nursery habitat for fish?

10. **Y (N)** Can the wetland provide significant food base for fish and wildlife (e.g. insects, crustaceans, voles, forage fish, amphibians, reptiles, shrews, wild rice, wild celery, duckweed, pondweeds, watermeal, bulrushes, bur reeds, arrowhead, smartweeds, millets...)?

11. **Y (N)** Is the wetland located in a priority watershed/township as identified in the Upper Mississippi and Great Lakes Joint Venture of the North American Waterfowl Management Plan?

12. **Y (N)** Is the wetland providing habitat that is scarce to the region?

Flood and Stormwater Storage/Attenuation

1. **Y (N)** Are there steep slopes, large impervious areas, moderate slopes with row cropping, or areas with severe overgrazing within the watershed (circle those that apply)?

2. **(Y) N** Does the wetland significantly reduce run-off velocity due to its size, configuration, braided flow patterns, or vegetation type and density?

3. **Y (N)** Does the wetland show evidence of flashy water level responses to storm events (debris marks, erosion lines, stormwater inputs, channelized inflow)?

4. **(Y) N** Is there a natural feature or human-made structure impeding drainage from the wetland that causes backwater conditions?

wetland functional group #1

5. Y N Considering the size of the wetland area in relation to the size of its watershed, at any time during the year is water likely to reach the wetland's storage capacity (i.e. the level of easily observable wetland vegetation)? [For some cases where greater documentation is required, one should determine if the wetland has capacity to hold 25% of the run-off from a 2 year-24 hour storm event.]

6. Y N Considering the location of the wetland in relation to the associated surface water watershed, is the wetland important for attenuating or storing flood or stormwater peaks (i.e. is the wetland located in the mid or lower reaches of the watershed)?

Water Quality Protection

1. Y N Does the wetland receive overland flow or direct discharge of stormwater as a primary source of water (circle that which applies)?

2. Y N Do the surrounding land uses have the potential to deliver significant nutrient and/or sediment loads to the wetland?

3. Y N Based on your answers to the flood/stormwater section above, does the wetland perform significant flood/stormwater attenuation (residence time to allow settling)?

4. Y N Does the wetland have significant vegetative density to decrease water energy and allow settling of suspended materials?

5. Y N Is the position of the wetland in the landscape such that run-off is held or filtered before entering a surface water?

6. Y N Are algal blooms, heavy macrophyte growth, or other signs of excess nutrient loading to the wetland apparent (or historically reported)?

Shoreline Protection

1. Y N Is the wetland in a lake fringe or riverine setting? If NO, STOP and enter "not applicable" for this function. If YES, then answer the applicable questions. "NOT APPLICABLE"

2. Y N Is the shoreline exposed to constant wave action caused by long wind fetch or boat traffic?

3. Y N Is the shoreline and shallow littoral zone vegetated with submerged or emergent vegetation in the swash zone that decrease wave energy or perennial wetland species that form dense root mats and/or species that have strong stems that are resistant to erosive forces?

4. Y N Is the stream bank prone to erosion due to unstable soils, land uses, or ice floes?

5. Y N Is the stream bank vegetated with densely rooted shrubs that provide upper bank stability?

Groundwater Recharge and Discharge

1. Y N Related to discharge, are there observable (or reported) springs located in the wetland, physical indicators of springs such as marl soil, or vegetation indicators such as watercress or marsh marigold present that tend to indicate the presence of groundwater springs?

2. Y N Related to discharge, may the wetland contribute to the maintenance of base flow in a stream?

3. Y N Related to recharge, is the wetland located on or near a groundwater divide (e.g. a topographic high)?

wetland functional group # 1

Aesthetics/Recreation/Education and Science

1. Y N Is the wetland visible from any of the following kinds of vantage points: roads, public lands, houses, and/or businesses? (Circle all that apply.)

2. Y N Is the wetland in or near any population centers?

3. Y N Is any part of the wetland is in public or conservation ownership?

4. Y N Does the public have direct access to the wetland from public roads or waterways? (Circle those that apply.)

5. Is the wetland itself relatively free of obvious human influences, such as:

   a. Y N Buildings?
   b. Y N Roads?
   c. Y N Other structures?
   d. Y N Trash?
   e. Y N Pollution?
   f. Y N Filling?
   g. Y N Dredging/draining?
   h. Y N Domination by non-native vegetation?

6. Is the surrounding viewshed relatively free of obvious human influences, such as:
   a. Y N Buildings?
   b. Y N Roads?
   c. Y N Other structures?

7. Y N Is the wetland organized into a variety of visibly separate areas of similar vegetation, color, and/or texture (including areas of open water)?

8. Y N Does the wetland add to the variety of visibly separate areas of similar vegetation, color, and/or texture (including areas of open water) within the landscape as a whole?

9. Does the wetland encourage exploration because any of the following factors are present:
   a. Y N Long views within the wetland?
   b. Y N Long views in the viewshed adjacent to the wetland?
   c. Y N Convoluted edges within and/or around the wetland border?
   d. Y N The wetland provides a different (and perhaps more natural/complex) kind of environment from the surrounding land covers?

10. Y N Is the wetland currently being used for (or does it have the potential to be used for) the following recreational activities? (Check all that apply.)

ACTIVITY	CURRENT USE	POTENTIAL USE
Nature study/photography	none (private, posted)	
Hiking/biking/skiing		
Hunting/fishing/trapping		
Boating/canoeing		
Food harvesting		
Others (list)		

11. Y N Is the wetland currently being used, and/or does it have the potential for use for educational or scientific study purposes (circle that which applies)?

wetland functional group #2

January, 2001

Wetlands #4, #5, #6, #10, #11, #12, #13, #16, #17

File or Docket Number

Wisconsin Department of Natural Resources

RAPID ASSESSMENT METHODOLOGY FOR EVALUATING WETLAND FUNCTIONAL VALUES

GENERAL INFORMATION

Name of Wetland/Owner:
Location: County Wood ; ¼, ¼, Section , Township , Range
Project Name: Wisconsin Rapids, Highway 54 Improvements
Evaluator(s): J. Olson
Date(s) of Site Visit(s): MAY 8-11, 2006

Description of seasonality limitations of this inspection due to time of year of the evaluation and/or current hydrologic and climatologic conditions (e.g. after heavy rains, snow or ice cover, during drought year, during spring flood, during bird migration): Full leaf out, scattered thunderstorms

WETLAND DESCRIPTION

Wisconsin Wetlands Inventory classification:				
Wetland Type: shallow open water	deep marsh	shallow marsh	seasonally flooded basin	bog
floodplain forest	alder thicket	sedge meadow	coniferous swamp	fen
wet meadow	shrub-carr	low prairie	hardwood swamp	
Estimated size of wetland in acres:				

SUMMARY OF FUNCTIONAL VALUES

Based on the results of the attached functional assessment, rate the significance of each of the functional values for the subject wetland and check the appropriate box. Complete the table as a summary.

FUNCTION	SIGNIFICANCE				
	Low	Medium	High	Exceptional	N/A
Floral Diversity		✓			
Wildlife Habitat		✓			
Fishery Habitat					✓
Flood/Stormwater Attenuation		✓			
Water Quality Protection		✓			
Shoreline Protection					✓
Groundwater	✓				
Aesthetics/Recreation/Education	✓				

List any Special Features/"Red Flags":

wetland functional group #2

SITE DESCRIPTION

I. HYDROLOGIC SETTING

A. Describe the geomorphology of the wetland:

- [x] Depressional (includes slopes, potholes, small lakes, kettles, etc.)
- [ ] Riverine
- [ ] Lake Fringe
- [ ] Extensive Peatland

B. Y (N) Has the wetland hydrology been altered by ditching, tiles, dams, culverts, well pumping, diversion of surface flow, or changes to runoff within the watershed (circle those that apply)?

C. Y (N) Does the wetland have an inlet, outlet, or both (circle those that apply)?

D. (Y) N Is there any field evidence of wetland hydrology such as buttressed tree trunks, adventitious roots, drift lines, water marks, (water stained leaves), soil mottling/gleying, organic soils layer, or oxidized rhizospheres (circle those that apply)?

E. Y N Does the wetland have standing water, and if so what is the average depth in inches? 6 "
Approximately how much of the wetland is inundated? 30 %

F. How is the hydroperiod (seasonal water level pattern) of the wetland classified?

- [ ] Permanently Flooded
- [x] Seasonally Flooded (water absent at end of growing season)
- [ ] Saturated (surface water seldom present)
- [ ] Artificially Flooded
- [ ] Artificially Drained

G. (Y) N Is the wetland a navigable body of water or is a portion of the wetland below the ordinary high-water mark of a navigable water body? List any surface waters associated with the wetland or in proximity to the wetland (note approximate distance from the wetland and navigability determination). Note if there is a surface water connection to other wetlands.

All wetlands in wetland functional group #2 are in the interior of Domtar Island. Associated with Wisconsin River – within 600 feet of the River.

wetland functional group #2

II. VEGETATION

A. Identify the vegetation communities present and the dominant species.

	floating leaved community dominated by:
	submerged aquatic community dominated by:
	emergent community dominated by:
✓	shrub community dominated by: speckled alder, Sandbar willow
✓	deciduous broad-leaved tree community dominated by: (green ash, quaking aspen, riverbirch eastern cottonwood, box elder, black willow
	coniferous tree community dominated by:
	open sphagnum mat or bog
	sedge meadow/wet prairie community dominated by:
	other (explain)

B. Other plant species identified during site visit:

III. SOILS

A. NRCS Soil Map Classification: _____

B. Field description:

☐ Organic (histosol)? If so, is it a muck or a peat?

☑ Mineral soil?

- Mottling, gleying, sulfidic materials, iron or manganese concretions, organic streaking (circle those that apply)
- Soil Description: Undetermined for feasibility study.
- Depth of mottling/gleying: _____
- Depth of A Horizon: _____
- Munsell Color of matrix and mottles
  - -Matrix below the A horizon (10"depth): _____
  - -Mottles: _____

wetland functional group # 2

V. SURROUNDING LAND USES

A. What is the estimated area of the wetland watershed in acres? ~150 acres (Domtar Island)

B. What are the surrounding land uses?

LAND-USE	ESTIMATED % OF WETLAND WATERSHED
Developed (Industrial/Commercial/Residential)	5%
Agricultural/cropland	
Agricultural/grazing	
Forested	90%
Grassed recreation areas/parks	
Old field	
Highways or roads	5%
Other (specify)	

VI. SITE SKETCH

SEE EXHIBIT #1 in Wetland Determination Tech Memo.

wetland functional Group #2

FUNCTIONAL ASSESSMENT

The following assessment requires the evaluator to examine site conditions that provide evidence that a given functional value is present and to assess the significance of the wetland to perform those functions. Positive answers to questions indicate the presence of factors important for the function. The questions are not definitive and are only provided to guide the evaluation. After completing each section, the evaluator should consider the factors observed and use best professional judgement to rate the significance. The ratings should be recorded on page 1 of the assessment.

SPECIAL FEATURES/"RED FLAGS"

1. **Y/N** Is the wetland in or adjacent to an area of special natural resource interest (NR 103.04, Wis. Adm. Code)? If so, check those that apply:

- ☐ Cold water community as defined in s. NR 102.04(3)(b), Wis. Adm. Code, including trout streams, their tributaries, and trout lakes
- ☐ Lakes Michigan and Superior and the Mississippi River
- ☐ State or federal designated wild and scenic river
- ☐ Designated state riverway
- ☐ Designated state scenic urban waterway
- ☐ Environmentally sensitive area or environmental corridor identified in an area-wide water quality management plan, special area management plan, special wetland inventory study, or an advanced delineation and identification study
- ☐ Calcareous fen
- ☐ State park, forest, trail or recreation area
- ☐ State and federal fish and wildlife refuges and fish and wildlife management areas
- ☐ State or federal designated wilderness area
- ☐ Designated or dedicated state natural area
- ☐ Wild rice water listed in ch. NR 19.09, Wis. Adm. Code
- ☐ Surface water identified as an outstanding or exceptional resource water in ch. NR 102, Wis. Adm. Code

2. **Y/N** According to the Natural Heritage Inventory (Bureau of Endangered Resources) or direct observations, are there any rare, endangered, or threatened plant or animal species in, near, or using the wetland or adjacent lands? If so, list the species of concern:

3. **Y/N** Is the project located in an area that requires a State Coastal Zone Management Plan consistency determination?

Floral Diversity

1. **Y/N** Does the wetland support a variety of native plant species (i.e. not a monotypic stand of cattail or giant reed grass and/or not dominated by exotic species such as reed canary grass, brome grass, buckthorn, purple loosestrife, etc.)?

2. **Y/N** Is the wetland plant community regionally scarce or rare?

wetland functional group #2

Wildlife and Fishery Habitat

1. List any species observed, evidenced (e.g. tracks, scat, nest/burrow, calls), or expected to utilize the wetland: wood ducks, white-tailed deer, raccoon, 2 sand hill cranes observed at edge of these wetlands.

2. Y (N) Does the wetland contain a number of diverse vegetative cover types and a high degree of interspersion of those vegetation types?

3. (Y) N Is the estimated ratio of open water to cover between 30 and 70 percent? What is the estimated ratio? 30 %

4. (Y) N Does the surrounding upland habitat likely support a variety of animal species?

5. Y (N) Is the wetland part of or associated with a wildlife corridor or designated environmental corridor?

6. (Y) N Is the surrounding habitat and/or the wetland itself a large tract of undeveloped land important for wildlife that requires large home ranges (e.g. bear, woodland passerines)?

7. (Y) N Is the surrounding habitat and/or the wetland itself a relatively large tract of undeveloped land within an urbanized environment that is important for wildlife?

8. (Y) N Are there other wetland areas near the subject wetland that may be important to wildlife?

9. Y (N) Is the wetland contiguous with a permanent waterbody or periodically inundated for sufficient periods of time to provide spawning/nursery habitat for fish?

10. Y (N) Can the wetland provide significant food base for fish and wildlife (e.g. insects, crustaceans, voles, forage fish, amphibians, reptiles, shrews, wild rice, wild celery, duckweed, pondweeds, watermeal, bulrushes, bur reeds, arrowhead, smartweeds, millets...)?

11. Y (N) Is the wetland located in a priority watershed/township as identified in the Upper Mississippi and Great Lakes Joint Venture of the North American Waterfowl Management Plan?

12. Y (N) Is the wetland providing habitat that is scarce to the region?

Flood and Stormwater Storage/Attenuation

1. Y (N) Are there steep slopes, large impervious areas, moderate slopes with row cropping, or areas with severe overgrazing within the watershed (circle those that apply)?

2. (Y) N Does the wetland significantly reduce run-off velocity due to its size, configuration, braided flow patterns, or vegetation type and density?

3. Y (N) Does the wetland show evidence of flashy water level responses to storm events (debris marks, erosion lines, stormwater inputs, channelized inflow)?

4. (Y) N Is there a natural feature or human-made structure impeding drainage from the wetland that causes backwater conditions?

wetland functional group #2

5. Y N Considering the size of the wetland area in relation to the size of its watershed, at any time during the year is water likely to reach the wetland's storage capacity (i.e. the level of easily observable wetland vegetation)? [For some cases where greater documentation is required, one should determine if the wetland has capacity to hold 25% of the run-off from a 2 year-24 hour storm event.]

6. Y N Considering the location of the wetland in relation to the associated surface water watershed, is the wetland important for attenuating or storing flood or stormwater peaks (i.e. is the wetland located in the mid or lower reaches of the watershed)?

Water Quality Protection

1. Y N Does the wetland receive overland flow or direct discharge of stormwater as a primary source of water (circle that which applies)?

2. Y N Do the surrounding land uses have the potential to deliver significant nutrient and/or sediment loads to the wetland?

3. Y N Based on your answers to the flood/stormwater section above, does the wetland perform significant flood/stormwater attenuation (residence time to allow settling)?

4. Y N Does the wetland have significant vegetative density to decrease water energy and allow settling of suspended materials?

5. Y N Is the position of the wetland in the landscape such that run-off is held or filtered before entering a surface water?

6. Y N Are algal blooms, heavy macrophyte growth, or other signs of excess nutrient loading to the wetland apparent (or historically reported)?

Shoreline Protection

1. Y N Is the wetland in a lake fringe or riverine setting? If NO, STOP and enter "not applicable" for this function. If YES, then answer the applicable questions. "not applicable"

2. Y N Is the shoreline exposed to constant wave action caused by long wind fetch or boat traffic?

3. Y N Is the shoreline and shallow littoral zone vegetated with submerged or emergent vegetation in the swash zone that decrease wave energy or perennial wetland species that form dense root mats and/or species that have strong stems that are resistant to erosive forces?

4. Y N Is the stream bank prone to erosion due to unstable soils, land uses, or ice floes?

5. Y N Is the stream bank vegetated with densely rooted shrubs that provide upper bank stability?

Groundwater Recharge and Discharge

1. Y N Related to discharge, are there observable (or reported) springs located in the wetland, physical indicators of springs such as marl soil, or vegetation indicators such as watercress or marsh marigold present that tend to indicate the presence of groundwater springs?

2. Y N Related to discharge, may the wetland contribute to the maintenance of base flow in a stream?

3. Y N Related to recharge, is the wetland located on or near a groundwater divide (e.g. a topographic high)?

wetland functional group # 2

Aesthetics/Recreation/Education and Science

1. **Y N** Is the wetland visible from any of the following kinds of vantage points: roads, public lands, houses, and/or businesses? (Circle all that apply.)

2. **Y N** Is the wetland in or near any population centers?

3. **Y N** Is any part of the wetland is in public or conservation ownership?

4. **Y N** Does the public have direct access to the wetland from public roads or waterways? (Circle those that apply.)

5. Is the wetland itself relatively free of obvious human influences, such as:

   a. **Y N** Buildings?
   b. **Y N** Roads?
   c. **Y N** Other structures?
   d. **Y N** Trash?
   e. **Y N** Pollution?
   f. **Y N** Filling?
   g. **Y N** Dredging/draining?
   h. **Y N** Domination by non-native vegetation?

6. Is the surrounding viewshed relatively free of obvious human influences, such as:
   a. **Y N** Buildings?
   b. **Y N** Roads?
   c. **Y N** Other structures?

7. **Y N** Is the wetland organized into a variety of visibly separate areas of similar vegetation, color, and/or texture (including areas of open water)?

8. **Y N** Does the wetland add to the variety of visibly separate areas of similar vegetation, color, and/or texture (including areas of open water) within the landscape as a whole?

9. Does the wetland encourage exploration because any of the following factors are present:
   a. **Y N** Long views within the wetland?
   b. **Y N** Long views in the viewshed adjacent to the wetland?
   c. **Y N** Convoluted edges within and/or around the wetland border?
   d. **Y N** The wetland provides a different (and perhaps more natural/complex) kind of environment from the surrounding land covers?

10. **Y N** Is the wetland currently being used for (or does it have the potential to be used for) the following recreational activities? (Check all that apply.)

ACTIVITY	CURRENT USE	POTENTIAL USE
Nature study/photography	none (private - posted)	
Hiking/biking/skiing		
Hunting/fishing/trapping		
Boating/canoeing		
Food harvesting		
Others (list)		

11. **Y N** Is the wetland currently being used, and/or does it have the potential for use for educational or scientific study purposes (circle that which applies)?

wetland functional group #3

January, 2001

wetlands #2, #14, #19

File or Docket Number

Wisconsin Department of Natural Resources

RAPID ASSESSMENT METHODOLOGY FOR EVALUATING WETLAND FUNCTIONAL VALUES

GENERAL INFORMATION

Name of Wetland/Owner:
Location: County Wood ; ¼, ¼, Section , Township , Range
Project Name: Wisconsin Rapids - Highway 54 Improvements
Evaluator(s): J. Olson
Date(s) of Site Visit(s): May 8-11, 2006

Description of seasonality limitations of this inspection due to time of year of the evaluation and/or current hydrologic and climatologic conditions (e.g. after heavy rains, snow or ice cover, during drought year, during spring flood, during bird migration): Full leaf out, scattered thunderstorms.

WETLAND DESCRIPTION

Wisconsin Wetlands Inventory classification:
Wetland Type: shallow open water, deep marsh, shallow marsh, seasonally flooded basin, bog, floodplain forest, alder thicket, sedge meadow, coniferous swamp, fen, wet meadow, shrub-carr, low prairie, hardwood swamp
Estimated size of wetland in acres:

SUMMARY OF FUNCTIONAL VALUES

Based on the results of the attached functional assessment, rate the significance of each of the functional values for the subject wetland and check the appropriate box. Complete the table as a summary.

FUNCTION	SIGNIFICANCE				
	Low	Medium	High	Exceptional	N/A
Floral Diversity		✓			
Wildlife Habitat		✓			
Fishery Habitat		✓			
Flood/Stormwater Attenuation		✓			
Water Quality Protection		✓			
Shoreline Protection			✓		
Groundwater	✓				
Aesthetics/Recreation/Education			✓		

List any Special Features/"Red Flags":

wetland functional group #3

SITE DESCRIPTION

I. HYDROLOGIC SETTING

A. Describe the geomorphology of the wetland:

- ☐ Depressional (includes slopes, potholes, small lakes, kettles, etc.)
- ☑ Riverine
- ☐ Lake Fringe
- ☐ Extensive Peatland

B. Y (N) Has the wetland hydrology been altered by ditching, tiles, dams, culverts, well pumping, diversion of surface flow, or changes to runoff within the watershed (circle those that apply)?

C. (Y) N Does the wetland have an inlet, outlet, or (both) (circle those that apply)?

D. (Y) N Is there any field evidence of wetland hydrology such as buttressed tree trunks, adventitious roots, (drift lines), water marks, (water stained leaves), soil mottling/gleying, organic soils layer, or oxidized rhizospheres (circle those that apply)?

E. Y N Does the wetland have standing water, and if so what is the average depth in inches? 6 "
Approximately how much of the wetland is inundated? 40 %

F. How is the hydroperiod (seasonal water level pattern) of the wetland classified?

- ☑ Permanently Flooded
- ☐ Seasonally Flooded (water absent at end of growing season)
- ☐ Saturated (surface water seldom present)
- ☐ Artificially Flooded
- ☐ Artificially Drained

G. (Y) N Is the wetland a navigable body of water or is a portion of the wetland below the ordinary high-water mark of a navigable water body? List any surface waters associated with the wetland or in proximity to the wetland (note approximate distance from the wetland and navigability determination). Note if there is a surface water connection to other wetlands.

Wetlands in wetland functional group #3 are along the east and west edges of Domtar Island; in immediate association with the Wisconsin River.

wetland functional group #3

II. VEGETATION

A. Identify the vegetation communities present and the dominant species.

	floating leaved community dominated by:
	submerged aquatic community dominated by:
	emergent community dominated by:
✓	shrub community dominated by: speckled alder
✓	deciduous broad-leaved tree community dominated by: Silver maple, E. cottonwood, river birch
	coniferous tree community dominated by:
	open sphagnum mat or bog
	sedge meadow/wet prairie community dominated by:
	other (explain)

B. Other plant species identified during site visit:

III. SOILS

A. NRCS Soil Map Classification: _____

B. Field description:

☐ Organic (histosol)? If so, is it a muck or a peat?

☑ Mineral soil?

- Mottling, gleying, sulfidic materials, iron or manganese concretions, organic streaking (circle those that apply)
- Soil Description: Undetermined for feasibility study
- Depth of mottling/gleying: _____
- Depth of A Horizon: _____
- Munsell Color of matrix and mottles
  - -Matrix below the A horizon (10"depth): _____
  - -Mottles: _____

wetland functional group #3

V. SURROUNDING LAND USES

A. What is the estimated area of the wetland watershed in acres? ~150 acres (Domtar Island)

B. What are the surrounding land uses?

LAND-USE	ESTIMATED % OF WETLAND WATERSHED
Developed (Industrial/Commercial/Residential)	5%
Agricultural/cropland	
Agricultural/grazing	
Forested	90%
Grassed recreation areas/parks	
Old field	
Highways or roads	5%
Other (specify)	

VI. SITE SKETCH

See Exhibit #1 in Wetland Determination Tech Memo.

wetland functional group # 3

FUNCTIONAL ASSESSMENT

The following assessment requires the evaluator to examine site conditions that provide evidence that a given functional value is present and to assess the significance of the wetland to perform those functions. Positive answers to questions indicate the presence of factors important for the function. The questions are not definitive and are only provided to guide the evaluation. After completing each section, the evaluator should consider the factors observed and use best professional judgement to rate the significance. The ratings should be recorded on page 1 of the assessment.

SPECIAL FEATURES/"RED FLAGS"

1. **Y** (N) Is the wetland in or adjacent to an area of special natural resource interest (NR 103.04, Wis. Adm. Code)? If so, check those that apply:

- ☐ Cold water community as defined in s. NR 102.04(3)(b), Wis. Adm. Code, including trout streams, their tributaries, and trout lakes
- ☐ Lakes Michigan and Superior and the Mississippi River
- ☐ State or federal designated wild and scenic river
- ☐ Designated state riverway
- ☐ Designated state scenic urban waterway
- ☐ Environmentally sensitive area or environmental corridor identified in an area-wide water quality management plan, special area management plan, special wetland inventory study, or an advanced delineation and identification study
- ☐ Calcareous fen
- ☐ State park, forest, trail or recreation area
- ☐ State and federal fish and wildlife refuges and fish and wildlife management areas
- ☐ State or federal designated wilderness area
- ☐ Designated or dedicated state natural area
- ☐ Wild rice water listed in ch. NR 19.09, Wis. Adm. Code
- ☐ Surface water identified as an outstanding or exceptional resource water in ch. NR 102, Wis. Adm. Code

2. **Y** (N) According to the Natural Heritage Inventory (Bureau of Endangered Resources) or direct observations, are there any rare, endangered, or threatened plant or animal species in, near, or using the wetland or adjacent lands? If so, list the species of concern:

3. **Y** (N) Is the project located in an area that requires a State Coastal Zone Management Plan consistency determination?

Floral Diversity

1. (Y) **N** Does the wetland support a variety of native plant species (i.e. not a monotypic stand of cattail or giant reed grass and/or not dominated by exotic species such as reed canary grass, brome grass, buckthorn, purple loosestrife, etc.)?

2. **Y** (N) Is the wetland plant community regionally scarce or rare?

wetland functional group #3

Wildlife and Fishery Habitat

1. List any species observed, evidenced (e.g. tracks, scat, nest/burrow, calls), or expected to utilize the wetland: wood ducks, white-tailed deer, raccoon, 2 sandhill cranes observed near these wetlands.

2. Y (N) Does the wetland contain a number of diverse vegetative cover types and a high degree of interspersion of those vegetation types?

3. (Y) N Is the estimated ratio of open water to cover between 30 and 70 percent? What is the estimated ratio? 30 %

4. (Y) N Does the surrounding upland habitat likely support a variety of animal species?

5. Y (N) Is the wetland part of or associated with a wildlife corridor or designated environmental corridor?

6. (Y) N Is the surrounding habitat and/or the wetland itself a large tract of undeveloped land important for wildlife that requires large home ranges (e.g. bear, woodland passerines)?

7. (Y) N Is the surrounding habitat and/or the wetland itself a relatively large tract of undeveloped land within an urbanized environment that is important for wildlife?

8. (Y) N Are there other wetland areas near the subject wetland that may be important to wildlife?

9. Y (N) Is the wetland contiguous with a permanent waterbody or periodically inundated for sufficient periods of time to provide spawning/nursery habitat for fish?

10. Y (N) Can the wetland provide significant food base for fish and wildlife (e.g. insects, crustaceans, voles, forage fish, amphibians, reptiles, shrews, wild rice, wild celery, duckweed, pondweeds, watermeal, bulrushes, bur reeds, arrowhead, smartweeds, millets...)?

11. Y (N) Is the wetland located in a priority watershed/township as identified in the Upper Mississippi and Great Lakes Joint Venture of the North American Waterfowl Management Plan?

12. Y (N) Is the wetland providing habitat that is scarce to the region?

Flood and Stormwater Storage/Attenuation

1. Y (N) Are there steep slopes, large impervious areas, moderate slopes with row cropping, or areas with severe overgrazing within the watershed (circle those that apply)?

2. (Y) N Does the wetland significantly reduce run-off velocity due to its size, configuration, braided flow patterns, or vegetation type and density?

3. Y (N) Does the wetland show evidence of flashy water level responses to storm events (debris marks, erosion lines, stormwater inputs, channelized inflow)?

4. Y (N) Is there a natural feature or human-made structure impeding drainage from the wetland that causes backwater conditions?

wetland functional group #3

5. Y N Considering the size of the wetland area in relation to the size of its watershed, at any time during the year is water likely to reach the wetland's storage capacity (i.e. the level of easily observable wetland vegetation)? [For some cases where greater documentation is required, one should determine if the wetland has capacity to hold 25% of the run-off from a 2 year-24 hour storm event.]

6. Y N Considering the location of the wetland in relation to the associated surface water watershed, is the wetland important for attenuating or storing flood or stormwater peaks (i.e. is the wetland located in the mid or lower reaches of the watershed)?

Water Quality Protection

1. Y N Does the wetland receive overland flow or direct discharge of stormwater as a primary source of water (circle that which applies)?

2. Y N Do the surrounding land uses have the potential to deliver significant nutrient and/or sediment loads to the wetland?

3. Y N Based on your answers to the flood/stormwater section above, does the wetland perform significant flood/stormwater attenuation (residence time to allow settling)?

4. Y N Does the wetland have significant vegetative density to decrease water energy and allow settling of suspended materials?

5. Y N Is the position of the wetland in the landscape such that run-off is held or filtered before entering a surface water?

6. Y N Are algal blooms, heavy macrophyte growth, or other signs of excess nutrient loading to the wetland apparent (or historically reported)?

Shoreline Protection

1. Y N Is the wetland in a lake fringe or riverine setting? If NO, STOP and enter "not applicable" for this function. If YES, then answer the applicable questions.

2. Y N Is the shoreline exposed to constant wave action caused by long wind fetch or boat traffic?

3. Y N Is the shoreline and shallow littoral zone vegetated with submerged or emergent vegetation in the swash zone that decrease wave energy or perennial wetland species that form dense root mats and/or species that have strong stems that are resistant to erosive forces?

4. Y N Is the stream bank prone to erosion due to unstable soils, land uses, or ice floes?

5. Y N Is the stream bank vegetated with densely rooted shrubs that provide upper bank stability?

Groundwater Recharge and Discharge

1. Y N Related to discharge, are there observable (or reported) springs located in the wetland, physical indicators of springs such as marl soil, or vegetation indicators such as watercress or marsh marigold present that tend to indicate the presence of groundwater springs?

2. Y N Related to discharge, may the wetland contribute to the maintenance of base flow in a stream?

3. Y N Related to recharge, is the wetland located on or near a groundwater divide (e.g. a topographic high)?

wetland functional group # 3

Aesthetics/Recreation/Education and Science

1. Y N Is the wetland visible from any of the following kinds of vantage points: roads, public lands, houses, and/or businesses? (Circle all that apply.)

2. Y N Is the wetland in or near any population centers?

3. Y N Is any part of the wetland is in public or conservation ownership?

4. Y N Does the public have direct access to the wetland from public roads or waterways? (Circle those that apply.)

5. Is the wetland itself relatively free of obvious human influences, such as:

   a. Y N Buildings?
   b. Y N Roads?
   c. Y N Other structures?
   d. Y N Trash?
   e. Y N Pollution?
   f. Y N Filling?
   g. Y N Dredging/draining?
   h. Y N Domination by non-native vegetation?

6. Is the surrounding viewshed relatively free of obvious human influences, such as:
   a. Y N Buildings?
   b. Y N Roads?
   c. Y N Other structures?

7. Y N Is the wetland organized into a variety of visibly separate areas of similar vegetation, color, and/or texture (including areas of open water)?

8. Y N Does the wetland add to the variety of visibly separate areas of similar vegetation, color, and/or texture (including areas of open water) within the landscape as a whole?

9. Does the wetland encourage exploration because any of the following factors are present:
   a. Y N Long views within the wetland?
   b. Y N Long views in the viewshed adjacent to the wetland?
   c. Y N Convoluted edges within and/or around the wetland border?
   d. Y N The wetland provides a different (and perhaps more natural/complex) kind of environment from the surrounding land covers?

10. Y N Is the wetland currently being used for (or does it have the potential to be used for) the following recreational activities? (Check all that apply.)

ACTIVITY	CURRENT USE	POTENTIAL USE
Nature study/photography	none (private - posted)	
Hiking/biking/skiing		
Hunting/fishing/trapping		
Boating/canoeing		
Food harvesting		
Others (list)		

11. Y N Is the wetland currently being used, and/or does it have the potential for use for educational or scientific study purposes (circle that which applies)?

Wetland functional Group # 4

January, 2001 Wetland # 18

File or Docket Number

Wisconsin Department of Natural Resources

RAPID ASSESSMENT METHODOLOGY FOR EVALUATING WETLAND FUNCTIONAL VALUES

GENERAL INFORMATION

Name of Wetland/Owner:
Location: County Wood ; ¼, ¼, Section , Township , Range
Project Name: Wisconsin Rapids - Highway 54 Improvements
Evaluator(s): J. Olson
Date(s) of Site Visit(s): May 8-11, 2006

Description of seasonality limitations of this inspection due to time of year of the evaluation and/or current hydrologic and climatologic conditions (e.g. after heavy rains, snow or ice cover, during drought year, during spring flood, during bird migration): full leaf out, scattered thunderstorms.

WETLAND DESCRIPTION

Wisconsin Wetlands Inventory classification:
Wetland Type: (shallow open water) deep marsh shallow marsh seasonally flooded basin bog floodplain forest alder thicket sedge meadow coniferous swamp fen wet meadow shrub-carr low prairie hardwood swamp
Estimated size of wetland in acres:

SUMMARY OF FUNCTIONAL VALUES

Based on the results of the attached functional assessment, rate the significance of each of the functional values for the subject wetland and check the appropriate box. Complete the table as a summary.

FUNCTION	SIGNIFICANCE				
	Low	Medium	High	Exceptional	N/A
Floral Diversity	✓				
Wildlife Habitat		✓			
Fishery Habitat	✓				
Flood/Stormwater Attenuation		✓			
Water Quality Protection		✓			
Shoreline Protection					✓
Groundwater	✓				
Aesthetics/Recreation/Education	✓				

List any Special Features/"Red Flags":

wetland functional group #4

SITE DESCRIPTION

I. HYDROLOGIC SETTING

A. Describe the geomorphology of the wetland:

- [x] Depressional (includes slopes, potholes, small lakes, kettles, etc.)
- [ ] Riverine
- [ ] Lake Fringe
- [ ] Extensive Peatland

B. (Y) N Has the wetland hydrology been altered by ditching, tiles, dams, culverts, well pumping, diversion of surface flow, or changes to runoff within the watershed (circle those that apply)?
(excavated pond, culverted and ditched to Wisconsin River.)

C. (Y) N Does the wetland have an inlet, outlet, or both (circle those that apply)?

D. (Y) N Is there any field evidence of wetland hydrology such as buttressed tree trunks, adventitious roots, drift lines, water marks, water stained leaves, soil mottling/gleying, organic soils layer, or oxidized rhizospheres (circle those that apply)?

E. (Y) N Does the wetland have standing water, and if so what is the average depth in inches? 24"
Approximately how much of the wetland is inundated? 100 %

F. How is the hydroperiod (seasonal water level pattern) of the wetland classified?

- [x] Permanently Flooded
- [ ] Seasonally Flooded (water absent at end of growing season)
- [ ] Saturated (surface water seldom present)
- [ ] Artificially Flooded
- [ ] Artificially Drained

G. Y (N) Is the wetland a navigable body of water or is a portion of the wetland below the ordinary high-water mark of a navigable water body? List any surface waters associated with the wetland or in proximity to the wetland (note approximate distance from the wetland and navigability determination). Note if there is a surface water connection to other wetlands.

wetland functional group #4

II. VEGETATION

A. Identify the vegetation communities present and the dominant species.

	floating leaved community dominated by:
	submerged aquatic community dominated by:
	emergent community dominated by:
	shrub community dominated by:
	deciduous broad-leaved tree community dominated by:
	coniferous tree community dominated by:
	open sphagnum mat or bog
	sedge meadow/wet prairie community dominated by:
✓	other (explain) excavated pond: duckweed

B. Other plant species identified during site visit:

None

III. SOILS

A. NRCS Soil Map Classification: _____

B. Field description:

☐ Organic (histosol)? If so, is it a muck or a peat?

☑ Mineral soil?

- Mottling, gleying, sulfidic materials, iron or manganese concretions, organic streaking (circle those that apply)
- Soil Description: Undetermined in feasibility study
- Depth of mottling/gleying: _____
- Depth of A Horizon: _____
- Munsell Color of matrix and mottles
  - -Matrix below the A horizon (10"depth): _____
  - -Mottles: _____

wetland functional group #4

V. SURROUNDING LAND USES

A. What is the estimated area of the wetland watershed in acres? ~150 acres (Domtar Island)

B. What are the surrounding land uses?

LAND-USE	ESTIMATED % OF WETLAND WATERSHED
Developed (Industrial/Commercial/Residential)	5%
Agricultural/cropland	
Agricultural/grazing	
Forested	90%
Grassed recreation areas/parks	
Old field	
Highways or roads	5%
Other (specify)	

VI. SITE SKETCH

See Exhibit #1 in Wetland Determination TECH MEMO.

wetland functional group #4

FUNCTIONAL ASSESSMENT

The following assessment requires the evaluator to examine site conditions that provide evidence that a given functional value is present and to assess the significance of the wetland to perform those functions. Positive answers to questions indicate the presence of factors important for the function. The questions are not definitive and are only provided to guide the evaluation. After completing each section, the evaluator should consider the factors observed and use best professional judgement to rate the significance. The ratings should be recorded on page 1 of the assessment.

SPECIAL FEATURES/"RED FLAGS"

1. Y (N) Is the wetland in or adjacent to an area of special natural resource interest (NR 103.04, Wis. Adm. Code)? If so, check those that apply:

- ☐ Cold water community as defined in s. NR 102.04(3)(b), Wis. Adm. Code, including trout streams, their tributaries, and trout lakes
- ☐ Lakes Michigan and Superior and the Mississippi River
- ☐ State or federal designated wild and scenic river
- ☐ Designated state riverway
- ☐ Designated state scenic urban waterway
- ☐ Environmentally sensitive area or environmental corridor identified in an area-wide water quality management plan, special area management plan, special wetland inventory study, or an advanced delineation and identification study
- ☐ Calcareous fen
- ☐ State park, forest, trail or recreation area
- ☐ State and federal fish and wildlife refuges and fish and wildlife management areas
- ☐ State or federal designated wilderness area
- ☐ Designated or dedicated state natural area
- ☐ Wild rice water listed in ch. NR 19.09, Wis. Adm. Code
- ☐ Surface water identified as an outstanding or exceptional resource water in ch. NR 102, Wis. Adm. Code

2. Y (N) According to the Natural Heritage Inventory (Bureau of Endangered Resources) or direct observations, are there any rare, endangered, or threatened plant or animal species in, near, or using the wetland or adjacent lands? If so, list the species of concern:

3. Y (N) Is the project located in an area that requires a State Coastal Zone Management Plan consistency determination?

Floral Diversity

1. Y (N) Does the wetland support a variety of native plant species (i.e. not a monotypic stand of cattail or giant reed grass and/or not dominated by exotic species such as reed canary grass, brome grass, buckthorn, purple loosestrife, etc.)?

2. Y (N) Is the wetland plant community regionally scarce or rare?

wetland functional group #4

Wildlife and Fishery Habitat

1. List any species observed, evidenced (e.g. tracks, scat, nest/burrow, calls), or expected to utilize the wetland: muskrat, raccoon, dabbling ducks. Wild turkey observed at edge of this wetland.

2. Y (N) Does the wetland contain a number of diverse vegetative cover types and a high degree of interspersion of those vegetation types?

3. (Y) N Is the estimated ratio of open water to cover between 30 and 70 percent? What is the estimated ratio? 100 %

4. (Y) N Does the surrounding upland habitat likely support a variety of animal species?

5. Y (N) Is the wetland part of or associated with a wildlife corridor or designated environmental corridor?

6. (Y) N Is the surrounding habitat and/or the wetland itself a large tract of undeveloped land important for wildlife that requires large home ranges (e.g. bear, woodland passerines)?

7. (Y) N Is the surrounding habitat and/or the wetland itself a relatively large tract of undeveloped land within an urbanized environment that is important for wildlife?

8. (Y) N Are there other wetland areas near the subject wetland that may be important to wildlife?

9. Y (N) Is the wetland contiguous with a permanent waterbody or periodically inundated for sufficient periods of time to provide spawning/nursery habitat for fish?

10. (Y) N Can the wetland provide significant food base for fish and wildlife (e.g. insects, crustaceans, voles, forage fish, amphibians, reptiles, shrews, wild rice, wild celery, duckweed, pondweeds, watermeal, bulrushes, bur reeds, arrowhead, smartweeds, millets...)?

11. Y (N) Is the wetland located in a priority watershed/township as identified in the Upper Mississippi and Great Lakes Joint Venture of the North American Waterfowl Management Plan?

12. Y (N) Is the wetland providing habitat that is scarce to the region?

Flood and Stormwater Storage/Attenuation

1. Y (N) Are there steep slopes, large impervious areas, moderate slopes with row cropping, or areas with severe overgrazing within the watershed (circle those that apply)?

2. (Y) N Does the wetland significantly reduce run-off velocity due to its size, configuration, braided flow patterns, or vegetation type and density?

3. Y (N) Does the wetland show evidence of flashy water level responses to storm events (debris marks, erosion lines, stormwater inputs, channelized inflow)?

4. (Y) N Is there a natural feature or human-made structure impeding drainage from the wetland that causes backwater conditions?

wetland functional group #4

5. Y N Considering the size of the wetland area in relation to the size of its watershed, at any time during the year is water likely to reach the wetland's storage capacity (i.e. the level of easily observable wetland vegetation)? [For some cases where greater documentation is required, one should determine if the wetland has capacity to hold 25% of the run-off from a 2 year-24 hour storm event.]

6. Y N Considering the location of the wetland in relation to the associated surface water watershed, is the wetland important for attenuating or storing flood or stormwater peaks (i.e. is the wetland located in the mid or lower reaches of the watershed)?

Water Quality Protection

1. Y N Does the wetland receive overland flow or direct discharge of stormwater as a primary source of water (circle that which applies)?

2. Y N Do the surrounding land uses have the potential to deliver significant nutrient and/or sediment loads to the wetland?

3. Y N Based on your answers to the flood/stormwater section above, does the wetland perform significant flood/stormwater attenuation (residence time to allow settling)?

4. Y N Does the wetland have significant vegetative density to decrease water energy and allow settling of suspended materials?

5. Y N Is the position of the wetland in the landscape such that run-off is held or filtered before entering a surface water?

6. Y N Are algal blooms, heavy macrophyte growth, or other signs of excess nutrient loading to the wetland apparent (or historically reported)?

Shoreline Protection

1. Y N Is the wetland in a lake fringe or riverine setting? If NO, STOP and enter "not applicable" for this function. If YES, then answer the applicable questions. "not applicable"

2. Y N Is the shoreline exposed to constant wave action caused by long wind fetch or boat traffic?

3. Y N Is the shoreline and shallow littoral zone vegetated with submerged or emergent vegetation in the swash zone that decrease wave energy or perennial wetland species that form dense root mats and/or species that have strong stems that are resistant to erosive forces?

4. Y N Is the stream bank prone to erosion due to unstable soils, land uses, or ice floes?

5. Y N Is the stream bank vegetated with densely rooted shrubs that provide upper bank stability?

Groundwater Recharge and Discharge

1. Y N Related to discharge, are there observable (or reported) springs located in the wetland, physical indicators of springs such as marl soil, or vegetation indicators such as watercress or marsh marigold present that tend to indicate the presence of groundwater springs?

2. Y N Related to discharge, may the wetland contribute to the maintenance of base flow in a stream?

3. Y N Related to recharge, is the wetland located on or near a groundwater divide (e.g. a topographic high)?

Aesthetics/Recreation/Education and Science

1. Y N Is the wetland visible from any of the following kinds of vantage points: roads, public lands, houses, and/or businesses? (Circle all that apply.)

2. Y N Is the wetland in or near any population centers?

3. Y N Is any part of the wetland is in public or conservation ownership?

4. Y N Does the public have direct access to the wetland from public roads or waterways? (Circle those that apply.)

5. Is the wetland itself relatively free of obvious human influences, such as:

   a. Y N Buildings?
   b. Y N Roads?
   c. Y N Other structures?
   d. Y N Trash?
   e. Y N Pollution?
   f. Y N Filling?
   g. Y N Dredging/draining?
   h. Y N Domination by non-native vegetation?

6. Is the surrounding viewshed relatively free of obvious human influences, such as:
   a. Y N Buildings?
   b. Y N Roads?
   c. Y N Other structures?

7. Y N Is the wetland organized into a variety of visibly separate areas of similar vegetation, color, and/or texture (including areas of open water)?

8. Y N Does the wetland add to the variety of visibly separate areas of similar vegetation, color, and/or texture (including areas of open water) within the landscape as a whole?

9. Does the wetland encourage exploration because any of the following factors are present:
   a. Y N Long views within the wetland?
   b. Y N Long views in the viewshed adjacent to the wetland?
   c. Y N Convoluted edges within and/or around the wetland border?
   d. Y N The wetland provides a different (and perhaps more natural/complex) kind of environment from the surrounding land covers?

10. Y N Is the wetland currently being used for (or does it have the potential to be used for) the following recreational activities? (Check all that apply.)

ACTIVITY	CURRENT USE	POTENTIAL USE
Nature study/photography	none (private-posted)	
Hiking/biking/skiing		
Hunting/fishing/trapping		
Boating/canoeing		
Food harvesting		
Others (list)		

11. Y N Is the wetland currently being used, and/or does it have the potential for use for educational or scientific study purposes (circle that which applies)?

Wetland functional group #5

January, 2001 Wetlands #20, #21, #23, #24, #25 File or Docket Number

Wisconsin Department of Natural Resources

RAPID ASSESSMENT METHODOLOGY FOR EVALUATING WETLAND FUNCTIONAL VALUES

GENERAL INFORMATION

Name of Wetland/Owner:
Location: County WOOD ; ¼, ¼, Section , Township , Range
Project Name: Wisconsin Rapids – Highway 54 Improvements
Evaluator(s): J. OLSON
Date(s) of Site Visit(s): May 8-11, 2006

Description of seasonality limitations of this inspection due to time of year of the evaluation and/or current hydrologic and climatologic conditions (e.g. after heavy rains, snow or ice cover, during drought year, during spring flood, during bird migration): full leaf out, scattered thunderstorms,

WETLAND DESCRIPTION

Wisconsin Wetlands Inventory classification:
Wetland Type: shallow open water, deep marsh, shallow marsh, seasonally flooded basin, bog, floodplain forest, alder thicket, sedge meadow, coniferous swamp, fen, wet meadow, shrub-carr, low prairie, hardwood swamp
Estimated size of wetland in acres:

SUMMARY OF FUNCTIONAL VALUES

Based on the results of the attached functional assessment, rate the significance of each of the functional values for the subject wetland and check the appropriate box. Complete the table as a summary.

FUNCTION	SIGNIFICANCE				
	Low	Medium	High	Exceptional	N/A
Floral Diversity		✓			
Wildlife Habitat			✓		
Fishery Habitat					✓
Flood/Stormwater Attenuation		✓			
Water Quality Protection		✓			
Shoreline Protection					✓
Groundwater	✓				
Aesthetics/Recreation/Education		✓			

List any Special Features/"Red Flags":

wetland functional Group #5

SITE DESCRIPTION

I. HYDROLOGIC SETTING

A. Describe the geomorphology of the wetland:

- [x] Depressional (includes slopes, potholes, small lakes, kettles, etc.)
- [ ] Riverine
- [ ] Lake Fringe
- [ ] Extensive Peatland

B. Y N Has the wetland hydrology been altered by ditching, tiles, dams, culverts, well pumping, diversion of surface flow, or changes to runoff within the watershed (circle those that apply)?

C. Y N Does the wetland have an inlet, outlet, or both (circle those that apply)?

D. Y N Is there any field evidence of wetland hydrology such as buttressed tree trunks, adventitious roots, drift lines, water marks, water stained leaves, soil mottling/gleying, organic soils layer, or oxidized rhizospheres (circle those that apply)?

E. Y N Does the wetland have standing water, and if so what is the average depth in inches? 4 "
Approximately how much of the wetland is inundated? 30 %

F. How is the hydroperiod (seasonal water level pattern) of the wetland classified?

- [ ] Permanently Flooded
- [x] Seasonally Flooded (water absent at end of growing season)
- [ ] Saturated (surface water seldom present)
- [ ] Artificially Flooded
- [ ] Artificially Drained

G. Y N Is the wetland a navigable body of water or is a portion of the wetland below the ordinary high-water mark of a navigable water body? List any surface waters associated with the wetland or in proximity to the wetland (note approximate distance from the wetland and navigability determination). Note if there is a surface water connection to other wetlands.

Wetland functional group #5

II. VEGETATION

A. Identify the vegetation communities present and the dominant species.

	floating leaved community dominated by:
	submerged aquatic community dominated by:
	emergent community dominated by:
✓	shrub community dominated by: Speckled alder, smooth buckthorn (Rhamnus frangula).
✓	deciduous broad-leaved tree community dominated by: American elm
	coniferous tree community dominated by:
	open sphagnum mat or bog
	sedge meadow/wet prairie community dominated by:
	other (explain)

B. Other plant species identified during site visit:

none.

III. SOILS

A. NRCS Soil Map Classification: _____

B. Field description:

☐ Organic (histosol)? If so, is it a muck or a peat?

☑ Mineral soil?

- Mottling, gleying, sulfidic materials, iron or manganese concretions, organic streaking (circle those that apply)
- Soil Description: Undetermined for feasibility study.
- Depth of mottling/gleying: _____
- Depth of A Horizon: _____
- Munsell Color of matrix and mottles
  - -Matrix below the A horizon (10"depth): _____
  - -Mottles: _____

Wetland functional group #5

V. SURROUNDING LAND USES

A. What is the estimated area of the wetland watershed in acres? ~200 acres

B. What are the surrounding land uses?

LAND-USE	ESTIMATED % OF WETLAND WATERSHED
Developed (Industrial/Commercial/Residential)	
Agricultural/cropland	
Agricultural/grazing	
Forested	95%
Grassed recreation areas/parks	
Old field	
Highways or roads	5%
Other (specify)	

VI. SITE SKETCH

See Exhibit #1 in Wetland Determination TECH MEMO.

wetland functional group #5

FUNCTIONAL ASSESSMENT

The following assessment requires the evaluator to examine site conditions that provide evidence that a given functional value is present and to assess the significance of the wetland to perform those functions. Positive answers to questions indicate the presence of factors important for the function. The questions are not definitive and are only provided to guide the evaluation. After completing each section, the evaluator should consider the factors observed and use best professional judgement to rate the significance. The ratings should be recorded on page 1 of the assessment.

SPECIAL FEATURES/"RED FLAGS"

1. **Y** (N) Is the wetland in or adjacent to an area of special natural resource interest (NR 103.04, Wis. Adm. Code)? If so, check those that apply:

- ☐ Cold water community as defined in s. NR 102.04(3)(b), Wis. Adm. Code, including trout streams, their tributaries, and trout lakes
- ☐ Lakes Michigan and Superior and the Mississippi River
- ☐ State or federal designated wild and scenic river
- ☐ Designated state riverway
- ☐ Designated state scenic urban waterway
- ☐ Environmentally sensitive area or environmental corridor identified in an area-wide water quality management plan, special area management plan, special wetland inventory study, or an advanced delineation and identification study
- ☐ Calcareous fen
- ☐ State park, forest, trail or recreation area
- ☐ State and federal fish and wildlife refuges and fish and wildlife management areas
- ☐ State or federal designated wilderness area
- ☐ Designated or dedicated state natural area
- ☐ Wild rice water listed in ch. NR 19.09, Wis. Adm. Code
- ☐ Surface water identified as an outstanding or exceptional resource water in ch. NR 102, Wis. Adm. Code

2. **Y** (N) According to the Natural Heritage Inventory (Bureau of Endangered Resources) or direct observations, are there any rare, endangered, or threatened plant or animal species in, near, or using the wetland or adjacent lands? If so, list the species of concern:

3. **Y** (N) Is the project located in an area that requires a State Coastal Zone Management Plan consistency determination?

Floral Diversity

1. (Y) **N** Does the wetland support a variety of native plant species (i.e. not a monotypic stand of cattail or giant reed grass and/or not dominated by exotic species such as reed canary grass, brome grass, buckthorn, purple loosestrife, etc.)?

2. **Y** (N) Is the wetland plant community regionally scarce or rare?

wetland functional group #5

Wildlife and Fishery Habitat

1. List any species observed, evidenced (e.g. tracks, scat, nest/burrow, calls), or expected to utilize the wetland: wood ducks, raccoon, white-tailed deer.

2. Y N Does the wetland contain a number of diverse vegetative cover types and a high degree of interspersion of those vegetation types?

3. Y N Is the estimated ratio of open water to cover between 30 and 70 percent? What is the estimated ratio? 30 %

4. Y N Does the surrounding upland habitat likely support a variety of animal species?

5. Y N Is the wetland part of or associated with a wildlife corridor or designated environmental corridor?

6. Y N Is the surrounding habitat and/or the wetland itself a large tract of undeveloped land important for wildlife that requires large home ranges (e.g. bear, woodland passerines)?

7. Y N Is the surrounding habitat and/or the wetland itself a relatively large tract of undeveloped land within an urbanized environment that is important for wildlife?

8. Y N Are there other wetland areas near the subject wetland that may be important to wildlife?

9. Y N Is the wetland contiguous with a permanent waterbody or periodically inundated for sufficient periods of time to provide spawning/nursery habitat for fish?

10. Y N Can the wetland provide significant food base for fish and wildlife (e.g. insects, crustaceans, voles, forage fish, amphibians, reptiles, shrews, wild rice, wild celery, duckweed, pondweeds, watermeal, bulrushes, bur reeds, arrowhead, smartweeds, millets...)?

11. Y N Is the wetland located in a priority watershed/township as identified in the Upper Mississippi and Great Lakes Joint Venture of the North American Waterfowl Management Plan?

12. Y N Is the wetland providing habitat that is scarce to the region?

Flood and Stormwater Storage/Attenuation

1. Y N Are there steep slopes, large impervious areas, moderate slopes with row cropping, or areas with severe overgrazing within the watershed (circle those that apply)?

2. Y N Does the wetland significantly reduce run-off velocity due to its size, configuration, braided flow patterns, or vegetation type and density?

3. Y N Does the wetland show evidence of flashy water level responses to storm events (debris marks, erosion lines, stormwater inputs, channelized inflow)?

4. Y N Is there a natural feature or human-made structure impeding drainage from the wetland that causes backwater conditions?

wetland functional group #5

5. Y (N) Considering the size of the wetland area in relation to the size of its watershed, at any time during the year is water likely to reach the wetland's storage capacity (i.e. the level of easily observable wetland vegetation)? [For some cases where greater documentation is required, one should determine if the wetland has capacity to hold 25% of the run-off from a 2 year-24 hour storm event.]

6. (Y) N Considering the location of the wetland in relation to the associated surface water watershed, is the wetland important for attenuating or storing flood or stormwater peaks (i.e. is the wetland located in the mid or lower reaches of the watershed)?

Water Quality Protection

1. (Y) N Does the wetland receive overland flow or direct discharge of stormwater as a primary source of water (circle that which applies)?

2. Y (N) Do the surrounding land uses have the potential to deliver significant nutrient and/or sediment loads to the wetland?

3. (Y) N Based on your answers to the flood/stormwater section above, does the wetland perform significant flood/stormwater attenuation (residence time to allow settling)?

4. (Y) N Does the wetland have significant vegetative density to decrease water energy and allow settling of suspended materials?

5. (Y) N Is the position of the wetland in the landscape such that run-off is held or filtered before entering a surface water?

6. Y (N) Are algal blooms, heavy macrophyte growth, or other signs of excess nutrient loading to the wetland apparent (or historically reported)?

Shoreline Protection

1. Y (N) Is the wetland in a lake fringe or riverine setting? If NO, STOP and enter "not applicable" for this function. If YES, then answer the applicable questions. "not applicable"

2. Y N Is the shoreline exposed to constant wave action caused by long wind fetch or boat traffic?

3. Y N Is the shoreline and shallow littoral zone vegetated with submerged or emergent vegetation in the swash zone that decrease wave energy or perennial wetland species that form dense root mats and/or species that have strong stems that are resistant to erosive forces?

4. Y N Is the stream bank prone to erosion due to unstable soils, land uses, or ice floes?

5. Y N Is the stream bank vegetated with densely rooted shrubs that provide upper bank stability?

Groundwater Recharge and Discharge

1. Y N Related to discharge, are there observable (or reported) springs located in the wetland, physical indicators of springs such as marl soil, or vegetation indicators such as watercress or marsh marigold present that tend to indicate the presence of groundwater springs?

2. Y N Related to discharge, may the wetland contribute to the maintenance of base flow in a stream?

3. Y N Related to recharge, is the wetland located on or near a groundwater divide (e.g. a topographic high)?

wetland functional group #5

Aesthetics/Recreation/Education and Science

1. Y N Is the wetland visible from any of the following kinds of vantage points: roads, public lands, houses, and/or businesses? (Circle all that apply.)

2. Y N Is the wetland in or near any population centers?

3. Y N Is any part of the wetland is in public or conservation ownership?

4. Y N Does the public have direct access to the wetland from public roads or waterways? (Circle those that apply.)

5. Is the wetland itself relatively free of obvious human influences, such as:

   a. Y N Buildings?
   b. Y N Roads?
   c. Y N Other structures?
   d. Y N Trash?
   e. Y N Pollution?
   f. Y N Filling?
   g. Y N Dredging/draining?
   h. Y N Domination by non-native vegetation?

6. Is the surrounding viewshed relatively free of obvious human influences, such as:
   a. Y N Buildings?
   b. Y N Roads?
   c. Y N Other structures?

7. Y N Is the wetland organized into a variety of visibly separate areas of similar vegetation, color, and/or texture (including areas of open water)?

8. Y N Does the wetland add to the variety of visibly separate areas of similar vegetation, color, and/or texture (including areas of open water) within the landscape as a whole?

9. Does the wetland encourage exploration because any of the following factors are present:
   a. Y N Long views within the wetland?
   b. Y N Long views in the viewshed adjacent to the wetland?
   c. Y N Convoluted edges within and/or around the wetland border?
   d. Y N The wetland provides a different (and perhaps more natural/complex) kind of environment from the surrounding land covers?

10. Y N Is the wetland currently being used for (or does it have the potential to be used for) the following recreational activities? (Check all that apply.)

ACTIVITY	CURRENT USE	POTENTIAL USE
Nature study/photography	none (private – posted)	
Hiking/biking/skiing		
Hunting/fishing/trapping		
Boating/canoeing		
Food harvesting		
Others (list)		

11. Y N Is the wetland currently being used, and/or does it have the potential for use for educational or scientific study purposes (circle that which applies)?

wetland functional group #6

January, 2001

wetlands #27, #28

File or Docket Number

Wisconsin Department of Natural Resources

RAPID ASSESSMENT METHODOLOGY FOR EVALUATING WETLAND FUNCTIONAL VALUES

GENERAL INFORMATION

Name of Wetland/Owner:
Location: County Wood ; ¼, ¼, Section , Township , Range
Project Name: Wisconsin Rapids
Evaluator(s): J. Olson
Date(s) of Site Visit(s): May 8-11, 2006

Description of seasonality limitations of this inspection due to time of year of the evaluation and/or current hydrologic and climatologic conditions (e.g. after heavy rains, snow or ice cover, during drought year, during spring flood, during bird migration): full leaf out. Scattered thunderstorms.

WETLAND DESCRIPTION

Wisconsin Wetlands Inventory classification:
Wetland Type: shallow open water, deep marsh, shallow marsh, seasonally flooded basin, bog, floodplain forest, alder thicket, sedge meadow, coniferous swamp, fen, wet meadow, shrub-carr, low prairie, hardwood swamp
Estimated size of wetland in acres:

SUMMARY OF FUNCTIONAL VALUES

Based on the results of the attached functional assessment, rate the significance of each of the functional values for the subject wetland and check the appropriate box. Complete the table as a summary.

FUNCTION	SIGNIFICANCE				
	Low	Medium	High	Exceptional	N/A
Floral Diversity			✓		
Wildlife Habitat			✓		
Fishery Habitat	✓				
Flood/Stormwater Attenuation		✓			
Water Quality Protection		✓			
Shoreline Protection			✓		
Groundwater			✓		
Aesthetics/Recreation/Education		✓			

List any Special Features/"Red Flags":

wetland functional group #6

SITE DESCRIPTION

I. HYDROLOGIC SETTING

A. Describe the geomorphology of the wetland:

- [x] Depressional (includes slopes, potholes, small lakes, kettles, etc.)
- [x] Riverine
- [ ] Lake Fringe
- [ ] Extensive Peatland

B. **Y N** Has the wetland hydrology been altered by ditching, tiles, dams, culverts, well pumping, diversion of surface flow, or changes to runoff within the watershed (circle those that apply)?

C. **Y N** Does the wetland have an inlet, outlet, or both (circle those that apply)?

D. **Y N** Is there any field evidence of wetland hydrology such as buttressed tree trunks, adventitious roots, drift lines, water marks, water stained leaves, soil mottling/gleying, organic soils layer, or oxidized rhizospheres (circle those that apply)?

E. **Y N** Does the wetland have standing water, and if so what is the average depth in inches? _____"
Approximately how much of the wetland is inundated? _____%

F. How is the hydroperiod (seasonal water level pattern) of the wetland classified?

- [ ] Permanently Flooded
- [ ] Seasonally Flooded (water absent at end of growing season)
- [x] Saturated (surface water seldom present)
- [ ] Artificially Flooded
- [ ] Artificially Drained

G. **Y N** Is the wetland a navigable body of water or is a portion of the wetland below the ordinary high-water mark of a navigable water body? List any surface waters associated with the wetland or in proximity to the wetland (note approximate distance from the wetland and navigability determination). Note if there is a surface water connection to other wetlands.

wetland functional group #6

II. VEGETATION

A. Identify the vegetation communities present and the dominant species.

	floating leaved community dominated by:
	submerged aquatic community dominated by:
	emergent community dominated by:
✓	shrub community dominated by: speckled alder
✓	deciduous broad-leaved tree community dominated by: American elm, silver maple
	coniferous tree community dominated by:
	open sphagnum mat or bog
	sedge meadow/wet prairie community dominated by:
✓	other (explain): forested seep; skunk cabbage

B. Other plant species identified during site visit:

NONE.

III. SOILS

A. NRCS Soil Map Classification: _____

B. Field description:

☑ Organic (histosol)? If so, is it a muck or a peat?

☐ Mineral soil?

- Mottling, gleying, sulfidic materials, iron or manganese concretions, organic streaking (circle those that apply)
- Soil Description: Undetermined for feasibility study.
- Depth of mottling/gleying: _____
- Depth of A Horizon: _____
- Munsell Color of matrix and mottles
  - -Matrix below the A horizon (10"depth): _____
  - -Mottles: _____

wetland functional group #6

V. SURROUNDING LAND USES

A. What is the estimated area of the wetland watershed in acres? ~200 acres

B. What are the surrounding land uses?

LAND-USE	ESTIMATED % OF WETLAND WATERSHED
Developed (Industrial/Commercial/Residential)	5%
Agricultural/cropland	
Agricultural/grazing	
Forested	90%
Grassed recreation areas/parks	
Old field	
Highways or roads	5%
Other (specify)	

VI. SITE SKETCH

See Exhibit #1 in Wetland Determination TECH MEMO.

wetland functional group #6

FUNCTIONAL ASSESSMENT

The following assessment requires the evaluator to examine site conditions that provide evidence that a given functional value is present and to assess the significance of the wetland to perform those functions. Positive answers to questions indicate the presence of factors important for the function. The questions are not definitive and are only provided to guide the evaluation. After completing each section, the evaluator should consider the factors observed and use best professional judgement to rate the significance. The ratings should be recorded on page 1 of the assessment.

SPECIAL FEATURES/"RED FLAGS"

1. **Y N** Is the wetland in or adjacent to an area of special natural resource interest (NR 103.04, Wis. Adm. Code)? If so, check those that apply:

- ☐ Cold water community as defined in s. NR 102.04(3)(b), Wis. Adm. Code, including trout streams, their tributaries, and trout lakes
- ☐ Lakes Michigan and Superior and the Mississippi River
- ☐ State or federal designated wild and scenic river
- ☐ Designated state riverway
- ☐ Designated state scenic urban waterway
- ☐ Environmentally sensitive area or environmental corridor identified in an area-wide water quality management plan, special area management plan, special wetland inventory study, or an advanced delineation and identification study
- ☐ Calcareous fen
- ☐ State park, forest, trail or recreation area
- ☐ State and federal fish and wildlife refuges and fish and wildlife management areas
- ☐ State or federal designated wilderness area
- ☐ Designated or dedicated state natural area
- ☐ Wild rice water listed in ch. NR 19.09, Wis. Adm. Code
- ☐ Surface water identified as an outstanding or exceptional resource water in ch. NR 102, Wis. Adm. Code

2. **Y N** According to the Natural Heritage Inventory (Bureau of Endangered Resources) or direct observations, are there any rare, endangered, or threatened plant or animal species in, near, or using the wetland or adjacent lands? If so, list the species of concern:

3. **Y N** Is the project located in an area that requires a State Coastal Zone Management Plan consistency determination?

Floral Diversity

1. **Y N** Does the wetland support a variety of native plant species (i.e. not a monotypic stand of cattail or giant reed grass and/or not dominated by exotic species such as reed canary grass, brome grass, buckthorn, purple loosestrife, etc.)?

2. **Y N** Is the wetland plant community regionally scarce or rare? (forested seep – large).

wetland functional group #6

Wildlife and Fishery Habitat

1. List any species observed, evidenced (e.g. tracks, scat, nest/burrow, calls), or expected to utilize the wetland: raccoon, white-tailed deer ...

2. Y N Does the wetland contain a number of diverse vegetative cover types and a high degree of interspersion of those vegetation types?

3. Y N Is the estimated ratio of open water to cover between 30 and 70 percent? What is the estimated ratio? 10 %

4. Y N Does the surrounding upland habitat likely support a variety of animal species?

5. Y N Is the wetland part of or associated with a wildlife corridor or designated environmental corridor?

6. Y N Is the surrounding habitat and/or the wetland itself a large tract of undeveloped land important for wildlife that requires large home ranges (e.g. bear, woodland passerines)?

7. Y N Is the surrounding habitat and/or the wetland itself a relatively large tract of undeveloped land within an urbanized environment that is important for wildlife?

8. Y N Are there other wetland areas near the subject wetland that may be important to wildlife?

9. Y N Is the wetland contiguous with a permanent waterbody or periodically inundated for sufficient periods of time to provide spawning/nursery habitat for fish?

10. Y N Can the wetland provide significant food base for fish and wildlife (e.g. insects, crustaceans, voles, forage fish, amphibians, reptiles, shrews, wild rice, wild celery, duckweed, pondweeds, watermeal, bulrushes, bur reeds, arrowhead, smartweeds, millets...)?

11. Y N Is the wetland located in a priority watershed/township as identified in the Upper Mississippi and Great Lakes Joint Venture of the North American Waterfowl Management Plan?

12. Y N Is the wetland providing habitat that is scarce to the region?

Flood and Stormwater Storage/Attenuation

1. Y N Are there steep slopes, large impervious areas, moderate slopes with row cropping, or areas with severe overgrazing within the watershed (circle those that apply)?

2. Y N Does the wetland significantly reduce run-off velocity due to its size, configuration, braided flow patterns, or vegetation type and density?

3. Y N Does the wetland show evidence of flashy water level responses to storm events (debris marks, erosion lines, stormwater inputs, channelized inflow)?

4. Y N Is there a natural feature or human-made structure impeding drainage from the wetland that causes backwater conditions?

Wetland functional group #6

5. Y (N) Considering the size of the wetland area in relation to the size of its watershed, at any time during the year is water likely to reach the wetland's storage capacity (i.e. the level of easily observable wetland vegetation)? [For some cases where greater documentation is required, one should determine if the wetland has capacity to hold 25% of the run-off from a 2 year-24 hour storm event.]

6. (Y) N Considering the location of the wetland in relation to the associated surface water watershed, is the wetland important for attenuating or storing flood or stormwater peaks (i.e. is the wetland located in the mid or lower reaches of the watershed)?

Water Quality Protection

1. Y (N) Does the wetland receive overland flow or direct discharge of stormwater as a primary source of water (circle that which applies)?

2. Y (N) Do the surrounding land uses have the potential to deliver significant nutrient and/or sediment loads to the wetland?

3. (Y) N Based on your answers to the flood/stormwater section above, does the wetland perform significant flood/stormwater attenuation (residence time to allow settling)?

4. (Y) N Does the wetland have significant vegetative density to decrease water energy and allow settling of suspended materials?

5. (Y) N Is the position of the wetland in the landscape such that run-off is held or filtered before entering a surface water?

6. Y (N) Are algal blooms, heavy macrophyte growth, or other signs of excess nutrient loading to the wetland apparent (or historically reported)?

Shoreline Protection

1. (Y) N Is the wetland in a lake fringe or riverine setting? If NO, STOP and enter "not applicable" for this function. If YES, then answer the applicable questions. (portion in contact w/ Wisconsin River).

2. Y (N) Is the shoreline exposed to constant wave action caused by long wind fetch or boat traffic?

3. (Y) N Is the shoreline and shallow littoral zone vegetated with submerged or emergent vegetation in the swash zone that decrease wave energy or perennial wetland species that form dense root mats and/or species that have strong stems that are resistant to erosive forces?

4. (Y) N Is the stream bank prone to erosion due to unstable soils, land uses, or ice floes?

5. (Y) N Is the stream bank vegetated with densely rooted shrubs that provide upper bank stability?

Groundwater Recharge and Discharge

1. (Y) N Related to discharge, are there observable (or reported) springs located in the wetland, physical indicators of springs such as marl soil, or vegetation indicators such as watercress or marsh marigold present that tend to indicate the presence of groundwater springs?

2. Y (N) Related to discharge, may the wetland contribute to the maintenance of base flow in a stream?

3. Y (N) Related to recharge, is the wetland located on or near a groundwater divide (e.g. a topographic high)?

Wetland functional group #6

Aesthetics/Recreation/Education and Science

1. Y N Is the wetland visible from any of the following kinds of vantage points: roads, public lands, houses, and/or businesses? (Circle all that apply.)

2. Y N Is the wetland in or near any population centers?

3. Y N Is any part of the wetland is in public or conservation ownership?

4. Y N Does the public have direct access to the wetland from public roads or waterways? (Circle those that apply.)

5. Is the wetland itself relatively free of obvious human influences, such as:

   a. Y N Buildings?
   b. Y N Roads?
   c. Y N Other structures?
   d. Y N Trash?
   e. Y N Pollution?
   f. Y N Filling?
   g. Y N Dredging/draining?
   h. Y N Domination by non-native vegetation?

6. Is the surrounding viewshed relatively free of obvious human influences, such as:
   a. Y N Buildings?
   b. Y N Roads?
   c. Y N Other structures?

7. Y N Is the wetland organized into a variety of visibly separate areas of similar vegetation, color, and/or texture (including areas of open water)?

8. Y N Does the wetland add to the variety of visibly separate areas of similar vegetation, color, and/or texture (including areas of open water) within the landscape as a whole?

9. Does the wetland encourage exploration because any of the following factors are present:
   a. Y N Long views within the wetland?
   b. Y N Long views in the viewshed adjacent to the wetland?
   c. Y N Convoluted edges within and/or around the wetland border?
   d. Y N The wetland provides a different (and perhaps more natural/complex) kind of environment from the surrounding land covers?

10. Y N Is the wetland currently being used for (or does it have the potential to be used for) the following recreational activities? (Check all that apply.)

ACTIVITY	CURRENT USE	POTENTIAL USE
Nature study/photography	private, but apparently open to public	← SAME
Hiking/biking/skiing	✓	✓
Hunting/fishing/trapping		
Boating/canoeing	✓	✓
Food harvesting		
Others (list)		

11. Y N Is the wetland currently being used, and/or does it have the potential for use for educational or scientific study purposes (circle that which applies)?

Wetland functional group #7

January, 2001 Wetland #26

File or Docket Number

Wisconsin Department of Natural Resources

RAPID ASSESSMENT METHODOLOGY FOR EVALUATING WETLAND FUNCTIONAL VALUES

GENERAL INFORMATION

Name of Wetland/Owner:
Location: County Wood; ¼, ¼, Section , Township , Range
Project Name: Wisconsin Rapids – Highway 54 Improvements
Evaluator(s): J. Olson
Date(s) of Site Visit(s): May 8-11, 2006

Description of seasonality limitations of this inspection due to time of year of the evaluation and/or current hydrologic and climatologic conditions (e.g. after heavy rains, snow or ice cover, during drought year, during spring flood, during bird migration): full leaf out. Scattered thunderstorms.

WETLAND DESCRIPTION

Wisconsin Wetlands Inventory classification:
Wetland Type: shallow open water, deep marsh, (shallow marsh), seasonally flooded basin, bog, floodplain forest, alder thicket, sedge meadow, coniferous swamp, fen, wet meadow, (shrub-carr), low prairie, hardwood swamp
Estimated size of wetland in acres:

SUMMARY OF FUNCTIONAL VALUES

Based on the results of the attached functional assessment, rate the significance of each of the functional values for the subject wetland and check the appropriate box. Complete the table as a summary.

FUNCTION	SIGNIFICANCE				
	Low	Medium	High	Exceptional	N/A
Floral Diversity		✓			
Wildlife Habitat		✓			
Fishery Habitat		✓			
Flood/Stormwater Attenuation		✓			
Water Quality Protection		✓			
Shoreline Protection			✓		
Groundwater					✓
Aesthetics/Recreation/Education			✓		

List any Special Features/"Red Flags":

wetland functional group #7

SITE DESCRIPTION

I. HYDROLOGIC SETTING

A. Describe the geomorphology of the wetland:

- ☐ Depressional (includes slopes, potholes, small lakes, kettles, etc.)
- ☑ Riverine
- ☐ Lake Fringe
- ☐ Extensive Peatland

B. **Y N** Has the wetland hydrology been altered by ditching, tiles, dams, culverts, well pumping, diversion of surface flow, or changes to runoff within the watershed (circle those that apply)?

C. **Y N** Does the wetland have an inlet, outlet, or both (circle those that apply)?

D. **Y N** Is there any field evidence of wetland hydrology such as buttressed tree trunks, adventitious roots, drift lines, water marks, water stained leaves, soil mottling/gleying, organic soils layer, or oxidized rhizospheres (circle those that apply)?

E. **Y N** Does the wetland have standing water, and if so what is the average depth in inches? 6 "
Approximately how much of the wetland is inundated? 40 %

F. How is the hydroperiod (seasonal water level pattern) of the wetland classified?

- ☑ Permanently Flooded
- ☐ Seasonally Flooded (water absent at end of growing season)
- ☐ Saturated (surface water seldom present)
- ☐ Artificially Flooded
- ☐ Artificially Drained

G. **Y N** Is the wetland a navigable body of water or is a portion of the wetland below the ordinary high-water mark of a navigable water body? List any surface waters associated with the wetland or in proximity to the wetland (note approximate distance from the wetland and navigability determination). Note if there is a surface water connection to other wetlands.

wetland along edge of stream flowing into the north end of NEPCO Lake.

wetland functional group #7

II. VEGETATION

A. Identify the vegetation communities present and the dominant species.

	floating leaved community dominated by:
	submerged aquatic community dominated by:
✓	emergent community dominated by: narrow-leaved cattails, spikerush
✓	shrub community dominated by: speckled alder
	deciduous broad-leaved tree community dominated by:
	coniferous tree community dominated by:
	open sphagnum mat or bog
	sedge meadow/wet prairie community dominated by:
	other (explain)

B. Other plant species identified during site visit:

NONE.

III. SOILS

A. NRCS Soil Map Classification: _____

B. Field description:

☐ Organic (histosol)? If so, is it a muck or a peat?

☑ Mineral soil?

- Mottling, gleying, sulfidic materials, iron or manganese concretions, organic streaking (circle those that apply)
- Soil Description: Undetermined during feasibility study.
- Depth of mottling/gleying: _____
- Depth of A Horizon: _____
- Munsell Color of matrix and mottles
  - -Matrix below the A horizon (10"depth): _____
  - -Mottles: _____

wetland functional group #7

V. SURROUNDING LAND USES

A. What is the estimated area of the wetland watershed in acres? >1,500 acres

B. What are the surrounding land uses?

LAND-USE	ESTIMATED % OF WETLAND WATERSHED
Developed (Industrial/Commercial/Residential)	10%
Agricultural/cropland	10%
Agricultural/grazing	
Forested	70%
Grassed recreation areas/parks	
Old field	
Highways or roads	10%
Other (specify)	

VI. SITE SKETCH

See Exhibit #1 in Wetland Determination TECH MEMO.

wetland functional group #7

FUNCTIONAL ASSESSMENT

The following assessment requires the evaluator to examine site conditions that provide evidence that a given functional value is present and to assess the significance of the wetland to perform those functions. Positive answers to questions indicate the presence of factors important for the function. The questions are not definitive and are only provided to guide the evaluation. After completing each section, the evaluator should consider the factors observed and use best professional judgement to rate the significance. The ratings should be recorded on page 1 of the assessment.

SPECIAL FEATURES/"RED FLAGS"

1. Y/(N) Is the wetland in or adjacent to an area of special natural resource interest (NR 103.04, Wis. Adm. Code)? If so, check those that apply:

- ☐ Cold water community as defined in s. NR 102.04(3)(b), Wis. Adm. Code, including trout streams, their tributaries, and trout lakes
- ☐ Lakes Michigan and Superior and the Mississippi River
- ☐ State or federal designated wild and scenic river
- ☐ Designated state riverway
- ☐ Designated state scenic urban waterway
- ☐ Environmentally sensitive area or environmental corridor identified in an area-wide water quality management plan, special area management plan, special wetland inventory study, or an advanced delineation and identification study
- ☐ Calcareous fen
- ☐ State park, forest, trail or recreation area
- ☐ State and federal fish and wildlife refuges and fish and wildlife management areas
- ☐ State or federal designated wilderness area
- ☐ Designated or dedicated state natural area
- ☐ Wild rice water listed in ch. NR 19.09, Wis. Adm. Code
- ☐ Surface water identified as an outstanding or exceptional resource water in ch. NR 102, Wis. Adm. Code

2. Y/(N) According to the Natural Heritage Inventory (Bureau of Endangered Resources) or direct observations, are there any rare, endangered, or threatened plant or animal species in, near, or using the wetland or adjacent lands? If so, list the species of concern:

3. Y/(N) Is the project located in an area that requires a State Coastal Zone Management Plan consistency determination?

Floral Diversity

1. Y/(N) Does the wetland support a variety of native plant species (i.e. not a monotypic stand of cattail or giant reed grass and/or not dominated by exotic species such as reed canary grass, brome grass, buckthorn, purple loosestrife, etc.)?

2. Y/(N) Is the wetland plant community regionally scarce or rare?

wetland functional group #7

Wildlife and Fishery Habitat

1. List any species observed, evidenced (e.g. tracks, scat, nest/burrow, calls), or expected to utilize the wetland:

2. Y (N) Does the wetland contain a number of diverse vegetative cover types and a high degree of interspersion of those vegetation types?

3. Y N Is the estimated ratio of open water to cover between 30 and 70 percent? What is the estimated ratio? 70 %

4. (Y) N Does the surrounding upland habitat likely support a variety of animal species?

5. Y (N) Is the wetland part of or associated with a wildlife corridor or designated environmental corridor?

6. (Y) N Is the surrounding habitat and/or the wetland itself a large tract of undeveloped land important for wildlife that requires large home ranges (e.g. bear, woodland passerines)?

7. (Y) N Is the surrounding habitat and/or the wetland itself a relatively large tract of undeveloped land within an urbanized environment that is important for wildlife?

8. (Y) N Are there other wetland areas near the subject wetland that may be important to wildlife?

9. (Y) N Is the wetland contiguous with a permanent waterbody or periodically inundated for sufficient periods of time to provide spawning/nursery habitat for fish? – connection w/ NEPCO LAKE

10. (Y) N Can the wetland provide significant food base for fish and wildlife (e.g. insects, crustaceans, voles, forage fish, amphibians, reptiles, shrews, wild rice, wild celery, duckweed, pondweeds, watermeal, bulrushes, bur reeds, arrowhead, smartweeds, millets...)?

11. Y (N) Is the wetland located in a priority watershed/township as identified in the Upper Mississippi and Great Lakes Joint Venture of the North American Waterfowl Management Plan?

12. Y (N) Is the wetland providing habitat that is scarce to the region?

Flood and Stormwater Storage/Attenuation

1. Y (N) Are there steep slopes, large impervious areas, moderate slopes with row cropping, or areas with severe overgrazing within the watershed (circle those that apply)?

2. (Y) N Does the wetland significantly reduce run-off velocity due to its size, configuration, braided flow patterns, or vegetation type and density?

3. Y (N) Does the wetland show evidence of flashy water level responses to storm events (debris marks, erosion lines, stormwater inputs, channelized inflow)?

4. Y (N) Is there a natural feature or human-made structure impeding drainage from the wetland that causes backwater conditions?

wetland functional group #7

5. Y/N Considering the size of the wetland area in relation to the size of its watershed, at any time during the year is water likely to reach the wetland's storage capacity (i.e. the level of easily observable wetland vegetation)? [For some cases where greater documentation is required, one should determine if the wetland has capacity to hold 25% of the run-off from a 2 year-24 hour storm event.]

6. Y/N Considering the location of the wetland in relation to the associated surface water watershed, is the wetland important for attenuating or storing flood or stormwater peaks (i.e. is the wetland located in the mid or lower reaches of the watershed)?

Water Quality Protection

1. Y/N Does the wetland receive overland flow or direct discharge of stormwater as a primary source of water (circle that which applies)?

2. Y/N Do the surrounding land uses have the potential to deliver significant nutrient and/or sediment loads to the wetland?

3. Y/N Based on your answers to the flood/stormwater section above, does the wetland perform significant flood/stormwater attenuation (residence time to allow settling)?

4. Y/N Does the wetland have significant vegetative density to decrease water energy and allow settling of suspended materials?

5. Y/N Is the position of the wetland in the landscape such that run-off is held or filtered before entering a surface water?

6. Y/N Are algal blooms, heavy macrophyte growth, or other signs of excess nutrient loading to the wetland apparent (or historically reported)?

Shoreline Protection

1. Y/N Is the wetland in a lake fringe or riverine setting? If NO, STOP and enter "not applicable" for this function. If YES, then answer the applicable questions.

2. Y/N Is the shoreline exposed to constant wave action caused by long wind fetch or boat traffic?

3. Y/N Is the shoreline and shallow littoral zone vegetated with submerged or emergent vegetation in the swash zone that decrease wave energy or perennial wetland species that form dense root mats and/or species that have strong stems that are resistant to erosive forces?

4. Y/N Is the stream bank prone to erosion due to unstable soils, land uses, or ice floes?

5. Y/N Is the stream bank vegetated with densely rooted shrubs that provide upper bank stability?

Groundwater Recharge and Discharge

1. Y/N Related to discharge, are there observable (or reported) springs located in the wetland, physical indicators of springs such as marl soil, or vegetation indicators such as watercress or marsh marigold present that tend to indicate the presence of groundwater springs?

2. Y/N Related to discharge, may the wetland contribute to the maintenance of base flow in a stream?

3. Y/N Related to recharge, is the wetland located on or near a groundwater divide (e.g. a topographic high)?

Wetland functional group #7

Aesthetics/Recreation/Education and Science

1. Y N Is the wetland visible from any of the following kinds of vantage points: roads, public lands, houses, and/or businesses? (Circle all that apply.)

2. Y N Is the wetland in or near any population centers?

3. Y N Is any part of the wetland is in public or conservation ownership?

4. Y N Does the public have direct access to the wetland from public roads or waterways? (Circle those that apply.)

5. Is the wetland itself relatively free of obvious human influences, such as:

   a. Y N Buildings?
   b. Y N Roads?
   c. Y N Other structures?
   d. Y N Trash?
   e. Y N Pollution?
   f. Y N Filling?
   g. Y N Dredging/draining?
   h. Y N Domination by non-native vegetation?

6. Is the surrounding viewshed relatively free of obvious human influences, such as:
   a. Y N Buildings?
   b. Y N Roads?
   c. Y N Other structures?

7. Y N Is the wetland organized into a variety of visibly separate areas of similar vegetation, color, and/or texture (including areas of open water)?

8. Y N Does the wetland add to the variety of visibly separate areas of similar vegetation, color, and/or texture (including areas of open water) within the landscape as a whole?

9. Does the wetland encourage exploration because any of the following factors are present:
   a. Y N Long views within the wetland?
   b. Y N Long views in the viewshed adjacent to the wetland?
   c. Y N Convoluted edges within and/or around the wetland border?
   d. Y N The wetland provides a different (and perhaps more natural/complex) kind of environment from the surrounding land covers?

10. Y N Is the wetland currently being used for (or does it have the potential to be used for) the following recreational activities? (Check all that apply.)

ACTIVITY	CURRENT USE	POTENTIAL USE
Nature study/photography	✓	✓
Hiking/biking/skiing		
Hunting/fishing/trapping		
Boating/canoeing		
Food harvesting		
Others (list)		

11. Y N Is the wetland currently being used, and/or does it have the potential for use for educational or scientific study purposes (circle that which applies)?

Appendix B: Plant Species List

Common Name	Scientific Name	Common Name	Scientific Name
Box elder	Acer negundo	Round-leaved hepatica	Hepatica Americana
Silver maple	Acer saccharinum	Virginia waterleaf	Hydrophyllum virginianum
Sugar maple	Acer saccharum	Touch-me-not	Impatiens capensis
Yarrow	Achillea millefolium	Blue flag iris	Iris shrevei
Maidenhair fern	Adiantum pedatum	Quillwort	Isoetes sp.
Garlic mustard	Alliaria petiolata	Rush species	Juncus sp.
Speckled alder	Alnus rugosa	Duckweed	Lemna minor
Burdock	Arctium minus	Motherwort	Leonurus cardiaca
Wild ginger	Asarum canadensis	Tartarian honeysuckle	Lonicera tatarica
Barberry	Berberis thunbergii	Canada mayflower	Maianthemum canadensis
River birch	Betula nigra	Horsemint	Monarda fistulosa
Paper birch	Betula papyrifera	Sensitive fern	Onoclea sensibilis
Indian plantain	Cacalia plantiginifolia	Interrupted fern	Osmunda claytoniana
Sedge species	Carex architecta	Eastern hophornbeam	Ostrya virginiana
Lakebank sedge	Carex lacustris	Reed canary grass	Phalaris arundinacea
Sedge species	Carex sp.	Woodland phlox	Phlox divaricata
Tussock sedge	Carex stricta	Jack pine	Pinus banksiana
Hickory species	Carya sp.	Red pine	Pinus resinosa
Spring beauty	Claytonia virginiana	White pine	Pinus strobus
Sweet fern	Comptonia peregrina	Mayapple	Podophyllum peltatum
Hawthorn	Crataegus mollis	Jacob’s ladder	Polemonium reptans
Poverty oats grass	Danthonia spicata	Tearthumb	Polygonum sagittatum
Dutchmens britches	Dicentra cucullaria	Eastern cottonwood	Populus deltoides
Deer tongue grass	Dichanthelium sp.	Quaking aspen	Populus tremuloides
Bottlebrush grass	Elymus hystrix	Black cherry	Prunus serotina
Field horsetail	Equisetum arvensis	Bur oak	Quercus macrocarpa
Trout lily	Erythronium sp.	Black oak	Quercus velutina
Leafy spurge	Euphorbia esula	Crowfoot	Ranunculus sceleratus
Black ash	Fraxinus nigra	Glossy buckthorn	Rhamnus frangula
Green ash	Fraxinus pennsylvanica	Raspberry	Rubus allegheniensis
bedstraw	Galium aparine	Black willow	Salix nigra
Cranesbill	Geranium maculatum	Bloodroot	Sanguinaria canadensis

Common Name	Scientific Name	Common Name	Scientific Name
Witch hazel	Hamamelis virginiana		
Smooth goldenrod	Solidago gigantea		
Skunk cabbage	Symplocarpus foetidus		
Dandelion	Taraxacum officinale		
Basswood	Tilia Americana		
Starflower	Trientalis borealis		
Snow trillium	Trillium nivale		
Narrow-leaved cattail	Typha angustifolia		
American elm	Ulmus Americana		
Stinging nettle	Urtica dioica		
Common mullein	Verbascum thapsus		
Arrowwood	Viburnum dentatum		
Wooly blue violet	Viola sororia		
Riverbank grape	Vitis riparia		
Prickly ash	Xanthium americanum		