

Region WCR **County** LACROSSE **Report Date** 12/1994 **Classification** LFF
Water Body: Pleasant Valley Creek - Wetland Trib
Discharger: Maple Grove Estates SD

If stream is classified as Limited Forage Fish (LFF) or Limited Aquatic Life (LAL), check any of the following Use Attainability Analysis factors that are identified in the classification report:

- Naturally occurring pollutant concentrations prevent the attainment of use
- Natural, ephemeral, intermittent or low flow conditions or water levels prevent the attainment of the use, unless these conditions may be compensated for by the discharge of sufficient volume of effluent discharges without violating State water conservation requirements to enable uses to be met
- Human caused conditions or sources of pollution prevent the attainment of the use and cannot be remedied or would cause more environmental damage to correct than to leave in place
- Dams, diversions or other types of hydrologic modifications preclude the attainment of the use, and it is not feasible to restore the water body to its original condition or operate such modification in a way that would result in the attainment of the use
- Physical conditions related to the natural features of the water body, such as the lack of a proper substrate, cover, flow, depth, pools, riffles, and the like, unrelated to water quality, preclude attainment of aquatic life protection uses
- Controls more stringent than those required by sections 301(b) and 306 of the Act would result in substantial and widespread economic and social impact

Supporting Evidence in the report (include comments on how complete/thorough data is)

- Biological Data (fish/invert)
- Chemical Data (temp, D.O., etc.)
- Physical Data (flow, depth, etc.)
- Habitat Description
- Site Description/Map
- Other: photos

Historical Reports in file:

- 12/23/94 - Paul LaLiberte
- 4/6/1978 - Terry moe, et. al
- *10/12/88 Paul LaLiberte

Additional Comments/How to improve report:

- Is this a ~~season~~ class'n? - does this need to be default LAL?
- WWSF or LFF?
- check w/ region for more recent data?
- find out what limiting factor really is -- is it controllable?

DATE: Tuesday September 14, 2004

FILE REF: [Click [here](#) and type file ref.]

TO: File

FROM: Laura Bub

SUBJECT: 9/13/04 WCR Field Session summary

On Monday September 13, 2004, I attended a field session featuring several sites in the La Crosse area. Regional staff participating in the session were: Dan Helsel, Paul LaLiberte, Cindy Koperski, Mark Hazuga, Ken Schreiber, Pat Oldenburg, Judy Hayducsko, and Charlie Cameron. Over the course of the day, we visited three different sites. The following narrative summarizes some observations from each of the sites.

Maple Grove Country Club

The country club and adjacent property (including residential subdivision) have their own treatment facility. Adjacent to the country club property is a wetland area (degraded) and then Pleasant Valley Creek beyond the wetland. Not far beyond the creek is Interstate 90.

Paul LaLiberte originally classified the stream in 1988, prior to the construction of the treatment facility. At that time, Paul recommended that the treatment be directed to Pleasant Valley Creek via a pipe directly to the flowing water. This was done in an effort to protect the wetland area from degradation. When Paul checked back at the facility in 1994, he realized that rather than pipe effluent to the stream, the treatment plant dug a ditch through the wetland, and discharged their effluent to the ditch. At this point in time, the damage to the site had already been done.

Pleasant Valley Creek appeared to be somewhat prohibited by wetland grasses/plants. Biologists guessed that some of the hydrologic modifications to the site could be due to a change in beaver activity.

Maple Grove Country Club is currently not listed in NR 104, and is therefore considered to have the default classification of Fish and Aquatic Life (WWSF). This site is proposed to be classified as LFF when NR 104 is revised.

Rockland WWTP

This site is an existing discharger that discharges to a wetland tributary to the La Crosse River. The interesting aspect of this site was the splitter box that had been installed. This box effectively split the effluent discharge leaving the plant, and routed it to two separate locations in/near the wetland in order to minimize channelization within the wetland. The splitter box appeared to serve its purpose, as it was very difficult to even determine where one of the discharge points was located at (the original of the two discharge points was more easily found).

Currently this site is listed in NR104 as LAL, and has been recommended for an LFF designation at such time that NR104 is revised.

Warrens WWTP

Warrens WWTP is currently discharging to groundwater. They are looking at alternatives for a surface water discharge, and are currently exploring several different options. The options included:



- Small tributary. Did not have water first time it was visited, but had water at this visit. Previous fish shocking revealed the presence of Sunfish (?)
- Large wetland/open water area. Adjacent to Cranberry bogs. Water is deep and obviously fish and aquatic life
- Tributary flowing through wooded area. Shocked several times and no fish. Appears as though the stream has a lot of iron present. Biologists guessed that this might be causing the lack of fish. Guessed that the stream would probably be LAL, due to (?) naturally occurring iron. An LAL class'n would potentially be less desirable to a discharger b/c lower NH₄ limits would be possible, however effluent limit calculators have said that, depending on decay distance, it could be possible that NH₄ limits might not actually be any less restrictive. It was also recommended that biologists try and determine the amount of Iron actually in water. It was also recommended that biologists verify pH, as well as decay distance.
- Wetland immediately adjacent to WWTP. This is a nice wooded wetland area that is not degraded. Dischargers have been told that that site can only be used if it is determined that the rest of the sites are not "practicable." Previous discussions with dischargers have indicated that this may be an attractive discharge option, due to its proximity to the treatment plant.

WATER QUALITY STANDARDS AND NR103 REVIEW
OF WETLAND TRIBUTARY TO PLEASANT VALLEY CREEK
RECEIVING WATER FOR TREATED WASTEWATER FROM
MAPLE GROVE ESTATES SANITARY DISTRICT

December 23, 1994

Paul La Liberte

The most recent classification of the receiving water for this facility was done in 1988, before the facility was built. The initial discharge permit was granted in 1990. NR103, Wisconsin Administrative Code, promulgated in 1991, mandates evaluation of the permitted discharge for impacts to wetlands when re-issuing the permit. As part of routine re-issue of a WPDES permit, and in conformance with the federal requirement for a periodic review for compliance with water quality standards, an evaluation was conducted.

Maple Grove Estates Sanitary District is a country club including a golf course, motel, restaurant and residential dwelling complex. It has its own package WWTP designed to treat 35,000 gpd initially and 70,000 gpd eventually. Current WWTP flow is 2,100 gpd on average with a maximum of about 10,000 gpd. The WWTP is located adjacent to a floodplain wetland in the LaCrosse River valley.

The wetland near the WWTP was formerly part of a large wetland complex adjacent to the La Crosse River. The construction of a railroad through the river valley many years ago confined the La Crosse River to the north and prevented it from flowing into the study area. Large remnant oxbows suggest that the LaCrosse River flowed through the study area prior to the railroad's existence. Construction of Interstate Highway 90 in the 1960s isolated the 50 acres of wetland adjacent to the Maple Grove Estates property from the rest of the floodplain. The isolated wetland receives flow from the east via Pleasant Valley Creek and drains west to Bostwick Valley Creek. As part of highway construction, this drainage was directed through the study area down a ditch along I90. A culvert under I90 did not appear to carry any flow to or from the north under the conditions present during the 1988 and 1994 inspections. Flow through the culvert to the north was reported during spring high water in 1978.

The wetland consists of approximately 25 acres of wet meadow, 15 acres of floodplain forest, eight acres of shallow marsh, two acres of shallow open water and patches of shrub-carr. Distribution of these wetland types is determined by the location of old oxbow channels and fill placed during construction of the golf course and I90. A springpond on the golf course property, which appears to be a portion of an old oxbow channel, flows into Pleasant Valley Creek.

Pleasant Valley Creek carries a heavy sediment load as a result of erosion off heavily pastured steep slopes in the watershed. The lack of gradient in the wetland causes the sediment to be deposited. In 1988, this deposition was apparently taking place downstream from the confluence of the creek and the golf course springpond. The confluence occurred at a low spot in the constructed creek ditch. By 1994, sediment deposition had progressed upstream, forming a delta at this junction, backing the creek up toward the

springpond. The creek then found the old oxbow channel and changed course. The creek had reportedly flowed down the oxbow in the past, especially during periods of high flow. As the sediment continues to be deposited in the wetland, further stream flow shifts between the constructed creek channel and the oxbow can be anticipated.

One functional and one remnant beaver dam were present in 1994. The functional dam increased water levels by about one foot and was located at the downstream end of the study area, below the I90 culvert. While beaver dams can be considered a "natural" phenomenon, their current location is fostered by the presence of I90.

The 1988 stream classification report recommended: "To minimize the hydrologic effects to adjacent wetlands, any discharge from Maple Grove Country Club should be directed to an existing, flowing stream channel as opposed to discharge to a wetland directly." The intent of this recommendation was to prompt the placement of a pipe along high ground with termination in an existing channel near the ditched Pleasant Valley Creek. Unfortunately, the facility chose to meet this requirement by digging a ditch through the wetland and terminating it at Pleasant Valley Creek. This actually impacted the wetland more than would have occurred had the pipe been terminated next to the WWTP. It is possible that the construction of the effluent ditch made it easier for Pleasant Valley Creek to change course. The beaver dams may also have played a role in the stream diversion by promoting sedimentation in the dredged channel along the highway.

The combination of influences from the railroad, I90, agricultural land use, beaver activity and physical modifications at the golf course have highly modified the wetland from its original condition. The biggest current threat to wetland functional values is sedimentation. The other influences merely determine where the sedimentation occurs.

Unless WWTP flow increases, vegetative encroachment and sedimentation will likely close in the dredged effluent channel. The channel should not be reopened if this occurs. The WWTP is having problems with the outfall freezing due to low flow. Solutions to this problem should not include further dredging in the wetland other than the previously dredged area along the I90 corridor.

Macroinvertebrate samples were collected in the creek channel immediately upstream and downstream from the confluence with the effluent ditch (see map). The samples had Hilsenhoff Biotic Index ratings of 7.1 above and 7.5 below the confluence. Both samples indicate fairly poor water quality with significant organic pollution. This would be expected, given the land use problems upstream. A sample collected in 1988 had a Biotic Index of 5.9, indicating fair water quality. The drop in the Biotic Index and the observed sedimentation problems suggest that land use impacts along Pleasant Valley Creek are getting worse over time.

In light of the other influences in the study area, the impact of the WWTP discharge on wetland hydrology and biology is very slight. Unless the WWTP significantly increases its flow, it should not adversely affect the wetland.

RECOMMENDED CLASSIFICATION

On a year-round basis, the majority of the 50-acre wetland should be classified limited aquatic life - wetland. During spring high water, much of the wetland could serve as a fish spawning area and would therefore receive a high water (spring) classification of warm water sport fish. The approximately two acre springpond (old oxbow) should be classified warm water sport fish year round in recognition of the existing sport fishery in the "water hazard." In recognition of the forage fishery in the channels flowing through the wetland, these channels should be classified limited forage fish.

NR103 FINDINGS

The wetland has changed since the WWTP was built in the following ways:

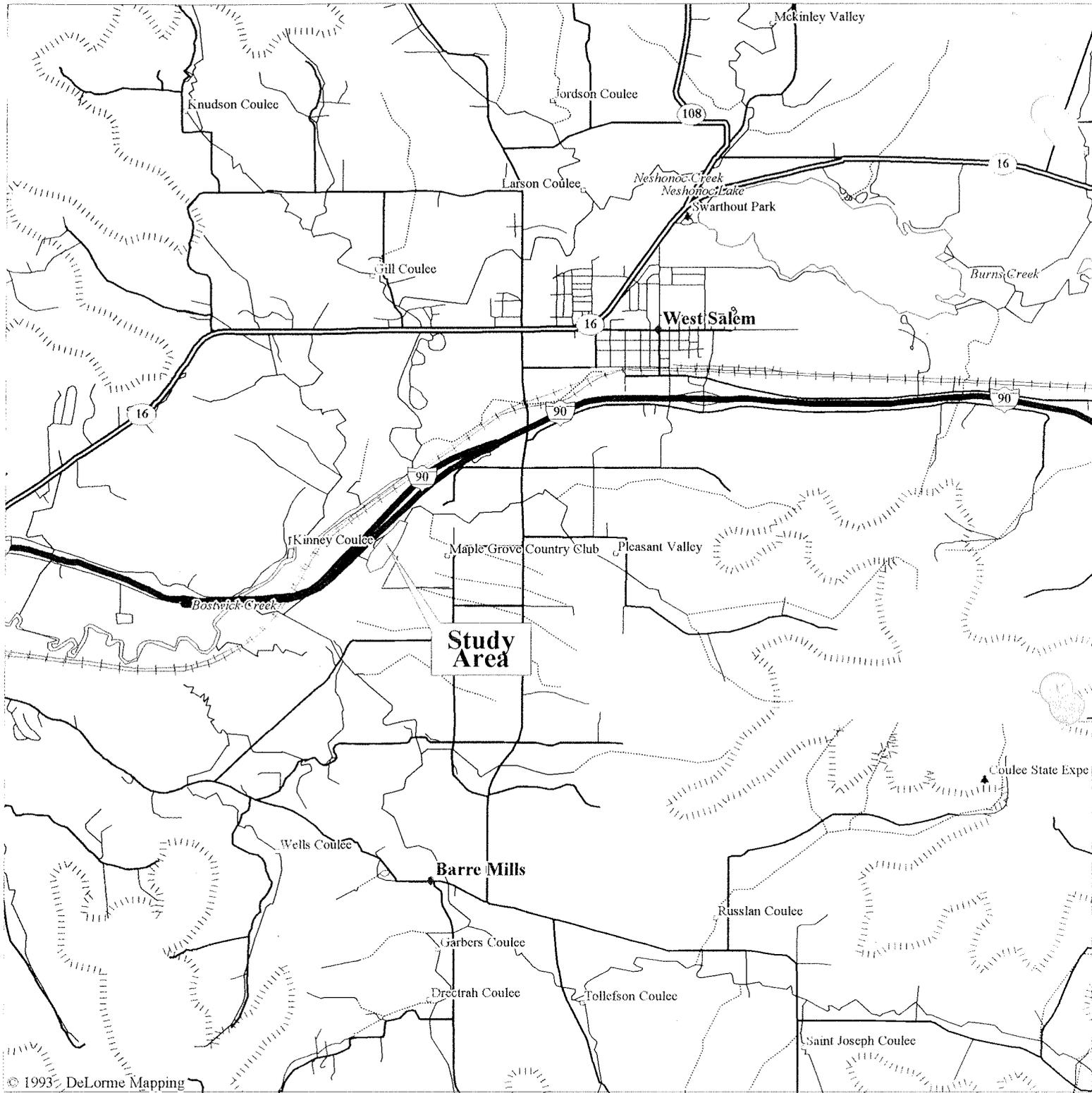
1. A sedimentation problem independent of the WWTP is occurring.
2. A channel was cut through the wetland as part of WWTP construction.
3. Water quality is declining as a result of influences upstream from the WWTP outfall.

Since the sedimentation and water quality problems are independent of the WWTP, they should not preclude WPDES permit compliance with NR103. The constructed effluent channel was the result of a misinterpretation of Department recommendations. Since the channel seems to be closing itself, no further action is recommended. The project should be considered in compliance with NR103 until the point where an increase in design flow is requested. At that time, further evaluation will be necessary using the data collected in 1988 and 1994 as reference points. Photographic slides are on file in the District office for this purpose. Also, further removal of material from the wetland should not be allowed without additional evaluation.

EFFLUENT LIMIT RECOMMENDATIONS

To ensure protection of the forage fishery in the stream channels in the wetland, the effluent limits for Maple Grove Estates should remain those associated with a classification of limited forage fish. During spring high flow, additional water flowing through the wetland should ensure compliance with a warmwater sport fish classification. This level of treatment should prevent adverse effects to the wetland due to effluent quality.

- C. C Cameron - LAX
- D. Pericak - LAX
- J. Ball - WR/2
- P. Trochlell - WR/ 2



© 1993 DeLorme Mapping

LEGEND

- | | | | |
|--|----------------------|--|--------------------|
| | State Route | | State Route |
| | Geo Feature | | Railroad |
| | Town, Small City | | RR Underpassing |
| | Interstate, Turnpike | | River |
| | Population Center | | Intermittent River |
| | Street, Road | | Airfield |
| | Hwy Ramp | | Open Water |
| | Major Street/Road | | Contours |
| | Interstate Highway | | |

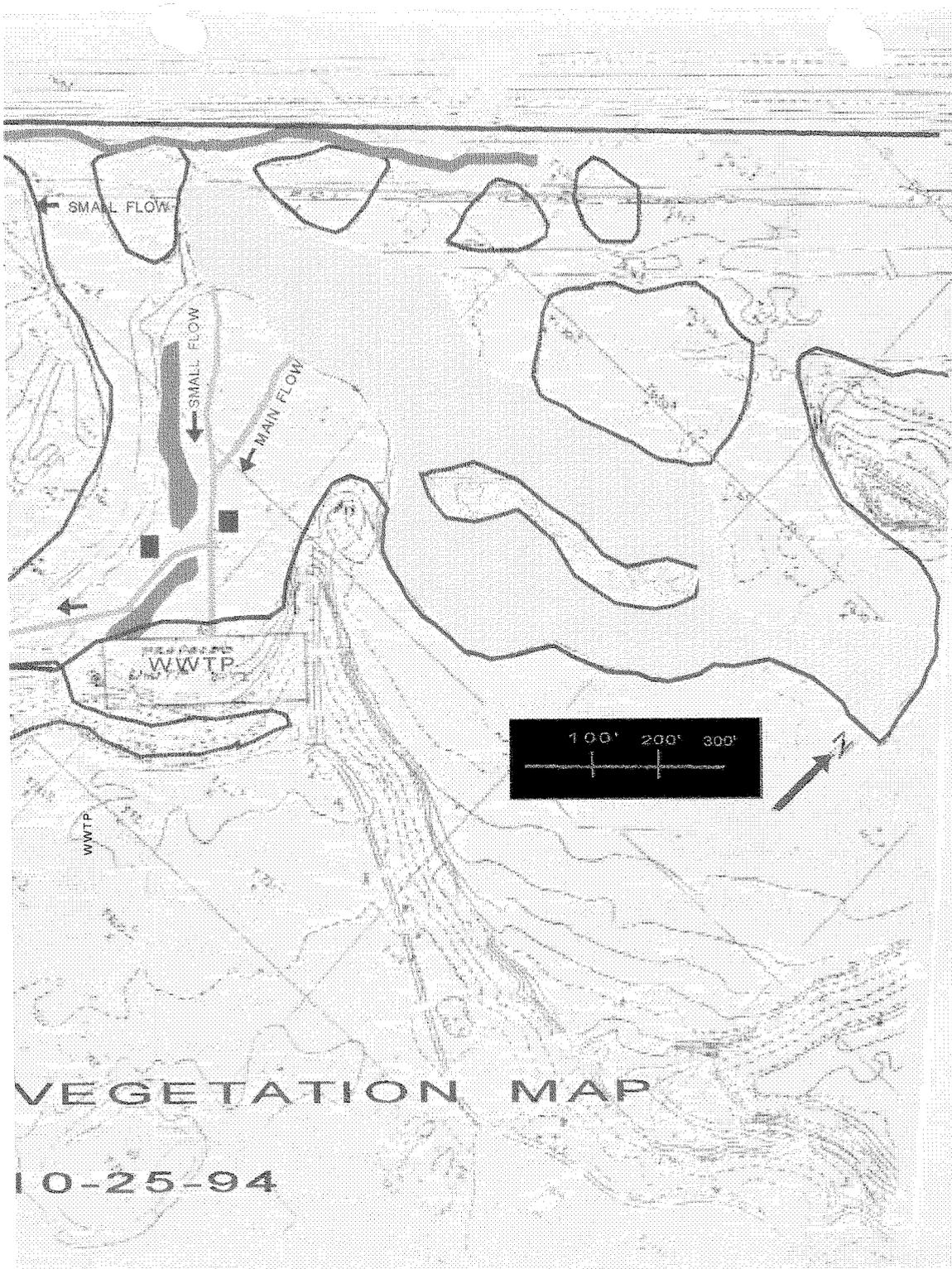
Scale 1:62,500 (at center)

1 Miles

2 KM

Mag 13.00

Tue Dec 06 15:15:32 1994



VEGETATION MAP

10-25-94

Wisconsin Department of Natural Resources

RAPID ASSESSMENT METHODOLOGY FOR EVALUATING
WETLAND FUNCTIONAL VALUES

GENERAL INFORMATION

Name of Wetland/Owner:	Tony Cereso
Location: County	Lacrosse ; 1/4, 1/4, Section 8, Township 6N, Range 6W
Project Name:	Maple Grove Estates Sanitary Dist.
Evaluator(s):	Paul LaLiberte
Date(s) of Site Visit(s):	10-12-88, 10-25-94

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):
both visits during normal stage
most vegetation dormant

WETLAND DESCRIPTION

Wisconsin Wetlands Inventory classification:					
Wetland Type	^{~2Ac} shallow open water	^{8Ac} deep marsh	shallow marsh	seasonally flooded basin	bog
	^{~15Ac} floodplain forest	alder thicket	sedge meadow	coniferous swamp	fen
	^{~25Ac} wet meadow	shrub-carr	low prairie	hardwood swamp	
Estimated size of wetland in acres: 50					

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		X			
Wildlife Habitat		X			
Fishery Habitat		X			
Flood/Stormwater Attenuation			X		
Water Quality Protection			X		
Shoreline Protection					X
Groundwater					X
Aesthetics/Recreation/Education		X			

being overhauled

no recharge

List any Special Features/"Red Flags":

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)?

lots

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? 15-20% depending on beavers

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

- Permanently Flooded *with beavers*
- Seasonally Flooded (water absent at end of growing season) *without beavers*
- 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 highwater 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.

*Pleasant Valley Cr
Bostwick Valley Cr.
LaCrosse R.*

II. VEGETATION

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

	floating leaved community dominated by: <i>Lemna</i>
	submerged aquatic community dominated by:
	emergent community dominated by: <i>Cattail & Burr reed</i>
	shrub community dominated by: <i>Willow, Alder, Dogwood</i>
	deciduous broad-leaved tree community dominated by: <i>???</i>
	coniferous tree community dominated by: <i>NA</i>
	open sphagnum mat or bog <i>NA</i>
	sedge meadow/wet prairie community dominated by: <i>1/3 sedges ~ 2/3 grasses</i>
	other (explain)

B. Other plant species identified during site visit:

Did not spend much time looking at vegetation.

III. SOILS

Since nearly entire site was under water, no soils work was done.

A. SCS 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: _____

• Depth of mottling/gleying: _____

• Depth of A Horizon _____

• Munsell Color of matrix and mottles

-Matrix below the

A horizon (10" depth): _____

-Mottles: _____

V. SURROUNDING LAND USES

A. What is the estimated area of the wetland watershed in acres? 50

B. What are the surrounding land uses? *golf course, interstate highway
agriculture (upstream)*

LAND-USE	ESTIMATED % OF WETLAND WATERSHED
Developed (Industrial/Commercial/Residential)	
Agricultural/cropland	40
Agricultural/grazing	40
Forested	15
Grassed recreation areas/parks <i>golf course</i>	5
Old field	
Highways or roads	
Other (specify)	

VI. SITE SKETCH

see separate map & photos

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:

- a. Cold water community as defined in s. NR 102.04(3)(b), Wis. Adm. Code, (including trout streams, their tributaries, and trout lakes);
- b. Lakes Michigan and Superior and the Mississippi River;
- c. State or federal designated wild and scenic river;
- d. Designated state riverway;
- e. Designated state scenic urban waterway;
- f. 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;
- g. Calcareous fen;
- h. State park, forest, trail or recreation area;
- i. State and federal fish and wildlife refuges and fish and wildlife management areas;
- j. State or federal designated wilderness area;
- k. Designated or dedicated state natural area;
- l. Wild rice water listed in ch. NR 19.09, Wis. Adm. Code;
- m. 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:

Hwy B Tamaracks 1 mile away in Floodplain - Northern wet forest + southern sedge meadow with showy Lady slipper & Hoary Willow.

No sign of tamarack or bog vegetation at project site.

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.)? *moderately diverse - lots of grass*
2. Y N Is the wetland plant community regionally scarce or rare?

Wildlife and Fishery Habitat

1. List any species observed, evidenced (e.g. tracks, scat, nest/burrow, calls), or expected to utilize the wetland: *Beavers, usual wetland wildlife*
2. Y N Does the wetland contain a number of diverse vegetative cover types and a high degree of interspersed 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? _____ %
4. Y N Does the surrounding upland habitat likely support a variety of animal species? *golf course, interstate Hwy*
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 require 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? *sport fish possible, forage fish documented*
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?
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. *Y A*
- 2. **Y** **N** Is the shoreline exposed to constant wave action caused by a 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)? *NA*

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

Aesthetics/Recreation/Education and Science (continued)

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	unlikely	maybe
Hiking/biking/skiing	↓	skiing
Hunting/fishing/trapping	↓	Yes
Boating/canoeing	Yes	Yes
Food harvesting	unlikely	unlikely
Others (list)	Golf	Golf

access is only over golf course

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)?

not that I know of

CLASSIFICATION OF PLEASANT VALLEY CREEK
LA CROSSE COUNTY
BAD AXE - LA CROSSE RIVER BASIN
(MAPLE GROVE COUNTRY CLUB)

EVALUATION DATE: 10/12/88

BY: PAUL LA LIBERTE

Pleasant Valley Creek and adjacent wetlands near the Maple Grove Country Club, West Salem, Wisconsin, were evaluated to determine the appropriate surface water classification for setting effluent limitations. The country club is proposing to construct a POTW to replace a failing septic system and service a proposed subdivision. Phased construction is planned with an initial design discharge rate of .035 mgd. The facility may eventually discharge .070 mgd. The area was classified by Water Resources Management in 1978 as marginal-wetland.

The USGS map indicates continuous flow in Pleasant Valley Creek adjacent to the country club. This was confirmed by the country club owner, who said the stream flowed all summer despite drought conditions. A stream flow of 1 cfs was measured during this survey and probably represents the normal low flow. The wetlands immediately adjacent to the proposed POTW site contained primarily cattails and lacked standing water. Standing, open water was present near the I-90 culvert, extending about 1000 feet east and 600 feet south. Flow was east to west upstream from the open water wetland. No velocity was visible near the I-90 culvert. Creek flow is directed to the culvert toward more wetlands and the La Crosse River, or through a ditch to Bostwick Creek, or both. The gradient of the portion of stream with visible velocity is about 18 feet per mile.

Upstream from the country club, the creek meanders through a heavily pastured valley with extensive stream bank and upland erosion. Adjacent to the country club, the creek follows along I-90 via an excavated straightened channel. Average stream depth is .5 feet, and width is 4 feet from the vicinity of green #11 downstream to a point 600 feet below the confluence with the golf course tributary. Below this point, stream width and depth increase and stream bottom shifts from sand to silt and detritus. The land adjacent to the stream is wooded and emergent vegetation wetlands near the golf course. The owner apparently has plans to clear the woody vegetation from the higher elevations in the vicinity of greens 5 and 11.

Pleasant Valley Creek aquatic habitat was rated using the procedure of Ball. The score was 216 on a scale of 58-254 which indicates poor habitat. Aquatic macroinvertebrate habitat is confined largely to debris and riparian vegetation. The primary limiting factor is the sedimentation of almost all available habitat. Stream straightening and extreme stream bank and upland erosion in the watershed certainly contributed to this problem.

A D-framed net was used to collect macroinvertebrates from Pleasant Valley Creek. While 20 taxa were found, 57% of the sample consisted of four species. *Simulium vittatum* and *Oligochaetes* were the most abundant taxa. The Hilsenhoff Biotic Index was 5.9 on a scale 0-10, which indicates fair water quality with fairly significant organic pollution. The most obvious source of upstream organic pollution is a barnyard and heavily used pasture near Highway B.

Fish populations were surveyed using a backpack electrofishing gear and visual observations. Approximately 400 feet of Pleasant Valley Creek was surveyed. Fish were not abundant, but some tolerant forage fish were present (see attached map and table). Carp were observed near the I-90 culvert in water too deep for our electrofishing equipment. A 150-foot segment of the country club tributary was also surveyed. In addition to tolerant forage fish, young of the year bluegill and largemouth bass were found, suggesting sport fish reproduction in the country club ponds (water hazards).

Based on this survey, the country club tributary should be classified as warm water fish and aquatic life (use class B) in recognition of the existing fishery. Pine Valley Creek should be classified as intermediate fish and aquatic life (use class D) in recognition of adequate flow, fair water quality, poor habitat, and an existing tolerant forage fishery. While implementation of "best management practices" for manure handling and erosion control would no doubt improve aquatic habitat and water quality in the upper reaches of Pleasant Valley Creek, improvements would probably not extend into the impounded reach adjacent to I-90.

Effluent limits for discharge to Pleasant Valley Creek should conform to NR 104.02(3)(a), Wisconsin Administrative Code. To minimize the hydrologic effects to adjacent wetlands, any discharge from Maple Grove Country Club should be directed to an existing, flowing stream channel as opposed to discharge to a wetland directly. Discharge to the golf course tributary should be subject to effluent limitation for protection of warm water sport fish.

Enc.

c: → D. Schuettpelz - WR/2
S. Smith - WW/2
B. Erickson - LAX
K. Wright - LAX

WR/PL010.sz

Maple Grove Country Club - Fish Data

Sample from trib. flowing through golf course & last pond

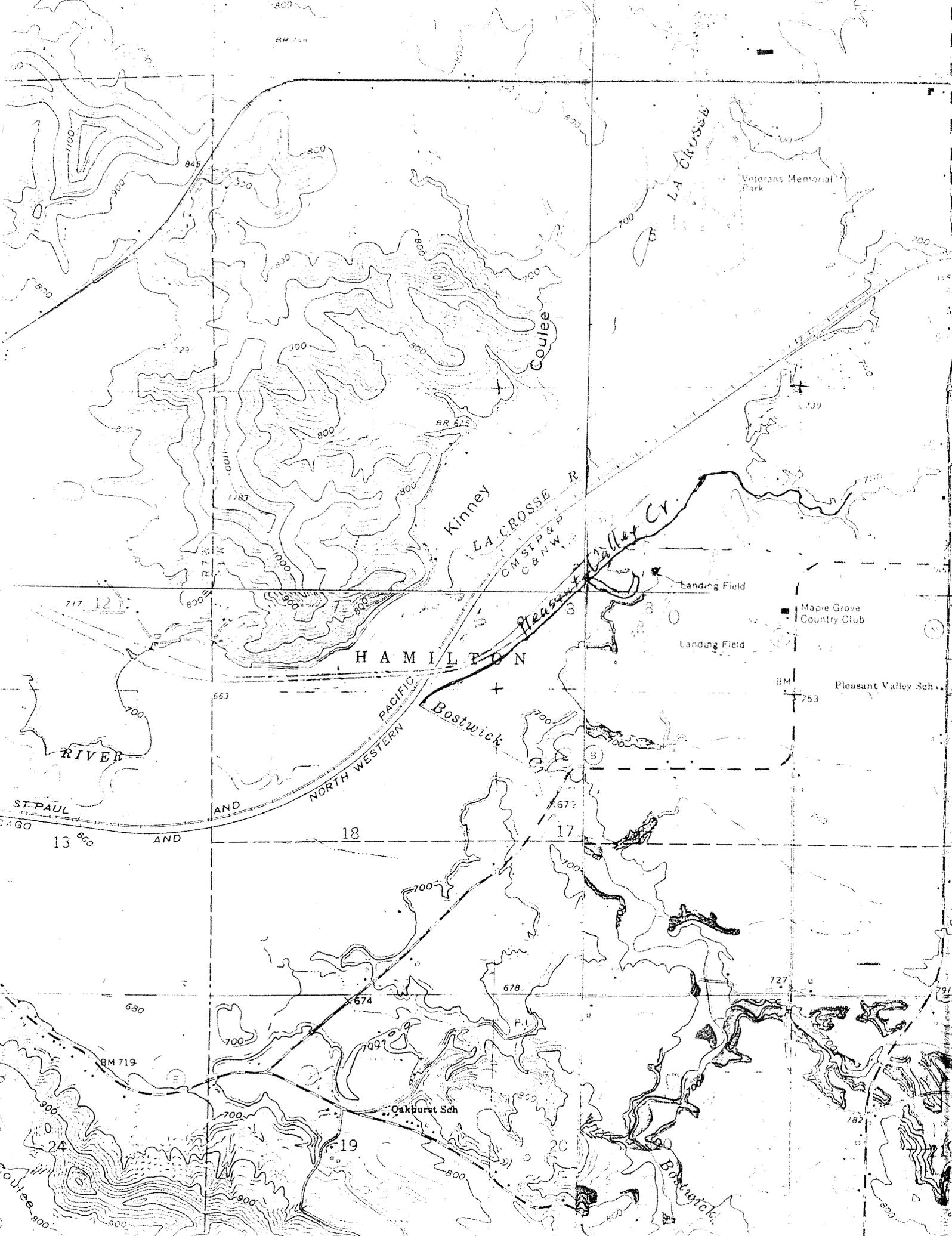
	Classification
3 adult bluegill	S
3 .5-1" bluegill	S
3 largemouth bass (2-3")	S
4 bluntnose minnow	T
1 white sucker (4")	T
3 sand shiner	T
1 mimic shiner	?

Sample from Pleasant Valley Creek

10 Johnny darter	T
3 mimic shiner	?
50 sand shiner	T
19 bluntnose minnow	T
1 white sucker	T
1 brassy minnow	T

S = sport
T = tolerant

WR/PL011



BR 745

Veterans Memorial Park

Coulee

Kinney

LA CROSSE R

CM STP & N W

Pleasant Valley Cr.

Landing Field

Maple Grove Country Club

Landing Field

Pleasant Valley Sch.

HAMILTON

PACIFIC

NORTH WESTERN

Bostwick Cr.

RIVER

ST. PAUL

AND

18

17

AND

13

19

Oakhurst Sch

727

678

673

700

674

680

BM 719

700

800

800

782

800

900

900

24

Coulee

Pleasant Valley Creek

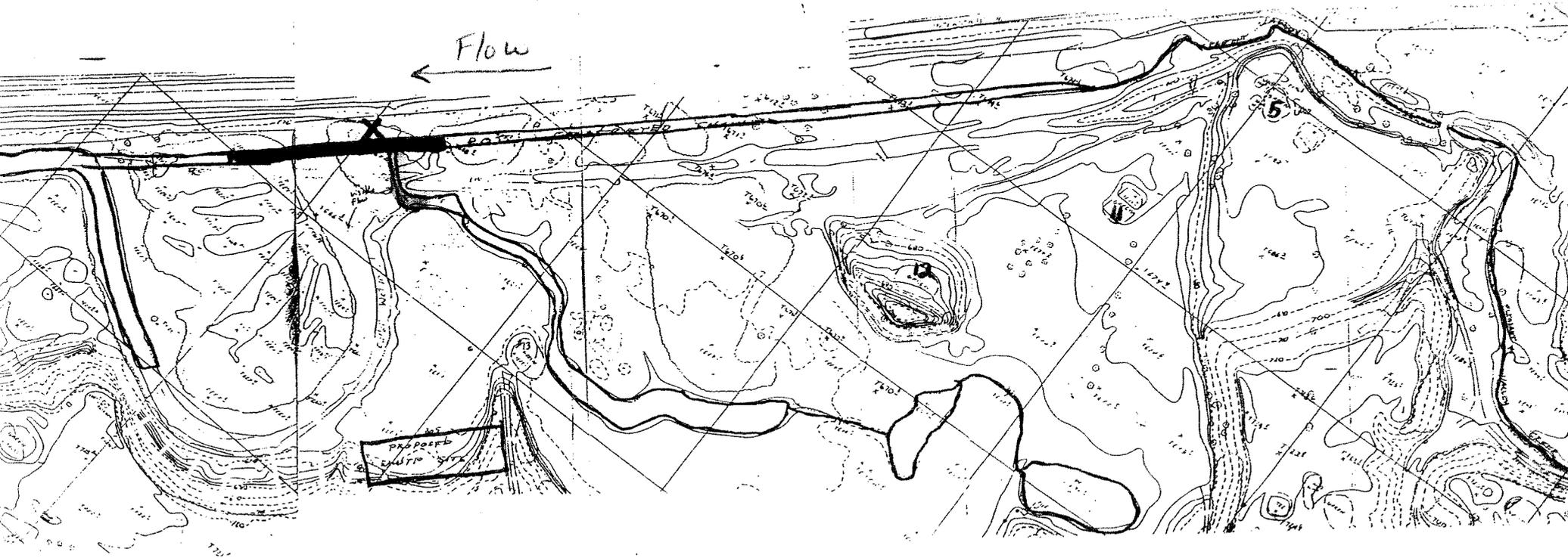


Adjacent to Golf Course



@ Hwy B

Scale 1" = 300'



- X Macroinvertebrate Sample
- █ Pleasant Valley Cr. Fish Sample
- ▨ Golf Course Trib. Fish Sample

WEST CENTRAL DISTRICT District Biotic Index Report

HBI 5.939 Rep1 Rep2 Rep3 NOV 11 1988

Sample ID # 881012-32-01 Waterbody Name PLEASANT VALLEY CREEK
Water Temp (Celsius) 5.0 Dissolved Oxygen (mg/l)
Sample Location: S 8 T16N R 6W Master Waterbody #
Project Name MAPLE GROVE SSC Storet Station #
Ave. Stream Width (Ft.) at Site 4.0 Ave. Stream Depth (Ft.) at Site 0.5
Collector LA LIBERTE, P. Field # 01 Rep 1
Measured Velocity (fps) 1.40 1.75
Est. Velocity (fps)

Sorter DIMICK, J.
Est % of sample sorted 4
Taxonomist DIMICK, J. Sampled Habitat
Location Description 30' BELOW CONFLUENCE WITH STREAM 1. Riffle
FROM GOLF COURSE POND

Est. Time Spent Sampling (Min.) 20

Sampling Device 1. D Frame

Substrate at Site Location (%)
0.0 Bedrock 0.0 Rubble 75.0 Sand 10.0 Clay 0.0 Muck
0.0 Boulders 0.0 Gravel 10.0 Silt 0.0 Detritus 5.0 Debris/Veg

Substrate Sampled (%) (Same as above No)
0.0 Bedrock 0.0 Rubble 0.0 Sand 0.0 Clay 0.0 Muck
0.0 Boulders 0.0 Gravel 0.0 Silt 0.0 Detritus 99.9 Debris/Veg

Aquatic Vegetation 10 % of Total Stream Channel at Sampling Site

Observed Instream Water Quality Indicators (Perceived WQ)

Table with 4 columns: Indicator, Not Present, Insig-nificant, Sig-nificant, Comments. Rows include Turbidity, Chlorine or Toxic Scour, Macrophytes, Filamentous Algae, Planktonic Algae, Slimes, Iron Bacteria.

Factors Which May Be Affecting Habitat Quality

Table with 2 columns: Factor, Rating. Rows include Sludge Deposits, Silt and Sediment, Channel Ditching, Down/Up Stream Impoundment, Low Flows, Wetlands.

Pollutant Sources

Table with 2 columns: Source, Rating. Rows include Livestock Pasturing, Barnyard Runoff, Cropland Runoff, Tile Drains, Septic Systems, Stream Bank Erosion, Urban Runoff, Construction Runoff, Point Source, Other.

Sample ID # 581212-32-01 Waterbody Name Pleasant Valley Creek
Y Y M M D D Cnty Field #

Water Temp (Celsius) 5.0 Dissolved Oxygen (mg/l) _____

Sample Location: 8 16N 6W Master Waterbody # _____
1/16 1/4 Sec. Tn., Rng.

Project Name Maple Grove SSC Stret Station # _____

Ave. Stream Width (Ft.) at Site 4.0 Ave. Stream Depth (Ft.) at Site _____

Collector _____ (Last Name, First Initial) Field # 01 Rep 1 Rep 2 Rep 3
Measured Velocity (fps) _____

Sorter Dimick J Est. Velocity (fps) V. Slow (<0.2)
Slow (0.2-0.5)

Est. % of sample sorted 4 Moderate (0.5-1.5)
Fast (1.5- >)

Taxonomist Dimick J Taxonomist _____

Location Description 30' below confluence in stream from Golf course Pond Sampled Habitat: 1 Riffle 2. Run
3. Pool 4. Lake

Sampling Device: 1. D Frame, 2. Artificial Substrate, 3. Surber, 4. Other _____ Est. Time Spent Sampling (Min.) 20 min

Substrate at Site Location (%)
Bedrock _____ Rubble (2.5-10.0" dia.) 75 Sand _____ Clay 2 Muck _____
Boulders (10.0" dia.) _____ Gravel (0.1-2.5" dia.) 10 Silt _____ Detritus _____ Debris/Veg 5

Substrate Sampled (%) (Same as above _____)
Bedrock _____ Rubble (2.5-10.0" dia.) _____ Sand _____ Clay _____ Muck _____
Boulders (10.0 dia.) _____ Gravel (0.1-2.5" dia.) _____ Silt _____ Detritus 100 Debris/Veg _____

Aquatic Vegetation 2 % of Total Stream Channel at Sample Site

Observed Instream Water Quality Indicators (Perceived WQ: Excellent, Good, Fair, Poor)

	Not Present	Insignificant	Significant	Comments
Turbidity	1	2	3	
Chlorine or Toxic Scour	1	2	3	
Macrophytes	1	2	3	
Filamentous Algae	1	2	3	
Planktonic Algae	1	2	3	
Slimes	1	2	3	
Iron Bacteria	1	2	3	

Factors Which May Be Affecting Habitat Quality

	Not Present	Insignificant	Significant	Comments
Sludge Deposits	1	2	3	
Silt and Sediment	1	2	3	
Channel Ditching	1	2	3	
Down/Up Stream Impoundment	1	2	3	
Low Flows	1	2	3	
Wetlands	1	2	3	

Pollutant Sources

	Not Present	Insignificant	Significant	Comments
Livestock Pasturing	1	2	3	upstream 1/2 mi.
Barnyard Runoff	1	2	3	"
Cropland Runoff	1	2	3	
Tile Drains	1	2	3	
Septic Systems	1	2	3	
Streambank Erosion	1	2	3	upstream 1/2 mi.
Urban Runoff	1	2	3	
Construction Runoff	1	2	3	
Point Source (Specify Type)	1	2	3	
Other (Specify)	1	2	3	

*** WEST CENTRAL DISTRICT DISTRICT BIOTIC INDEX REPORT ***

SAMPLE ID# 881012-32-01

PAGE 2

***	TAXA	***	TAXONOMIC	TOL	ORGANISM	ORGANISM			
		SPECIES	KEY	VAL	ID	COUNT	REP1	REP2	REP3
			USED						
EPHEMEROPTERA									
BAETIDAE									
	BAETIS	FLAVISTRIGA	*1	4.00	02010104	4	0	0	0
		POOR SPECIMEN	*1		02010115	3	0	0	0
CAENIDAE									
	CAENIS		*1	7.00	02030200	7	0	0	0
HEPTAGENIIDAE									
	HEPTAGENIA	DIABASIA	*1	3.00	02060301	3	0	0	0
ODONATA									
CALOPTERYGIDAE									
	CALOPTERYX	MACULATA	*2	5.00	03020102	1	0	0	0
TRICHOPTERA									
BRACHYCENTRIDAE									
	BRACHYCENTRUS	OCCIDENTALIS	*3	1.00	04010104	3	0	0	0
HYDROPSYCHIDAE									
	HYDROPSYCHE	BETTENI	*4	6.00	04040201	2	0	0	0
COLEOPTERA									
DRYOPIDAE									
	HELICHSUS	LITHOPHILUS	*5	5.00	07010101	1	0	0	0
LAMPYRIDAE									
			*1		07100000	1	0	0	0
DIPTERA									
CERATOPOGONIDAE									
	PROBEZZIA		*1	6.00	08030600	2	0	0	0
CHIRONOMIDAE									
	CHAETOCLADIUS	SP.A	*6	5.00	08050503	1	0	0	0
	LIMNOPHYES		*6	8.00	08053100	1	0	0	0
	MICROPSECTRA		*1	7.00	08053400	6	0	0	0
	POLYPEDILUM	NR.CONVICTUM	*6	5.00	08055001	3	0	0	0
	RHEOCRICOTOPUS		*1	6.00	08055800	3	0	0	0
	THIENEMANNIELLA		*1	6.00	08056900	13	0	0	0
	RHEOPELOPIA		*6		08058700	3	0	0	0
SIMULIIDAE									
	SIMULIUM	VITTATUM	*3	7.00	08110217	48	0	0	0
TIPULIDAE									
	TIPULA		*1	4.00	08141200	1	0	0	0
AMPHIPODA									
GAMMARIDAE									
	GAMMARUS	PSEUDOLIMNEUS	*7	4.00	09010201	15	0	0	0
OLIGOCHAETA									
			*8		16000000	31	0	0	0
HEMIPTERA									
BELOSTOMATIDAE									
	BELOSTOMA	FLUMINEUM	*1		19060101	1	0	0	0

*** WEST CENTRAL DISTRICT DISTRICT BIOTIC INDEX REPORT ***

SAMPLE ID# 881012-32-01

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*** TAXA ***	*** SPECIES ***	TAXONOMIC KEY USED	TOL VAL	ORGANISM ID	ORGANISM COUNT	REP1	REP2	REP3
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*** TOTALS: *** 153

0

*** BIOTIC INDEX: *** 5.939

0

Taxonomic Key Code References

- *1 Hilsenhoff 1981,82
- *2 Walker 1953
- *3 Hilsenhoff 1985
- *4 Hilsenhoff 1981,86
- *5 Brown 1972
- *6 Hilsenhoff 1981,85
- *7 Holsinger 1972
- *8 Klemm 1985

Stream Pleasant Valley Cr Reach Location Wetland Area Adjacent to I90 Reach Score/Rating Poor
 County Lak Date 10-12-88 Evaluator L. Liberte K. Chryl Classification _____

Rating Item	Category			
	Excellent	Good	Fair	Poor
Watershed Erosion	No evidence of significant erosion. Stable forest or grass land. Little potential for future erosion. 8	Some erosion evident. No significant "raw" areas. Good land mgmt. practices in area. Low potential for significant erosion. 10	Moderate erosion evident. Erosion from heavy storm events obvious. Some "raw" areas. Potential for significant erosion. 14	Heavy erosion evident. Probable erosion from any run off. 16
Watershed Nonpoint Source	No evidence of significant source. Little potential for future problem. 8	Some potential sources (roads, urban area, farm fields). 10	Moderate sources (small wetlands, tile fields, urban area, intense agriculture). 14	Obvious sources (major wetland drainage, high use urban or industrial area, feed lots, impoundment). 16
Bank Erosion, Failure	No evidence of significant erosion or bank failure. Little potential for future problem. 4	Infrequent, small areas, mostly healed over. Some potential in extreme floods. 8	Moderate frequency and size. Some "raw" spots. Erosion potential during high flow. 16	Many eroded areas. "Raw" areas frequent along straight sections and bends. 20
Bank Vegetative Protection	90% plant density. Diverse trees, shrubs, grass. Plants healthy with apparently good root system. 6	70-90% density. Fewer plant species. A few barren or thin areas. Vegetation appears generally healthy. 9	50-70% density. Dominated by grass, sparse trees and shrubs. Plant types and conditions suggest poorer soil binding. 15	<50% density. Many raw areas. Thin grass, few if any trees and shrubs. 18
Bank Channel Capacity	Ample for present peak flow plus some increase. Peak flow contained. W/D ratio <7. 8	Adequate. Overbank flows rare. W/D ratio 8-15. 10	Barely contains present peaks. Occasional overbank flow. W/D ratio 15-25. 14	Inadequate, overbank flow common. W/D ratio >25. 16
Lower Bank Deposition	Little or no enlargement of channel or point bars. 6	Some new increase in bar formation, mostly from coarse gravel. 9	Moderate deposition of new gravel and coarse sand on old and some new bars. 15	Heavy deposits of fine material, increased bar development. 18
Bottom Scouring and Deposition	Less than 5% of the bottom affected by scouring and deposition. 4	5-30% affected. Scour at constrictions and where grades steepen. Some deposition in pools. 8	30-50% affected. Deposits and scour at obstructions, constrictions and bends. Some filling of pools. 16	More than 50% of the bottom changing nearly year long. Pools almost absent due to deposition. 20
Bottom Substrate/Available Cover	Greater than 50% rubble, gravel or other stable habitat. 2	30-50% rubble, gravel or other stable habitat. Adequate habitat. 7	10-30% rubble, gravel or other stable habitat. Habitat availability less than desirable. 17	Less than 10% rubble gravel or other stable habitat. Lack of habitat is obvious. 22
Avg. Depth Riffles and Runs	Cold >1' 0 Warm >1.5' 0	6" to 1' 6 10" to 1.5' 6	3" to 6" 18 6" to 10" 18	<3" 24 <6" 24
Avg. Depth of Pools	Cold >4' 0 Warm >5' 0	3' to 4' 6 4' to 5' 6	2' to 3' 18 3' to 4' 18	<2' 24 <3' 24
Flow, at Rep. Low Flow	Cold >2 cfs 0 Warm >5 cfs 0	1-2 cfs 6 2-5 cfs 6	.5-1 cfs 18 1-2 cfs (18)	<.5 cfs 24 <1 cfs 24
Riffle, Run/Bend Ratio (distance between riffles ÷ stream width)	5-7. Variety of habitat. Deep riffles and pools. 4	7-15. Adequate depth in pools and riffles. Bends provide habitat. 8	15-25. Occasional riffle or bend. Bottom contours provide some habitat. 16	>25. Essentially a straight stream. Generally all flat water or shallow riffle. Poor habitat. 20
Aesthetics	Wilderness characteristics, outstanding natural beauty. Usually wooded or un-pastured corridor. 8	High natural beauty. Trees, historic site. Some development may be visible. 10	Common setting, not offensive. Developed but uncluttered area. (15)	Stream does not enhance aesthetics. Condition of stream is offensive. 16

Column Totals: 10 6 46 160

Column Scores E _____ +G _____ +F _____ +P _____ = 216 = Score

MAPLE GROVE COUNTRY CLUB, LA CROSSE COUNTY

Wastewater Receiving Stream Classification

LOCATION: NE $\frac{1}{4}$, SW $\frac{1}{4}$, Section 8, T16N, R6W.

The investigation and classification was performed upon request by Davy Engineering Co., Inc., to determine effluent limits for a proposed facility to serve a new development near the Maple Grove Country Club.

The unnamed creek, Stream 8-9 (Surface Water Resources of La Crosse County, Wisconsin Department of Natural Resources, 1971), in the country club area is highly varied. The upper reaches of the creek are continuous flowing and have a sandy substrate. The general area provides pasture and loafing areas for livestock and is frequented by domestic fowl. This stream condition persists to the beaver dam backwaters.

The creek naturally flowed into the La Crosse River where it approaches Interstate 90; however, railroad construction straightened the La Crosse River, consequently creating an oxbow in the country club area to which the creek now flows. Highway construction created further flow blockage, siltation, and sediment deposit, resulting in marshy areas. A beaver dam marks the transition between flowing stream and the oxbow. Below the beaver dam and in the oxbow, flow is barely detectable during spring high water conditions; fish have been noticed. During summer and fall these waters are stagnant. In winter these waters may be solidly frozen.

At the mouth of the oxbow the water is routed under the interstate by a culvert where it is diffused into marshy land characterized by mixed woody and herbaceous plants including marsh grasses, cattails, dogwood, willows, and tag alders. Muskrat houses are also present.

The proposed discharge site is near the head end of the oxbow below the flowing stream. Thus, it is the downstream wetland area that will have the controlling classification.

Several types of wetlands are present in the general area. They are: Type 1 - seasonally flooded basins or flats, Type 3 - inland shallow fresh marshes, Type 4 - inland deep fresh marshes, Type 5 - inland open fresh water, and Type 6 - shrub swamps (Wetlands of the United States, U. S. Fish and Wildlife Service, Circular 39, 1971).

The entire area is surrounded by Type 1 wetland. The transition area in front of the beaver dam is Type 3. At the mouth of the oxbow where the water diffuses there is Type 4 wetland while the oxbow is Type 5. Type 6 wetlands are common throughout the area.

RECOMMENDATIONS:

The creek up to the marshy area in front of the beaver dam shall be classified continuous fish and aquatic life. The area downstream from the beaver dam shall be classified wetland.

PERSONNEL:

Terry A. Moe - WCD Biologist
Harold Erickson - Environmental Engineer
Ben Fries - Environmental Engineer
Ken Wright - LaCrosse Area Fish Manager (consultation)

Pictures taken at Maple Grove Country Club
Stream Classification Site, April 6, 1978,
During spring runoff - High stream flow
conditions.

Creek #8-9 upstream from
Country Club - looking
downstream.



Stream to wetland transition
in Beaver Dam impounded area -
looking downstream. Beaver
Dam is beyond group of trees to
right to Country Club sign.



Beaver Dam - water below
dam forms head end of old
LaCrosse river oxbow.



Old LaCrosse River oxbow -
taken from Country Club Hill
looking west. Plant site at
bottom of hill (rightside),
discharge point would be in
center of picture, Beaver Dam
(upstream to right), oxbow
continues to south and west
at left.



Downstream end of oxbow where it
approaches I-90 and flows SW to
culvert under I-90. Looking SE
Country Club area is located on
top of hill to left.



Water flow from bottom end of
oxbow (near sign) SW along I-90
to culvert.



Wetland Area on downstream (NW) side of I-90.

Note: Muskrat houses, LaCrosse River is on other side of railroad tracks in background.



Looking Northwest



Looking West



Looking North