

Tribe To W. T. Wain
W. R. M.

Francis Creek Macroinvertebrate Sampling
Addendum to Francis Creek Post

As part of the Francis Creek Post Construction Intensive Survey conducted July 19, 1983, macroinvertebrate samples were collected on March 26, 1984 at the above and end stations. A single sample was collected at the above while duplicates were run at the end station. During the pre-survey a single macroinvertebrate sample was collected at the end station.

Problems existed in sampling the stream at the above station. Stream widths of < 3 feet and little habitat were found. As a result, < 100 organisms were collected. The Biotic Index for the above was 3.57 (see Table 1). This is not reliable due to the number of organisms. The Biotic Index at the end station was 2.29 and 2.17 for the original and the replicate. The index at the end station indicates good to very good water quality.

No change was found at the end station even though the Francis Creek POTW does not have a surface water discharge.

Submitted
By
Michael Russo
Michael Russo

SIN: _____ STREAM: Francis Creek COUNTY _____ SAMPLE NO. _____
PRIMARY STATION NO. _____ LOCATION: 1/4, 1/4, S, T, N, R _____ WATERSHED _____
DATE: 03/26/84 Above BIOTIC INDEX: _____
hemical Sample? yes no

13:26 TIME (24 hr) AT SAMPLE 3 AVG. WIDTH (ft)
9.2 DO (mg/l) SITE: 1.4 AVG. DEPTH (ft)
5 TEMP(°C) _____ AVG. VELOCITY (measured fps)
pH (s.u.) _____ or
.08 EST. VELOCITY (fps) 1. very slow (.2); 2. slow
CONDUCTIVITY (umhos) _____ (.2-.5); 3. moderate (.5-1.5); 4. fast (1.5)

SAMPLED HABITAT: 1. Riffle 2. Run 3. Pool

SAMPLER: 1. D Frame Net 2. Artificial Substrate 3. Other _____

SUBSTRATE AT SITE LOCATION (%):

Bedrock Rubble (2 1/2 - 10" dia.) 30 Sand Clay 20 Muck
Boulders (10" dia.) Gravel (1/10 - 2 1/2" dia.) Silt Detrius 50 Debris & Vegetation

SUBSTRATE SAMPLED (%): SAME AS ABOVE OR/

Bedrock Rubble (2/12 - 10" dia.) Sand Clay Muck
Boulders (10" dia.) Gravel (1/10 - 2 1/2" dia.) Silt Detritus Debris & Vegetation

AQUATIC VEGETATION: _____ % of Total Stream Channel at Sample Site

OBSERVED INSTREAM CONDITIONS AT SAMPLING SITE LIMITING W.Q.

	not present	slight	moderate	significant	Comments
Sludge Deposits	n	sl	m	s	
Silt & Sediment Deposits	n	sl	m	s	
Turbidity	n	sl	m	s	
Chlorine or Toxic Scour	n	sl	m	s	
Macrophytes	n	sl	m	s	
Filamentous Algae	n	sl	m	s	
Planktonic Algae	n	sl	m	s	
Slimes	n	sl	m	s	
Iron Bacteria	n	sl	m	s	

FACTORS WHICH MAY BE AFFECTING SAMPLING SITE

degree of influence:	General Watershed			At Site	Comments
	not present	possible	important	direct impact	
Livestock Pasturing	np	pos	imp	di	
Barnyard Runoff	np	pos	imp	di	
Cropland Runoff	np	pos	imp	di	
Tile Drains	np	pos	imp	di	
Septic Systems	np	pos	imp	di	
Streambank Erosion	np	pos	imp	di	
Channel Ditching & Straightening	np	pos	imp	di	
Downstream Impoundment	np	pos	imp	di	
Upstream Impoundment	np	pos	imp	di	
Low Flow	np	pos	imp	di	
Wetlands	np	pos	imp	di	
Urban Runoff	np	pos	imp	di	
Construction Runoff	np	pos	imp	di	
Point Source (specify type)	np	pos	imp	di	
Other (specify)	np	pos	imp	di	

PERCEIVED WATER QUALITY: 1. Excellent 2. Good 3. Fair 4. Poor 5. Very Poor

SAMPLE TRACKING INFORMATION

Time Spent Collecting Sample (minutes) 45 Replicate #'s _____
Sampler Collector M. Russo Sorter Herman Identifier Herman
Date 3/26/84 Date 4/84 Date 4-24-84
Dates Artificial Sampler In _____ Out _____
5-30-84

STREAM: Francis Creek COUNTY _____

SAMPLE NO. _____

PRIMARY STATION NO. _____ LOCATION: _____ 1/4, _____ 1/4, S _____, T _____ N, R _____

WATERSHED _____

DATE: 0 3/26/84
mo day yr.

End _____

BIOTIC INDEX: 2.29

Chemical Sample? yes no _____

2.17

13:45 TIME (24 hr)

AT SAMPLE 4 AVG. WIDTH (ft)

9.7 DO (mg/l)

SITE: 1.5 AVG. DEPTH (ft)

6 TEMP (°C)

1.2 AVG. VELOCITY (measured fps)

_____ pH (s.u.)

or _____ EST. VELOCITY (fps) 1. very slow (.2); 2. slow

_____ CONDUCTIVITY (umhos)

(.2-.5); 3. moderate (.5-1.5); 4. fast (1.5)

SAMPLED HABITAT: 1. Riffle 2. Run 3. Pool

SAMPLER: 1. D Frame Net 2. Artificial Substrate _____ 3. Other _____

SUBSTRATE AT SITE LOCATION (%):

_____ Bedrock _____ Rubble (2 1/2 - 10" dia.) 20 Sand _____ Clay _____ Muck _____
 _____ Boulders (10" dia.) _____ Gravel (1/10 - 2 1/2" dia.) 40 Silt 10 Detritus 10 Debris & Vegetation

SUBSTRATE SAMPLED (%): SAME AS ABOVE OR/

_____ Bedrock _____ Rubble (2/12 - 10" dia.) _____ Sand _____ Clay _____ Muck _____
 _____ Boulders (10" dia.) _____ Gravel (1/10 - 2 1/2" dia.) _____ Silt _____ Detritus _____ Debris & Vegetation

AQUATIC VEGETATION: _____ % of Total Stream Channel at Sample Site

OBSERVED INSTREAM CONDITIONS AT SAMPLING SITE LIMITING W.Q.

	not present	slight	moderate	significant	Comments
Sludge Deposits	<u>n</u>	sl	m	s	
Silt & Sediment Deposits	<u>n</u>	sl	m	<u>s</u>	
Turbidity	<u>n</u>	sl	m	s	
oxygen or Toxic Scour	<u>n</u>	sl	m	s	
Algae	<u>n</u>	sl	m	s	
Filamentous Algae	<u>n</u>	sl	m	s	
Planktonic Algae	<u>n</u>	sl	m	s	
Slimes	<u>n</u>	sl	m	s	
Iron Bacteria	<u>n</u>	sl	m	s	

FACTORS WHICH MAY BE AFFECTING SAMPLING SITE

degree of influence:	General Watershed			At Site	Comments
	not present	possible	important	direct impact	
Livestock Pasturing	np	pos	imp	<u>di</u>	
Barnyard Runoff	np	<u>pos</u>	imp	di	
Cropland Runoff	np	pos	imp	<u>di</u>	
Tile Drains	np	pos	imp	di	
Septic Systems	np	pos	imp	di	
Streambank Erosion	np	pos	imp	di	
Channel Ditching & Straightening	np	pos	imp	di	
Downstream Impoundment	np	pos	imp	di	
Upstream Impoundment	np	pos	imp	di	
Low Flow	np	pos	imp	<u>di</u>	
Wetlands	np	pos	imp	di	
Urban Runoff	np	pos	imp	di	
Construction Runoff	np	pos	imp	di	
Point Source (specify type) _____	np	pos	imp	di	
Other (specify) _____	np	pos	imp	di	

PERCEIVED WATER QUALITY: 1. Excellent 2. Good 3. Fair 4. Poor 5. Very Poor

SAMPLE TRACKING INFORMATION

Dates Artificial Sampler In _____

Time Spent Collecting Sample (minutes) 35 Replicate #'s 1

Out _____

Sampler Collector M. Russo

Sorter _____

Identifier Herman

Date 3/26/84

Date _____

Date 7-24-84

SAMPLE II

DUPLICATE

SAMPLE II					DUPLICATE				
Genus	Species	No. of Indiv.	Index Value	Tot. No.	Genus	Species	No. of Indiv.	Index Value	Tot. No.
Gammarus pseudolimneus		48	2	96	Chironomidae unident		3	-	-
Plecoptera unidentifiable		1	-	-	Pycnopsyche Spp		7	2	14
Cheumatopsyche Spp		11	3	33	Neophylax Spp		36	2	72
Symphitopsyche Slossonae		9	2	18	Hydropsyche valanis		5	-	-
Hydropsyche betteni		4	3	12	Simulium vittatum		3	4	12
Neophylax Spp		27	2	54	" Jenningsi		3	2	6
Stenacron interpunctatum		1	3	3	" pictipes		4	-	-
Acellus intermedius		1	5	5	Psectrocladius Spp		1	2	2
Psychopsyche Spp		3	2	6		Total	115		
Simulium vittatum		6	4	24		Used	103		
Macronychus larvae		1	2	2		BI	2.17		
Limonia Spp		3	2	6					
Rheotanytarsus Spp		5	3	15					
Prodiamesa Spp		15	2	30					
Orthocladius Spp		4	3	12					
Chironomidae unident		3	-	-		Total	142		
						Used	138		316
						BI	2.29		
Gammarus pseudolimneus		23	2	46					
Micranota Spp		1	2	2					
Procladius larvae		7	2	14					
Symphitopsyche slossonae		2	2	4					
Cheumatopsyche Spp		3	3	9					
Procladius Spp		8	2	16					
Procladius Spp		6	3	18					
Orthocladius Spp		3	3	9					

August 31, 1976

Survey Date: May 6, 1976

Francis Creek, Manitowoc County

The Francis Creek STP discharges to a small stream which flows into the West Twin River about 3 miles below the outfall. There is no flow above the outfall. Sludge deposits are present below the outfall for about 10 feet. The stream flows through a combination of woodlands and farms.

No fish are present in the tributary.

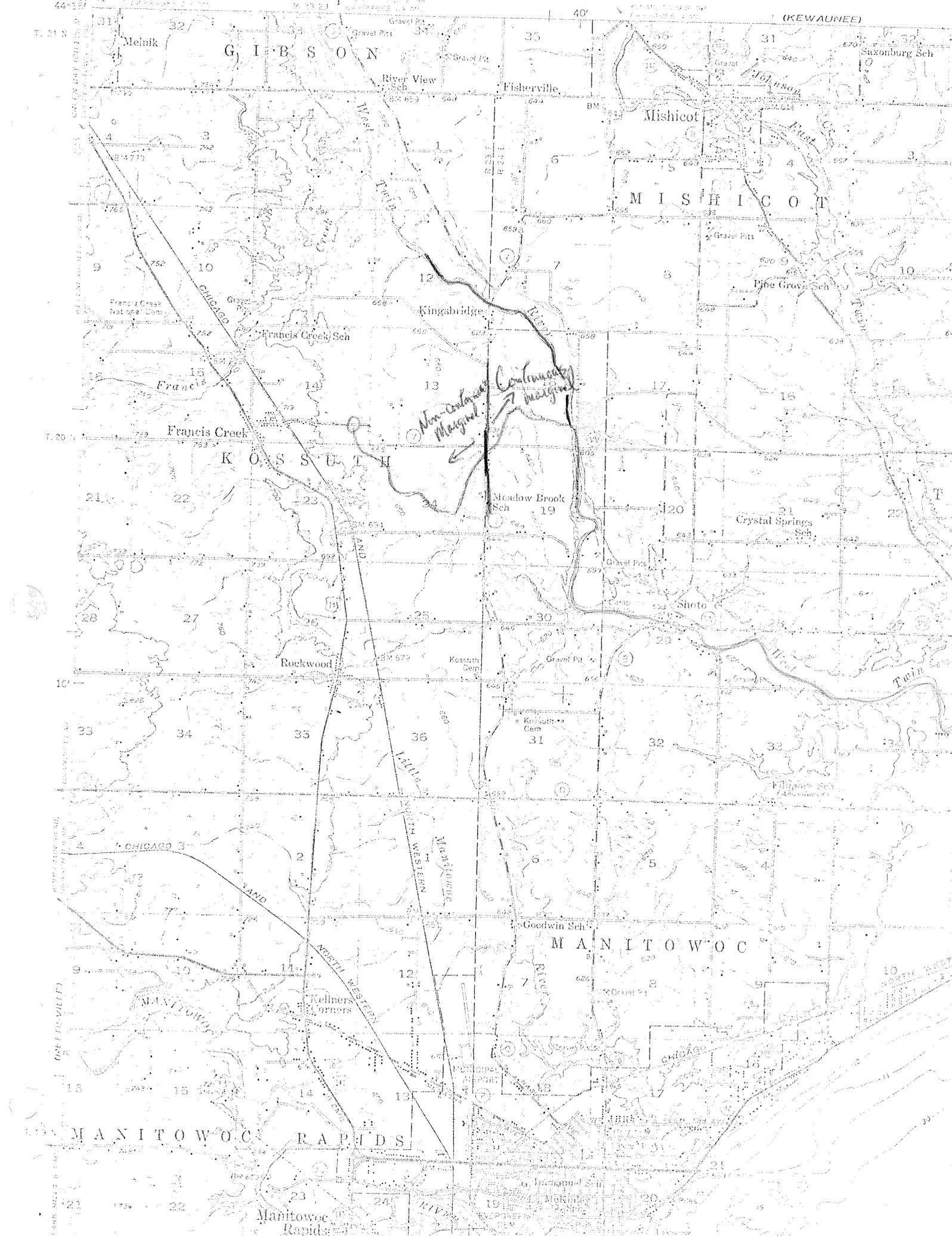
Recommendation:

Non-continuous, marginal uses from outfall to County Highway Q. Continuous, marginal uses from County Highway Q to West Twin River. The West Twin River is continuous, fish and aquatic life.



Robert B. Lucas





(KEWAUNEE)

GIBSON

MISHICOT

KOSSUTH

MANITOWOC

MANITOWOC RAPIDS

Non-Contiguous Contiguous Margin

Meimik

Fisherville

Mishicot

Kingsbridge

Meadow Brook Sch

Rockwood

Goodwin Sch

Kellners Corners

Manitowoc Rapids

Saxonburg Sch

Pine Grove Sch

Crystal Springs Sch

Phillips Sch

Manitowoc Sch

Mokille

Francis Creek Nat'l Cem

Francis

Francis Creek

Kossuth Cem

Phillips Sch

CHICAGO 3

CHICAGO 3

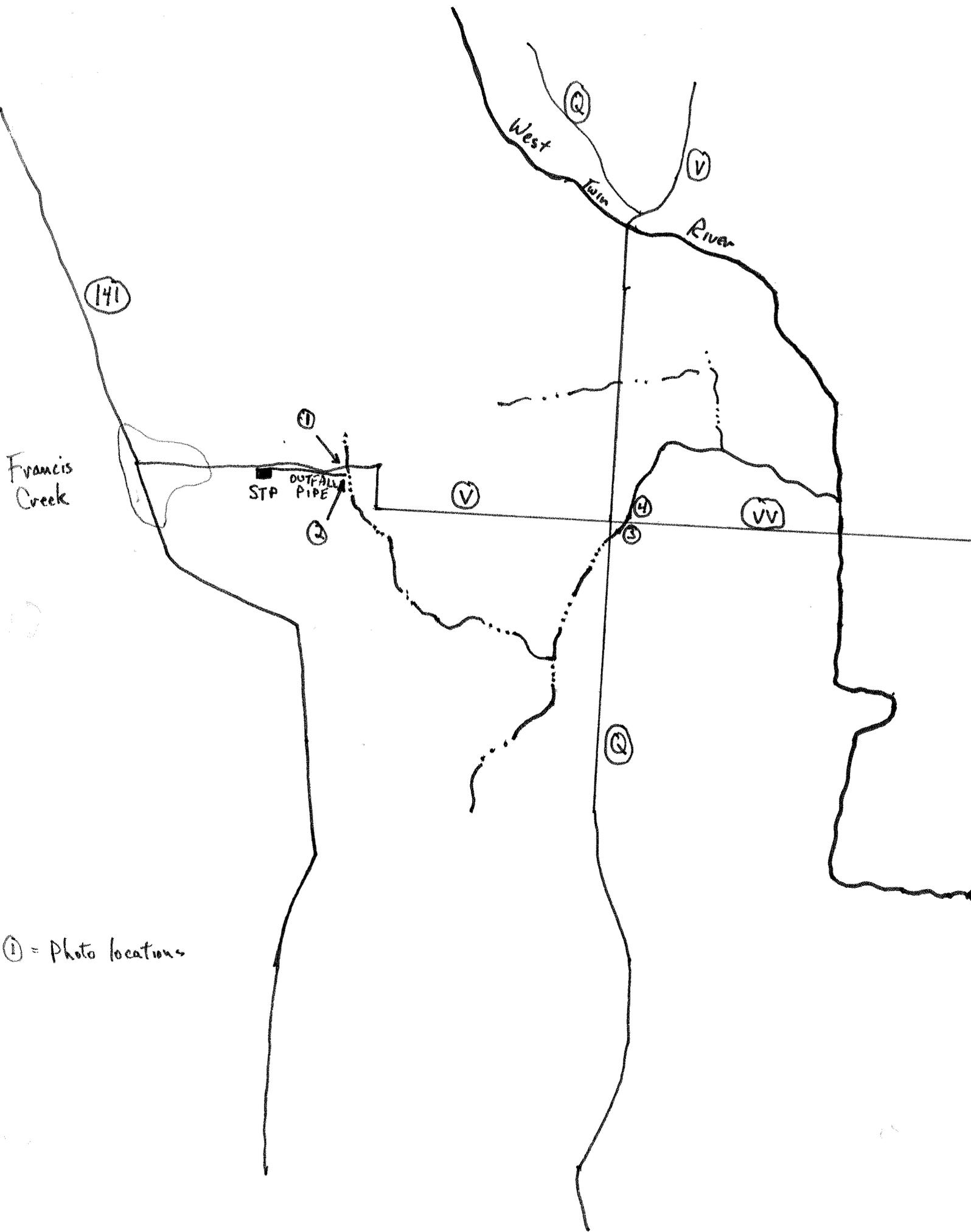
CHICAGO

MANITOWOC RIVER

Johnson

Must

Trunk



① = Photo locations

Francis Creek



#1

Tributary from

CTH "V" Bridge



#2

Downstream from

outfall pipe

Francis Creek



3

Upstream from

CTH "VV" Bridge



4

Downstream from

CTH "VV" Bridge