not in database

(2186)

Region WCR **County** Clark **Date** 4.24.90 **Classification** LFF

Water Body: North Fork Eau Claire River, Unnamed trib

Discharger: Kaber Foods

If classified as Limited Forage Fish (LFF) or Limited Aquatic Life (LAL), check any of the following Use Attainability Analysis factors that apply:

_____ 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

__X__ 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 included

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

- low flow - esp. during summer
- seasonal high flows limited.
- habitat is fair to poor b/c lack of flow + deposition of fine grained sediments.

Comments:

- It may be assumed that lagoons are leaking
- on several occasions, high strength dairy waste was present in nearby wetland / stream
- good report

(AD-75)

CORRESPONDENCE/MEMORANDUM

STATE OF WISCONSIN

Date: April 24, 1990 *File Ref:* 3200

To: Raber Foods Facility File

File written

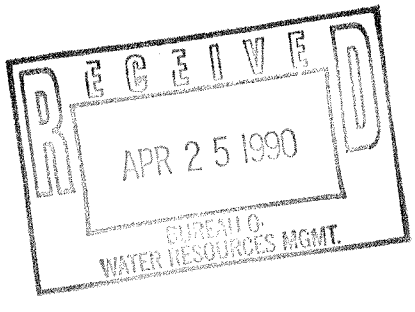
From: Paul LaLiberte Paul

Subject: Water Quality Standards Review for the Raber Tributary to the North Fork Eau Claire River

The last water quality standards review of this stream was done in 1986. Additional site inspections were made in June and July 1988 under drought conditions which differed marketedly from previous visits. As with other water bodies in the area, higher uses were attained in wet years than in dry years. During the drought of 1988, dissolved oxygen down to 3 mg/l and flows down to less than 1 cfs were documented in the adjacent North Fork Eau Claire River. The intermittent stream flowing from Raber Foods to the North Fork Eau Claire River contained a reproducing forage fishery in 1984, but completely dried up in 1988.

To provide protection for the North Fork Eau Claire River, the discharge rate for this facility is limited to a maximum rate of 0.1 mgd. The discharge should be additionally limited to occur only when flow in the river is above 1 cfs. This would preclude discharge under very low stream flow conditions. Stream flow data is available to the facility from the USGS/City of Thorp gauge located nearby. This change in the WPDES permit is currently being processed. At this time, there is no need to change any stream classifications and water quality standards should remain the same.

c: D. Schuettpelz - WR/2
M. Blodgett
G. Hill - WW/2
WR/PL020.sz



Ball

CORRESPONDENCE/MEMORANDUM — STATE OF WISCONSIN

Raber Floods Trib.

DATE: May 12, 1986 File Ref: 3200

TO: Paul LaLiberte - WCD

FROM: Joe Ball - WR/2 JB

SUBJECT: Classification of Raber Tributary to the North Fork, Eau Claire River

Based on your description of habitat and flow (0.1 cfs), I would agree with the intermediate (D) classification.

However, based on the measured flow of 1.5 cfs in October, 1984 and the fish community found in 1984, I have some question about the "D" vs "C" classification. From the data, my first impression is this stream may be more appropriately classified fish and aquatic life; use class "C".

Some additional detail in your report would be helpful:

1. Documentation of habitat conditions, such as actual depth measurements, substrate, instream cover conditions. Photos are very desirable.

2. Fish survey methods, station location(s) and lengths.

JB:bm/S0200886
cc: Greg Hill - WW/2

APPROVED:

D. Schuettpelz: 5/12

Classification of an Unnamed Tributary to the North Fork, Eau Claire River Receiving the Wastewater From Raber Foods, Clark County

Intermediate

by Paul LaLiberte
February, 1986

Drainage Basin - Lower Chippewa (262)

This unnamed tributary to the North Fork, Eau Claire River (referred to as the Raber Tributary in this report) has its origin at a privately owned dam, creating a small impoundment in the SW section 7, T29N, R3W. The stream flows 2 1/4 miles southwest to the North Fork, Eau Claire River. The stream drains about 2.4 square miles of agricultural land. Watershed land use is a mix of pasture and row crops with only a few small, wooded areas. High ground water and pastured grassy wetlands are common. While a small percentage of the Raber Tributary is heavily impacted by cattle, most pasturing appears to be low density.

The base stream flow is low, estimated to be less than 0.1 cfs during summer, and flow probably ceases during dry years. Due to the small watershed area, seasonal high flow in the Raber Tributary is limited. A well-defined stream channel is absent in the 300-yard segment immediately below the impoundment where the stream flows through a wetland. Downstream from the Highway O bridge, the Raber Tributary is confined to a small channel (generally 1-2 feet wide and less than 6 inches deep). Some small pools are created primarily by placement of culverts. During low flow, the water velocity in these pools is negligible. The current U.S.G.S map has the stream channel located incorrectly in two places (corrected on the attached map). Available aquatic habitat was judged as fair to poor based primarily on the lack of flow and deposition of fine-grained sediments in pools and runs.

A small (approximately 5 acres) wetland receives the Raber plant cooling water effluent from the east, and the Raber treatment pond effluent from the south, via a short ditch. The wetland drains north into the Raber Tributary through two road culverts.

Raber Foods, formerly Wild Cherry Cheese Factory, manufactures Swiss and Quark cheeses and discharges an average of 5,000 gpd of processed wastewater. The wastewater is treated and held in a 3-cell aerated lagoon with a total capacity of 2.3 million gallons. Lagoon aerators are operated only during the ice-free season. Since discharge occurs every two years and hydraulic capacity based on existing loading is 460 days, it may be assumed the lagoons are leaking. Discharges from the lagoon to the wetland have occurred in the fall with some years having no discharge. The non-contact cooling water discharge averages approximately 300 gpd and contains no additives.

Water Quality

The water in the Raber Tributary is dark-stained and frequently turbid due to suspended solids. Water chemistry data was collected on six occasions. On three occasions, wastewater from Raber Foods was <u>not</u> entering the stream (8-3-82, 8-15-84, and 10-30-84). Other samples which can be used in determining background water quality are site 1 on 6-4-85, site 4 on 5-20-82, and site 4 on 11-3-82. These data suggest that water quality is good in the spring and fall and that DO concentrations of 2-3 mg/l occur at some locations in the summer.

On 11-3-82, a discharge from the Raber Foods treatment ponds was monitored as it passed through the adjacent wetland and entered the stream below site 4. The low-strength waste had little effect on stream DO.

On 5-20-82 and 6-4-85, high-strength dairy wastes were apparently present in the nearby wetland and stream as evidenced by burned vegetation, slime growths, strong odors of dairy wastes, white turbidity and foam. Low DO water was entering the stream from the wetland below site 1 on 6-4-85 and below site 4 on 5-20-82. As a result, stream DO dropped from 9.6 to 0.9 mg/l on 6-4-85 and from 9.4 to 6.3 mg/l on 5-2-82. The presence of apparent dairy wastes near site 2 on 6-4-85 was thought to be the result of an overflowing lift station.

Biology

The Raber Tributary contains a variety of forage fish consisting primarily of seven species - all classified as tolerant or very tolerant. The remaining five forage species were probably the result of upstream migration from the North Fork, Eau Claire River. Two apparent year-classes of white sucker (length = 1-2 inches and length = 4-5 inches) found on 8-15-84 suggests reproduction in the Raber Tributary. On 6-4-85, minnow fry were observed and turberculate male fathead minnows were collected, further indicating spawning of forage fish. Fish were collected at site 7 on 3 dates and the number of species found, and number of individuals collected, corresponded to the water quality prevailing at the time of collection. Minnows were observed throughout the length of the Raber Tributary. Adult minnow populations appear high only in the pools but minnow fry were observed utilizing the small stream channel.

A few sport fish were found (3 bullheads, 1 pumpkinseed, and 1 3-inch smallmouth bass), probably the result of occasional upstream migration from the North Fork, Eau Claire River. The aquatic macroinvertebrate community was limited due to habitat, and consisted primarily of chironomids and oligochaetes. Extensive growths of filamentous algae were also present seasonally.

Recommended Classification

The wetland which receives the wastewater from Raber Foods is classified as capable of supporting marginal aquatic life (use class E). The wetland drains north into an unnamed, non-continuous tributary to the North Fork, Eau Claire River. The tributary is classified as capable of supporting intermediate aquatic life (use class D) based on the documented presence of a reproducing forage fishery. The North Fork, Eau Claire River has previously been classified as capable of supporting a diverse population of warm-water fish and aquatic life (use class B). Effluent limits for the discharge of treated process wastes from Raber Foods should conform to NR 104.02(3)(b), Wisconsin Administrative Code. These limits should protect the wetland. With the maximum discharge rate of 0.1 mgd specified in the current WPDES permit, assimilation of the wastewater as it flows diffusely 1,000 feet through the wetland and travels 5,000 down the tributary, should ensure that the water quality in all 3 water bodies is protected to an appropriate level.

Attach.
cc: Duane Schuettpelz - WRM/2
Jon Bugenhagen
Greg Hill - WW/2

PLT228

Bibliography

Ball, J. 1982. Stream Classification Guidelines for Wisconsin. Wis. DNR

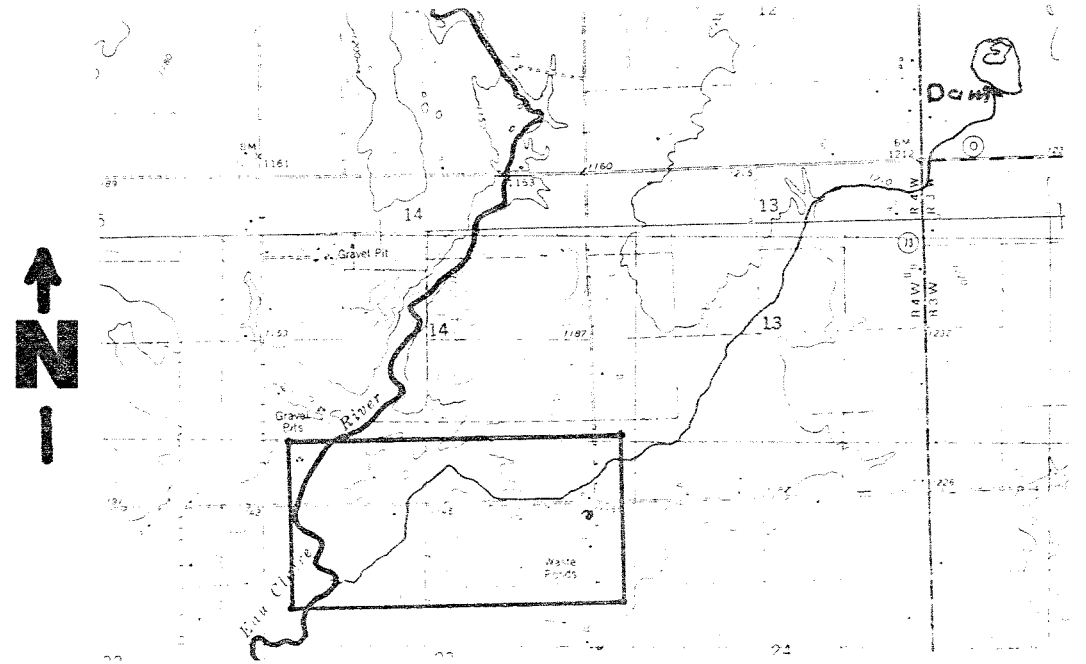
Becker, G. 1983. Fishes of Wisconsin. University of Wisconsin Press, Madison, WI.

LaLiberte, P. and J. Ball. 1986. North Fork, Eau Claire River Water Quality Standards Review. Wis. DNR.

Wis. DNR. 1986. Briefing Memo, Raber Foods, Inc., WPDES #003462-3, Wis. DNR.

Wis. DNR. 1986. Permit to discharge under the WPDES system for Raber Foods, Inc., WPDES #0039462-3, Wis. DNR.

PLT226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Gravel Pit
Gravel Pits
River
Waste Ponds
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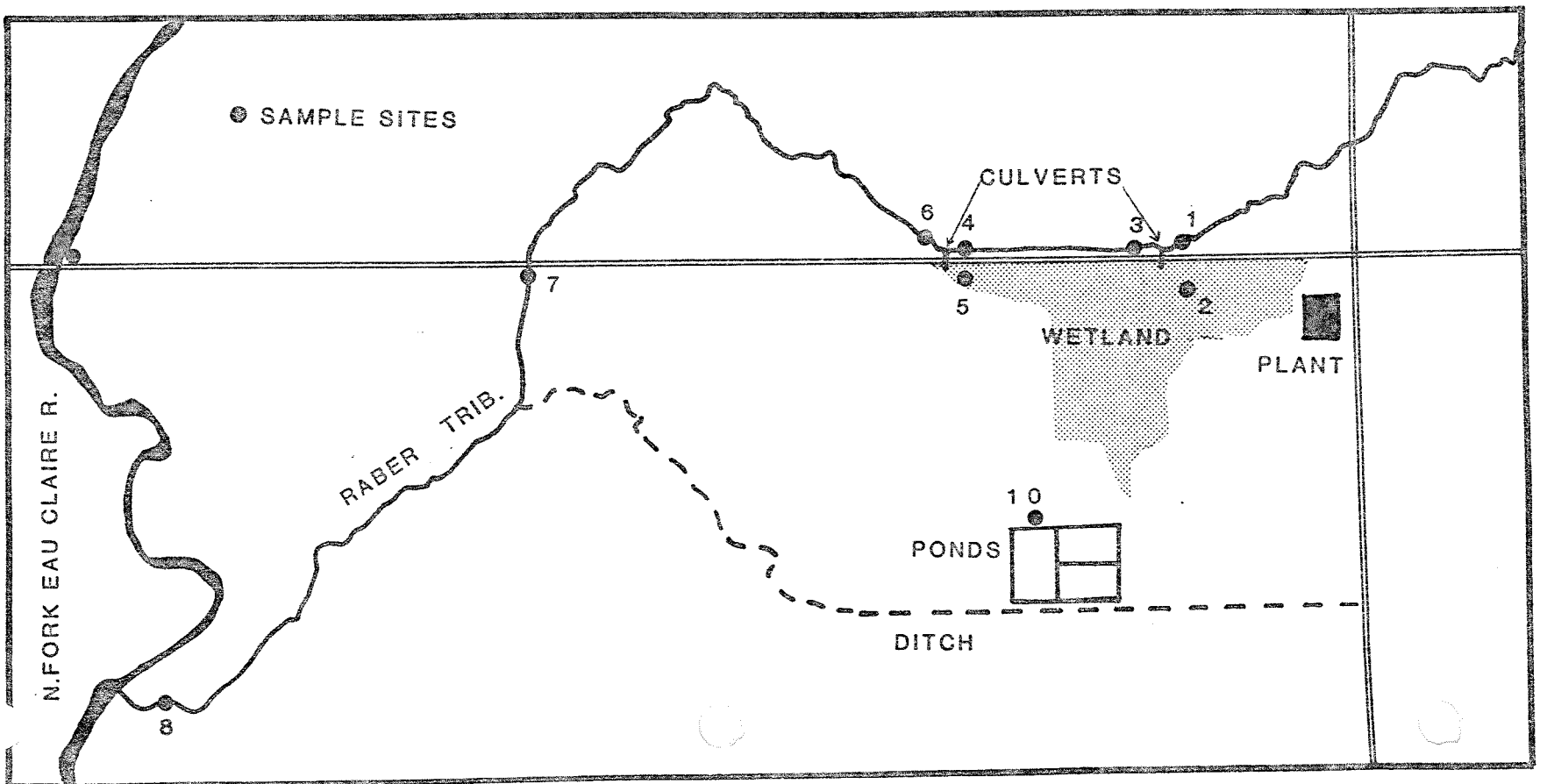
SAMPLE SITES
CULVERTS
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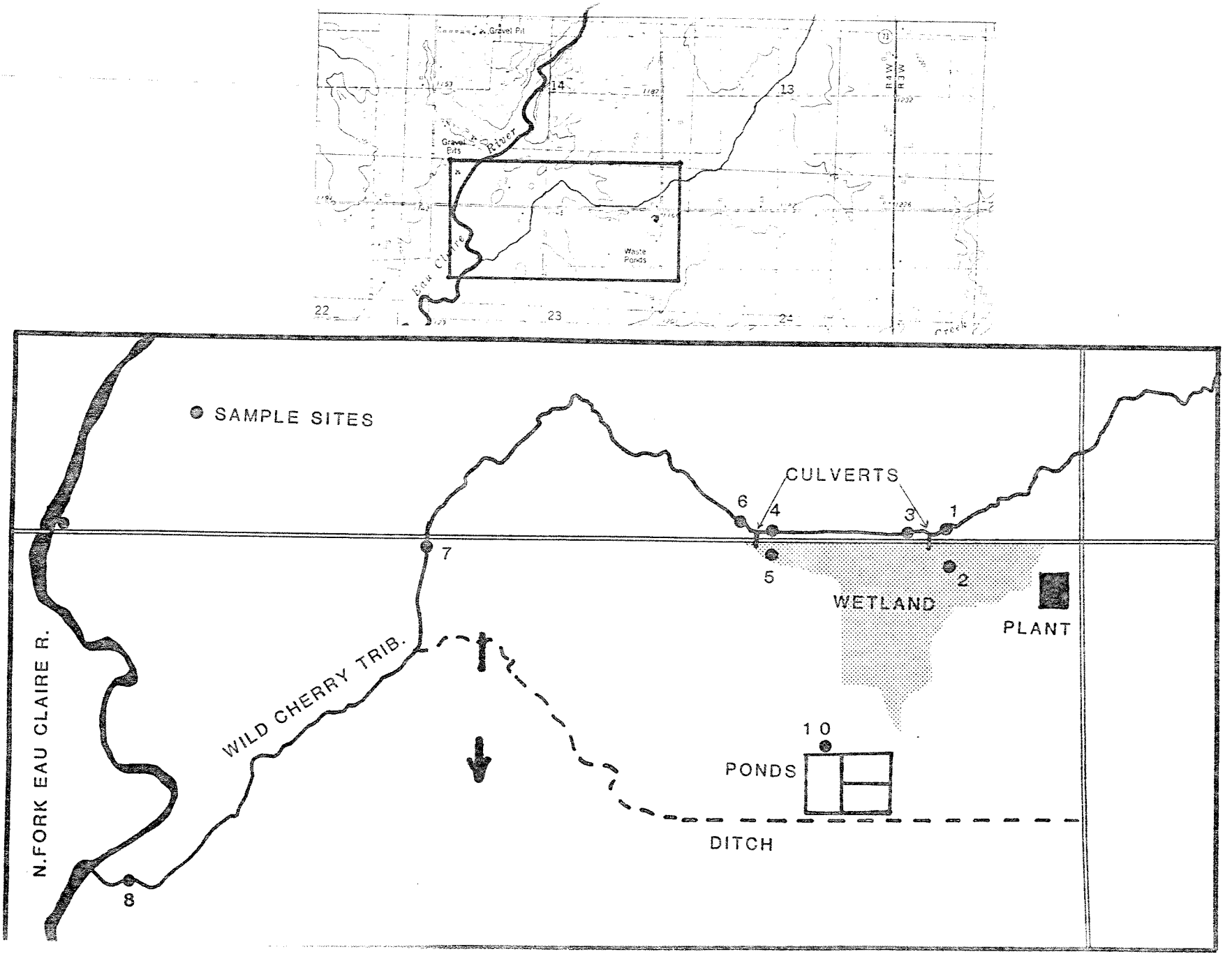
WETLAND
PLANT
10
PONDS
DITCH
RABER TRIB.
N.FORK EAU CLAIRE R.
8


Gravel Pit
14
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R4W
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Gravel Pits
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Waste Ponds
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SAMPLE SITES
CULVERTS
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WETLAND
PLANT
N.FORK EAU CLAIRE R.
WILD CHERRY TRIB.
10
PONDS
DITCH
8

Fish Data

	Wild Cherry Trib.			N. Fork Eau Claire River
	8-15-84	10-3-84	6-4-85	8-15-84
Bigmouth shiner				25
Black bullhead		3		
Blacknose dace	3	1		6
Blackside darter				12
Brassy minnow		3	1	13
Brook stickleback	1	19	2	
Common shiner	20	28	12	99
Creek chub	16	12	5	19
Emerald shiner				5
Fantail darter				9
Fathead minnow	3	5	32	15
Hornyhead chub	2			20
Johnny darter	13	12		8
Largescale stoneroller	4	5		85
Mudminnow	19	18	44	
Northern hogsucker				5
Pumpkinseed		1		
Rainbow darter				23
Rock bass				4
Smallmouth bass	1			3
Southern redbelly dace		8	3	9
White sucker	21	10		27
Total number	103	125	99	387
Species	11	13	7	18

PLT229

Stream Water Quality Data (Results in mg/l unless otherwise indicated)

Site	Date	Time	DO	Temp (°C)	pH(su)	BOD	SS	NH_3-N	Cl	FLow(cfs)
1 - Stream above 1st culvert	6-4-85	-----	9.6	16	7.1					
	8-3-82	1225	6.6	24						
2 - Wetland drainage at 1st cul.	6-4-85	------	1.1	17	6.3					
3 - Stream below 1st culvert	6-4-85	------	5.4	15.3	6.8					
4 - Stream above 2nd culvert	5-20-82	12:50	9.4	18						
	11-3-82	11:25	10.4	6	7.1					
5 - Wetland drainage at 2nd culvert	5-20-82	12:50	0.4	18						
6 - Stream below 2nd culvert	6-4-85	11:10	0.9	16	6.95	>80		4.7	64	
7 - Stream at 3rd culvert	5-20-82	12:57	6.3	18.5						
	8-3-82	12:03	2.8	25						
	11-3-82	11:35	9.6	6						
	6-4-85	11:45	2.8	17	6.95	6.1		0.09	29	
8 - Stream near mouth	8-15-84	09:30	3.5	20	7.15			0.04		*
	10-30-84	10:45	10.9	6	7.3			0.06		1.5
9 - N. Fk. Eau Claire River	5-20-82	12:41	9.2	18						
	8-15-84	09:35	6.2	22	6.75			0.03		2.7
	10-30-84	12:20	11.2	5.5	7.4			0.02		79
10 - Lagoon effluent	11-3-82	11:20	10.6	6	7.3	11	26	3.0	300	

*Flow estimated to be <0.1 cfs

PLT227