

1/24/83

STREAM CLASSIFICATION  
TRIBUTARY #32-7 TO SOUTH BRANCH BEAVER CREEK  
POUND  
by Tim Doelger (5-19-82)

### Introduction

On July 1, 1981 municipal sewage from the Village of Pound was diverted to a new combined POTW at Coleman. Prior to this time the effluent entered a tributary of the South Branch of Beaver Creek via an effluent ditch. As a result of this discharge the tributary was degraded and granted a variance in NR 104.

In order to provide current information for possible revisions to NR 104 and to document changes due to the elimination of the discharge the Lake Michigan District and Marinette Area conducted Stream Classification and Post Operational surveys during 1982. This report will deal only with those items germane to the classification.

### Methods

The Stream System Habitat Rating form along with professional judgement and experience was the method used to determine the new classification. The forms are attached and should be referred to for more detail.

In addition fisheries information was requested from the Marinette Area. The information received and included in this report is not current and therefore is not really pertinent to existing conditions.

### Discussion

Tributary 32-7 is basically swamp drainage. Public access is available at only two road crossings. Station three is accessible by crossing private property.

Station one is probably impacted at times by its proximity to USH 141. Station two does not seem to share this problem. Bottom types at both stations are similar. Rocks and small gravel are present, but the predominate substrate is sand and fines. Stream banks are well buffered along the entire tributary with mature trees, tag alder and grasses.

Between station two and three lack of access prevented observations, but it can be assumed that the stream continues to gather water from seepage and probably exhibits characteristics similar to other small swampy streams in the area.

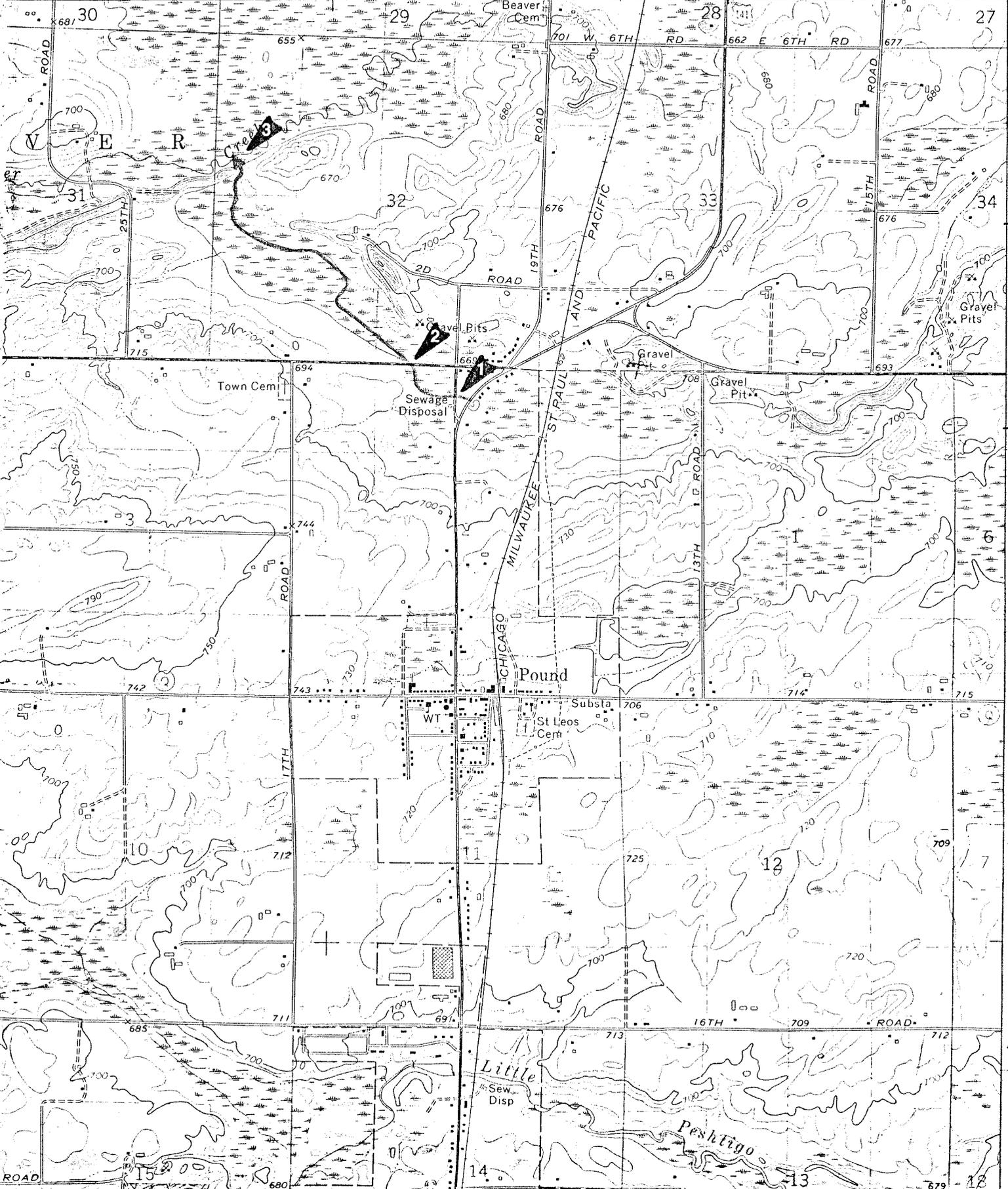
It should be noted that during a Pre-Operational survey conducted in 1979 sludge beds were found from station two upstream to the outfall. These are no longer present and a natural bottom now exists.

Station three probably never felt any sustained impact from the POTW discharge and it appears much the same as it did in 1979. The land here is higher and is gravelly. Therefore large gravel (2-4") is the predominate bottom type.

Cover types are good, banks are stable, impacts due to human activity are non-existent, and bends, riffles and banks provide habitat. It is possible, but not documented, that trout might use this area for spawning.

### Conclusions/Recommendation

Due primarily to the elimination of the discharge from the Pound POTW water quality in the tributary has improved enough to provide suitable conditions for a diverse aquatic population, therefore, I am recommending that the classification for Tributary 32-7 be upgraded to continuous fish and aquatic.



21 ROAD  
DOWNSTREAM



STH 64  
DOWNSTREAM



Tim Doelger - Green Day

STATE OF WISCONSIN

CORRESPONDENCE/MEMORANDUM

Date: January 13, 1983

File Ref: 3600  
(Tim Doelger)

To: District Director

From: Greg Kornely

Subject: Fishery Information on Water Quality Management Projects

REC'D DNR  
JAN 14 1983  
GREEN DAY

Pound - Tributary to Beaver Creek, Cr 32-7

Fishery information on Creek 32-7 was obtained in 1974 while gathering data on the So. Br. Beaver Creek watershed. Information specifically relating to Cr 32-7 was selected from the report and is included with this memo.

Cr 32-7 was considered non-trout water with only brook stickleback and mud-minnows found. Cr 32-7 has limited fishery value in itself. The major consideration of this tributary is its effect on the So. Br. Beaver Creek. At the time of the last survey, although the Pound Sewage Treatment Plant effluent was high in nutrient enrichment, the small discharge volume had no observable effect on the nature of the lower South Beaver.

Future condition of the Pound Sewage Treatment Plant's operation should continue to reflect its effect on the So. Br. Beaver Creek rather than any effects on Cr 32-7 itself.

Department of Natural Resources  
INTRA-DEPARTMENT  
MEMORANDUM

Wausaukoe  
.....  
Station

Date: April 15, 1975

IN REPLY REFER TO: 3610

TO: S. G. DeBoer  
ATTN: C. L. Cline  
FROM: T. F. Thuemler  
SUBJECT: Stream survey report on the South Branch of the Beaver Creek,  
Marinette & Oconto Counties (T-30 & 31N, R-19 & 20E).

The South Branch of the Beaver Creek and its tributaries constitute a major portion of the Beaver Creek Watershed located 1.5 miles north of the Village of Pound. The stream originates in east central Oconto County, flows 13.0 miles in an east-northeasterly direction into Marinette County, where it joins the North Branch. The first 4.5 miles are located in Oconto County with the remainder in Marinette County. There are 20.5 miles of tributary streams, covering a total drainage area of 43.2 square miles. In this report, I will refer to the stream section south of highway 64 as the upper reaches, and the section north of highway 64 as the lower reaches. The upper reaches average 11.8 feet wide and had an August discharge of 9.0 cubic feet per second at station 10. The lower reaches average 21.1 feet wide and had an August discharge of 31.7 cubic feet per second at Station 1. In general, the characteristics of the lower reaches are greatly influenced by the three main tributaries (Whisky, Murphy & Iron Springs).

The South Beaver Creek has potentially productive water, as indicated by the high alkalinity and conductivity readings. The upper reaches possess very hard, clear, slightly basic water maintained by generous groundwater input. The stream velocity ranges from moderate to rapid. The main bottom substrate is composed of sand, gravel and rubble, however, there are local areas of bedrock, hardpan, and silt. Downstream, swamp drainage and surface runoff from farmlands contribute to the flow. A high flood crest indicates prior flood conditions. Some sections are heavily grazed by livestock, causing deterioration of the trout habitat. In the lower reaches, the water is hard, slightly basic in nature, and usually has a turbid appearance. The normal stream velocity is sluggish. The dominant bottom substrate is sand, however, there are extensive pockets of silt in the pool areas. Apparently, poor soil conservation practices in the watershed allow suspended materials to be carried down the South Branch of the Beaver Creek. Spring flooding is often serious in the lower reaches, and probably presents a problem for the trout population. A source of pollution is the effluent entering tributary 32-7 of the lower South Beaver from the Village of Pound Sewage Treatment Plant. The effluent is high in nutrient enrichment, however, the small discharge volume had no observable effect on the nature of the lower South Beaver. The spring seeps in the upper reaches have a moderating effect on the water temperatures. In the lower reaches the water temperatures are more variable and often reach intolerable trout limits.

Beds of aquatic plants are common along the South Beaver Creek. Aquatic mosses are commonly found clinging to rocks in the upper reaches. In the lower reaches, pondweeds, sparganium and algae are common. A variety of invertebrates compose the food grade in the upper reaches, while two invertebrate genera are predominant in the lower reaches. Twenty fish species other than trout were captured in the South Beaver. Forage fish are not a problem, however, the 37 northern pike taken in the lower reaches may pose a threat to small trout. In this survey, 4.1 miles of stream, having 7.7 acres of surface area were sampled with a three-man crew, using a 250 volt D.C. stream shocker. Eight work days were necessary to complete the survey. Shocker efficiency in the upper reaches was calculated at 65% in the estimate station. In the lower reaches, the stream was often too deep to wade. Deep water combined with the high conductivity put a heavy load on the generator, reducing shocker efficiency. Only six brown trout were captured in the lower reaches, and no evidence of natural reproduction of trout was found. However, good natural reproduction of brook and brown trout exists in the upper reaches. In this area, trout averaged 248 per acre with 45% legal sized. At Population Estimate Station 22 in August, the trout averaged 294 per acre with a biomass of 26.6 pounds per acre. Apparently, the habitat is suited to brook trout, as 85% of the trout taken were of this species.

A creel census conducted on the South Beaver Creek in 1973 indicated very light fishing pressure throughout the entire season. Observation during our survey indicated some pressure in the upper reaches from local youngsters. The only management prior to this survey included stocking of trout. In 1942 and 1943, brown trout fingerlings were planted, along with rainbow fingerlings in 1943. Brook trout fingerlings were stocked in 1960 and yearlings in 1961. There is no record of the success of these plantings. The entire watershed is in private ownership. Public access to the South Beaver is provided by 1/4 road crossings. Bait fishing is the practical method in the upper reaches. Here, a dense canopy in most areas limits spinning or fly fishing. The lower reaches can be floated with a small boat, and readily lend to fly and spin fishing.

The lower 5.0 miles is defined as Class II trout water. No evidence of natural reproduction was found, however, the habitat appears to be suitable for larger brown trout. Brown trout stocking is recommended in the lower reaches along with a follow-up study to evaluate the success of the program. The upper 5.0 miles is defined as Class I trout water. Stocking is not necessary, due to the presence of fine native trout populations. There are many management problems in the entire South Beaver watershed which should be given attention at the present time, surface runoff waters reach the South Beaver Creek due to poor soil conservation practices. These waters carry heavy loads of suspended materials, while having a warming effect on the stream. Pasturing livestock is a common practice along the banks of the South Beaver Creek. Construction of fences along the banks, restricting cattle to chosen crossing and watering sites is needed.

Stream habitat improvements in the upper reaches should be given priority over work in the lower reaches. Improvements at a few critical sites would be beneficial to the native trout population in the upper reaches, and at the same time improve the water quality of the lower reaches. The most beneficial improvements would be fencing along stream sections that run through cattle pasture. This would necessitate a land easement or

TO: S. G. DeBoer 4/15/75

acquisition program. Priority could also be given to the protection of areas of high spring seepage which are valuable contributors to the cold water fishery of the South Beaver Creek. Again, a local sportsmans club may be interested in a habitat improvement project. In such event, we should provide any possible assistance.

By: Lee S. Meyers  
L. S. Meyers

LSH:bc

cc: → M. Burdick  
J. Brasch  
Warmwater Research - Nevin

APPROVED:

C.H. 5.9.75  
C. E. Higgs Date

S. G. DeBoer Date

NOTED:

\_\_\_\_\_  
Date

STREAM SURVEY STATION REPORT

DEPARTMENT OF NATURAL RESOURCES

FORM 3600-39

NAME OF STREAM Creek 32-7		Survey Station No. 3	POINT OF EXAMINATION Downstream & upstream from road.								
CITY Marinette		Township 30N		Range 20E	Section 1 NW1/4	Distance Sampled (ft.) 200	GEAR USED 110V D.C. backpack shocker.				
Avg. Width (ft.) 2.0	Avg. Depth (ft.) .15	Vol. of Flow (c.f.s.)	VELOCITY <input type="checkbox"/> Sluggish <input checked="" type="checkbox"/> Moderate <input type="checkbox"/> Rapid				Max. Flood Crest (ft.) 1.0				
WATER <input checked="" type="checkbox"/> Clear <input type="checkbox"/> Stained <input type="checkbox"/> Dirty		CONDUCTANCE Cf C77	TEMPERATURE Sample 302 64° F Water 78° F Air 4:40 Time			pH	M.P.A.				
WATER LEVEL CONDITIONS .....In. Below X Normal .....In. Above		PRIOR WEATHER CONDITIONS Warm and cloudy									
POLLUTION None observed.											
STREAM BOTTOM TYPES (%) .....Bedrock .....Hardpan .....Boulder 20 .....Rubble 10 .....Gravel 15 .....Sand 20 .....Silt .....Marl 5 .....Detritus							POOL GRADE 100% C				
							POOL-RIFFLE RATIO 100% flat				
AQUATIC VEGETATION (Species) None		Abund.	AQUATIC VEGETATION (Species)		Abund.	AQUATIC VEGETATION (Species)		Abund.			
STREAM COVER		Scarce	Common	Abundant	Stable	Unstable	AQUATIC LIFE		Scarce	Common	Abundant
Overcut banks		X					Stonefly		None		
Rocks, boulders				X			Mayfly		None		
Logs, trees		X					Caddisfly				X
Debris			X				Stream Snails		X		
Aquatic Vegetation		X					Crayfish			X	
STREAM BANK VEGETATION											
.....% Cultivated				15 .....% Upland Hardwood				40 .....% Swamp Conifer			
.....% Firm Pasture				.....% Upland Conifer				25 .....% Shrub Marsh			
.....% Meadow Pasture				20 .....% Swamp Hardwood				.....% Open Marsh			
STREAM COVER <input type="checkbox"/> Dense <input checked="" type="checkbox"/> Partly Open <input type="checkbox"/> Open						FISHABILITY <input type="checkbox"/> Excellent <input checked="" type="checkbox"/> Good to <input checked="" type="checkbox"/> Fair <input type="checkbox"/> Poor					
BANK EROSION <input type="checkbox"/> Heavy <input type="checkbox"/> Medium <input checked="" type="checkbox"/> Light <input type="checkbox"/> None						DAMS Man-made		Number	Height	Pool Area Above	
BANK HEIGHTS .5 ft. to 1.5 ft.						Beaver (active)		0			
NEED FOR INSTRAM DEVICES <input type="checkbox"/> Heavy <input type="checkbox"/> Medium <input type="checkbox"/> Light <input type="checkbox"/> None						Beaver (inactive)		0			
REMARKS Central mudminnow - 8 Brook stickleback - 3 No trout observed.											

(use back of sheet for additional remarks)

DATE OF SURVEY

7/1/74

INVESTIGATOR

Meyers

Creek 32-7 (T-30N, R-20E)

Length: 2.4 miles

Width: 2.3 feet

Watershed Area: 1.5 sq. mi.

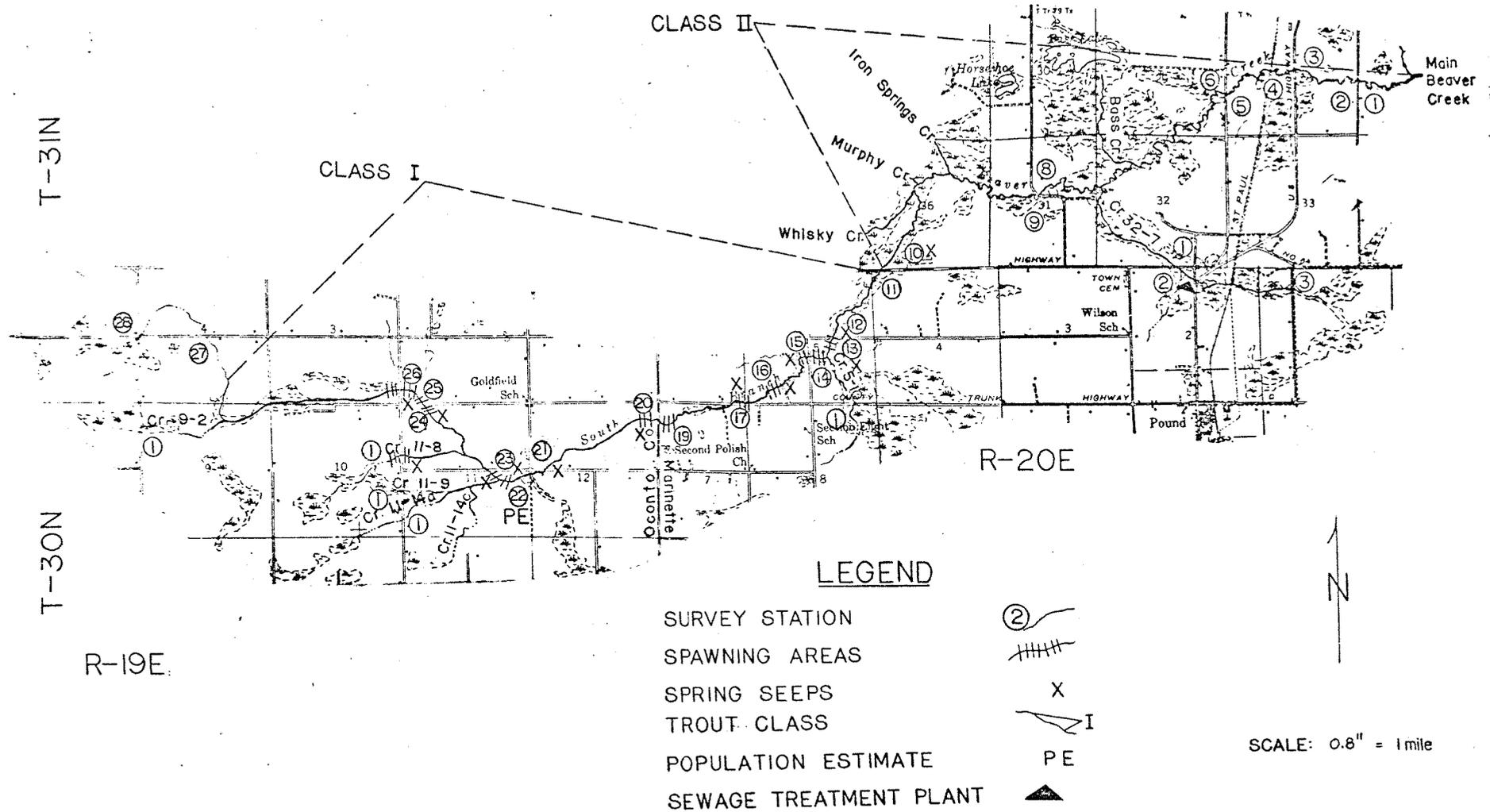
M.P.A.: 170 ppm

Conductance (77<sup>o</sup>F): 374 pH: 7.4

Creek 32-7 contributes little to the present cold water fishery of the lower South Beaver Creek. It may be detrimental to a future trout fishery in the lower South Beaver. The stream flow consists of groundwater, swamp drainage, farmland runoff and the effluent from the Village of Pound Sewage Treatment Plant. The nutrient content of Creek 32-7 is very high, however, the small discharge volume appears to be diluted in the lower South Beaver, and there is no noticeable effect on the nature of that stream. However, Creek 32-7 does not possess trout habitat and should be considered non-trout water.

# SOUTH BRANCH of the BEAVER CREEK

MARINETTE & OCONTO COUNTY



STREAM SYSTEM HABITAT RATING FORM

Stream TRIB TO BEAVER Reach Location 21 ST

Reach Score/Rating 132 / FAIR

County MARINETTE Date 5-19-82 Evaluator DUELGER

Classification Cont F/A

Rating Item	Category							
	Excellent	Good	Fair	Poor				
Watershed	1. <u>Erosion</u> 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 runoff.	16	
	2. <u>Nonpoint Source</u> No evidence of significant source. Little potential for future problem.	4	Some potential sources. (roads, urban area, farm fields).	8	Moderate sources. (Small wetlands, tile fields, urban area, intense agriculture).	16	Obvious sources. (Major wetland drainage, high use urban or industrial area, feed lots, impoundment).	20
Upper Bank	3. <u>Erosion, Failure</u> No evidence of significant erosion or bank failure. Little potential for future problem.	6	Infrequent, small areas, mostly healed over. Some potential in extreme floods.	9	Moderate frequency and size. Some "raw" spots. Erosion potential during high flow.	15	Many eroded areas. "Raw" areas frequent along straight sections and bends.	18
	4. <u>Vegetative Protection</u> 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
Lower Bank	5. <u>Channel Capacity</u> Ample for present plus some increase. Peak flows contained. W/D ratio $\leq 7$ .	8	Adequate. Overbank flows rare. W/D ratio 8-15.	10	Barely contains present peaks. Occasional overbank flow. W/D ratio 15 to 25.	14	Inadequate, overbank flow common. W/D ratio >25.	16
	6. <u>Deposition</u> Little or no enlargement of channel or point bars.	6	Some new increase in bar formation, mostly from course gravel.	9	Moderate deposition of new gravel and course sand on old and some new bars.	15	Heavy deposits of fine material, increased bar development.	18
Bottom	7. <u>Scouring and Deposition</u> Less than 5% of the bottom affected by scouring and deposition.	4	5 to 30% affected. Scour at constrictions and where grades steepen. Some deposition in pools.	8	30 to 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

Rating Item	Category							
	Excellent		Good		Fair		Poor	
Bottom 8. <u>Substrate</u>	Greater than 50% rubble, gravel or other stable habitat.	2	30 to 50% rubble, gravel or other stable habitat. Adequate habitat.	7	10 to 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
9. <u>Average Depth</u> <u>Q7,2</u>	Greater than 24".	0	12" to 24".	(6)	6" to 12".	18	Less than 6".	24
10. <u>Flow</u> Q7,2	Warm water, >5 cfs. Cold water, greater than 2 cfs.	0	Warm water, 2 to 5 cfs. Cold water, 1 to 2 cfs.	6	Warm water, .5 to 2 cfs. Cold water, .5 to 1 cfs. Continuous flow.	(18)	Less than .5 cfs. Stream may cease to flow in very dry years.	24
Stream 11. <u>Pool/Riffle,</u> <u>Pool/Bend</u> <u>Ratio</u>	5' to 7. Variety of habitat. Deep riffles and pools.	4	7 to 15. Adequate depth in pools and riffles. Bends provide habitat.	(8)	15 to 25. Occasional riffle or bend. Bottom contours provide some habitat.	16	Greater than 25. Essentially a straight stream. Generally all "flat water" or shallow riffle. Poor habitat.	20
12. <u>Aesthetics</u>	Wilderness characteristics, outstanding natural beauty. Usually wooded or ungrazed corridor.	8	High natural beauty. Trees, historic site. Some development may be visible.	10	Common setting, not offensive. Developed but uncluttered area.	(14)	Stream does not enhance aesthetics. Condition of stream is offensive.	16

Column Total --

Add column scores E 20 + G 32 + F 80 + P \_\_\_\_ Total Reach Score 132

≤ 70 = Excellent, 71-129 = Good, 130-200 = Fair, >200 Poor

STREAM SYSTEM HABITAT RATING FORM

Stream Trib to Bonverde Reach Location 50' below TR Rd of 2751164 <sup>21017</sup> 50 Above bridge  
 Reach Score/Rating 778 - Fair

County MARINETTE Date 5-19-82 Evaluator RCW Classification \_\_\_\_\_

Rating Item	Category				
	Excellent	Good	Fair	Poor	
Watershed	1. <u>Erosion</u>	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 runoff. 16
	2. <u>Nonpoint Source</u>	No evidence of significant source. Little potential for future problem. 4	Some potential sources. (roads, urban area, farm fields). 8	Moderate sources. (Small wetlands, tile fields, urban area, intense agriculture). 16	Obvious sources. (Major wetland drainage, high use urban or industrial area, feed lots, impoundment). 20
Upper Bank	3. <u>Erosion, Failure</u>	No evidence of significant erosion or bank failure. Little potential for future problem. 6	Infrequent, small areas, mostly healed over. Some potential in extreme floods. 9	Moderate frequency and size. Some "raw" spots. Erosion potential during high flow. 15	Many eroded areas. "Raw" areas frequent along straight sections and bends. 18
	4. <u>Vegetative Protection</u>	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
Lower Bank	5. <u>Channel Capacity</u>	Ample for present plus some increase. Peak flows 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 to 25. 14	Inadequate, overbank flow common. W/D ratio >25. 16
	6. <u>Deposition</u>	Little or no enlargement of channel or point bars. 6	Some new increase in bar formation, mostly from course gravel. 9	Moderate deposition of new gravel and course sand on old and some new bars. 15	Heavy deposits of fine material, increased bar development. 18
Bottom	7. <u>Scouring and Deposition</u>	Less than 5% of the bottom affected by scouring and deposition. 4	5 to 30% affected. Scour at constrictions and where grades steepen. Some deposition in pools. 8	30 to 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

Rating Item	Catego.							
	Excellent	Good	Fair	Poor				
Bottom 8. <u>Substrate</u>	Greater than 50% rubble, gravel or other stable habitat.	2	30 to 50% rubble, gravel or other stable habitat. Adequate habitat.	7	10 to 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
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12. <u>Aesthetics</u>	Wilderness characteristics, outstanding natural beauty. Usually wooded or unpastured corridor.	8	High natural beauty. Trees, historic site. Some development may be visible.	10	Common setting, not offensive. Developed but uncluttered area.	14	Stream does not inance aesthetics. Condition of stream is offensive.	16

Column Total --

Add column scores E      + G 46 + F 48 + P 84 Total Reach Score 178

≤ 70 = Excellent, 71-129 = Good, 130-200 = Fair, > 200 Poor

STREAM SYSTEM HABITAT RATING FORM

Stream TRUB BEAVER Reach Location STH 64

Reach Score/Rating 148 FAIR

County MARINETTE Date 5-19-82 Evaluator DOELGER

Classification CONT F&A

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Column Total --

Add column scores E 24 + G 10 + F 14 + P \_\_\_\_ Total Reach Score 148

≤ 70 = Excellent, 71-129 = Good, 130-200 = Fair, >200 Poor

*Muskrats - Good size of suckers  
Caddis Flies  
diptera  
Common sand*

STREAM SYSTEM HABITAT RATING FORM

Stream Trib to Beaver Cr.

Reach Location 100' below 51H 64 - Pond

Reach Score/Rating 107 - Good

County MARINETTE

Date 5-19-82 Evaluator DCW

Classification Cont. F & A.

Rating Item	Category							
	Excellent	Good	Fair	Poor				
1. <u>Erosion</u>	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 runoff.	16
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3. <u>Erosion, Failure</u>	No evidence of significant erosion or bank failure. Little potential for future problem.	6	Infrequent, small areas, mostly healed over. Some potential in extreme floods.	9	Moderate frequency and size. Some "raw" spots. Erosion potential during high flow.	15	Many eroded areas. "Raw" areas frequent along straight sections and bends.	18
4. <u>Vegetative Protection</u>	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
5. <u>Channel Capacity</u>	Ample for present plus some increase. Peak flows 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 to 25.	14	Inadequate, overbank flow common. W/D ratio > 25.	16
6. <u>Deposition</u>	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
7. <u>Scouring and Deposition</u>	Less than 5% of the bottom affected by scouring and deposition.	4	5 to 30% affected. Scour at constrictions and where grades steepen. Some deposition in pools.	8	30 to 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

Watershed

Upper Bank

Lower Bank

Bottom

Rating Item	Category							
	Excellent		Good		Fair		Poor	
Bottom 8. Substrate	Greater than 50% rubble, gravel or other stable habitat.	2	30 to 50% rubble, gravel or other stable habitat. Adequate habitat.	7	10 to 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
9. Average Depth Q7,2	Greater than 24".	0	12" to 24".	6	6" to 12".	18	Less than 6".	24
10. Flow Q7,2	Warm water, >5 cfs. Cold water, greater than 2 cfs.	0	Warm water, 2 to 5 cfs. Cold water, 1 to 2 cfs.	6	Warm water, .5 to 2 cfs. Cold water, .5 to 1 cfs. Continuous flow.	18	Less than .5 cfs. Stream may cease to flow in very dry years.	24
Stream 11. Pool/Riffle, Pool/Bend Ratio	5' to 7'. Variety of habitat. Deep riffles and pools.	4	7 to 15. Adequate depth in pools and riffles. Bends provide habitat.	8	15 to 25. Occasional riffle or bend. Bottom contours provide some habitat.	16	Greater than 25. Essentially a straight stream. Generally all "flat water" or shallow riffle. Poor habitat.	20
12. Aesthetics	Wilderness characteristics, outstanding natural beauty. Usually wooded or unpastured corridor.	8	High natural beauty. Trees, historic site. Some development may be visible.	10	Common setting, not offensive. Developed but uncluttered area.	14	Stream does not enhance aesthetics. Condition of stream is offensive.	16

Column Total --

Add column scores E ~~38~~ + G 39 + F 36 + P \_\_\_\_\_ Total Reach Score ~~107~~ 107

≤ 70 = Excellent, 71-129 = Good, 130-200 = Fair, >200 Poor

minnows noted - evidence of Swansons  
 Caddisfly, Simuliids, Diptera riffle Beetles  
 Gammarus

STREAM SYSTEM HABITAT RATING FORM

Stream TRIB BEAVER CREEK

Reach Location CONFLUENCE W/ BEAVER

Reach Score/Rating 92 GOOD

County WISCONSIN

Date 5-19-82

Evaluator DOUGLASS

Classification CONT FEA (TRIB?)

Rating Item	Category				
	Excellent	Good	Fair	Poor	
Watershed	1. <u>Erosion</u> 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	14 Moderate erosion evident. Erosion from heavy storm events obvious. Some "raw" areas. Potential for significant erosion.	16 Heavy erosion evident. Probable erosion from any runoff.
	2. <u>Nonpoint Source</u> No evidence of significant source. Little potential for future problem.	4 Some potential sources. (roads, urban area, farm fields).	8	16 Moderate sources. (Small wetlands, tile fields, urban area, intense agriculture).	20 Obvious sources. (Major wetland drainage, high use urban or industrial area, feed lots, impoundment).
Upper Bank	3. <u>Erosion, Failure</u> No evidence of significant erosion or bank failure. Little potential for future problem.	6 Infrequent, small areas, mostly healed over. Some potential in extreme floods.	9	15 Moderate frequency and size. Some "raw" spots. Erosion potential during high flow.	18 Many eroded areas. "Raw" areas frequent along straight sections and bends.
	4. <u>Vegetative Protection</u> 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	15 50-70% density. Dominated by grass, sparse trees and shrubs. Plant types and conditions suggest poorer soil binding.	18 <50% density. Many raw areas. Thin grass, few if any trees and shrubs.
Lower Bank	5. <u>Channel Capacity</u> Ample for present plus some increase. Peak flows contained. W/D ratio $\leq 7$ .	8 Adequate. Overbank flows rare. W/D ratio 8-15.	10	14 Barely contains present peaks. Occasional overbank flow. W/D ratio 15 to 25.	16 Inadequate, overbank flow common. W/D ratio >25.
	6. <u>Deposition</u> Little or no enlargement of channel or point bars.	6 Some new increase in bar formation, mostly from course gravel.	9	15 Moderate deposition of new gravel and course sand on old and some new bars.	18 Heavy deposits of fine material, increased bar development.
Bottom	7. <u>Scouring and Deposition</u> Less than 5% of the bottom affected by scouring and deposition.	4 5 to 30% affected. Scour at constrictions and where grades steepen. Some deposition in pools.	8	16 30 to 50% affected. Deposits and scour at obstructions, constrictions and bends. Some filling of pools.	20 More than 50% of the bottom changing nearly year long. Pools almost absent due to deposition.

Rating	Categor								
	Excellent		Good		Fair		Poor		
Bottom	8. <u>Substrate</u>	Greater than 50% rubble, gravel or other stable habitat.	2	30 to 50% rubble, gravel or other stable habitat. Adequate habitat.	7	10 to 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
	9. <u>Average Depth Q7,2</u>	Greater than 24".	0	12" to 24".	6	6" to 12".	18	Less than 6".	24
	10. <u>Flow Q7,2</u>	Warm water, >5 cfs. Cold water, greater than 2 cfs.	0	Warm water, 2 to 5 cfs. Cold water, 1 to 2 cfs.	6	Warm water, .5 to 2 cfs. Cold water, .5 to 1 cfs. Continuous flow.	18	Less than .5 cfs. Stream may cease to flow in very dry years.	24
Stream	11. <u>Pool/Riffle, Pool/Bend Ratio</u>	5' to 7. Variety of habitat. Deep riffles and pools.	4	7 to 15. Adequate depth in pools and riffles. Bends provide habitat.	8	15 to 25. Occasional riffle or bend. Bottom contours provide some habitat.	16	Greater than 25. Essentially a straight stream. Generally all "flat water" or shallow riffle. Poor habitat.	20
	12. <u>Aesthetics</u>	Wilderness characteristics, outstanding natural beauty. Usually wooded or unpastured corridor.	8	High natural beauty. Trees, historic site. Some development may be visible.	10	Common setting, not offensive. Developed but uncluttered area.	14	Stream does not enhance aesthetics. Condition of stream is offensive.	16

Column Total --

Add column scores E 12 + G 31 + F 18 + P \_\_\_\_ Total Reach Score 92

≤ 70 = Excellent, 71-129 = Good, 130-200 = Fair, >200 Poor

STREAM SYSTEM HABITAT RATING FORM

Stream Mill Branch Reach Location At the Blue Mill Branch

Reach Score/Rating 109/Good

County Mad. Date 5-19-83 Evaluator Dow

Classification 7/19

Rating Item	Category				
	Excellent	Good	Fair	Poor	
Watershed	1. <u>Erosion</u> 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	14 Moderate erosion evident. Erosion from heavy storm events obvious. Some "raw" areas. Potential for significant erosion.	16 Heavy erosion evident. Probable erosion from any runoff.
	2. <u>Nonpoint Source</u> No evidence of significant source. Little potential for future problem.	4 Some potential sources. (roads, urban area, farm fields).	8	16 Moderate sources. (Small wetlands, tile fields, urban area, intense agriculture).	20 Obvious sources. (Major wetland drainage, high use urban or industrial area, feed lots, impoundment).
Upper Bank	3. <u>Erosion, Failure</u> No evidence of significant erosion or bank failure. Little potential for future problem.	6 Infrequent, small areas, mostly healed over. Some potential in extreme floods.	9	15 Moderate frequency and size. Some "raw" spots. Erosion potential during high flow.	18 Many eroded areas. "Raw" areas frequent along straight sections and bends.
	4. <u>Vegetative Protection</u> 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	15 50-70% density. Dominated by grass, sparse trees and shrubs. Plant types and conditions suggest poorer soil binding.	18 <50% density. Many raw areas. Thin grass, few if any trees and shrubs.
Lower Bank	5. <u>Channel Capacity</u> Ample for present plus some increase. Peak flows contained. W/D ratio $\leq 7$ .	8 Adequate. Overbank flows rare. W/D ratio 8-15.	10	14 Barely contains present peaks. Occasional overbank flow. W/D ratio 15 to 25.	16 Inadequate, overbank flow common. W/D ratio >25.
	6. <u>Deposition</u> Little or no enlargement of channel or point bars.	6 Some new increase in bar formation, mostly from course gravel.	9	15 Moderate deposition of new gravel and course sand on old and some new bars.	18 Heavy deposits of fine material, increased bar development.
Bottom	7. <u>Scouring and Deposition</u> Less than 5% of the bottom affected by scouring and deposition.	4 5 to 30% affected. Scour at constrictions and where grades steepen. Some deposition in pools.	8	16 30 to 50% affected. Deposits and scour at obstructions, constrictions and bends. Some filling of pools.	20 More than 50% of the bottom changing nearly year long. Pools almost absent due to deposition.

Rating	Categor							
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Bottom 8. <u>Substrate</u>	Greater than 50% rubble, gravel or other stable habitat.	2	30 to 50% rubble, gravel or other stable habitat. Adequate habitat.	7	10 to 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
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Column Total --

Add column scores E 34 + G 35 + F 36 + P 0 Total Reach Score 105

≤ 70 = Excellent, 71-129 = Good, 130-200 = Fair, >200 Poor

STREAM SYSTEM HABITAT RATING FORM

Stream TRIB BEAVER CREEK

Reach Location CONFLUENCE W/ BEAVER

Reach Score/Rating 92 GOOD

County WISCONSIN

Date 5-19-82

Evaluator DOUGLASS

Classification CONT FEA (TRIB?)

Rating Item	Category			
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Stream Mill Branch Reach Location At the Blue Mill Branch

Reach Score/Rating 109/Good

County Mad. Date 5-19-83 Evaluator Dow

Classification 7/19

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Rating	Categor							
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Stream 11. <u>Pool/Riffle, Pool/Bend Ratio</u>	5' to 7'. Variety of habitat. Deep riffles and pools.	4	7 to 15. Adequate depth in pools and riffles. Bends provide habitat.	8	15 to 25. Occasional riffle or bend. Bottom contours provide some habitat.	16	Greater than 25. Essentially a straight stream. Generally all "flat water" or shallow riffle. Poor habitat.	20
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Column Total --

Add column scores E 34 + G 35 + F 36 + P 0 Total Reach Score 105

≤ 70 = Excellent, 71-129 = Good, 130-200 = Fair, >200 Poor

POUND - MARINETTE COUNTY

August 12, 1975

Wastewater Receiving Stream Classification

The Pound sewage treatment plant discharges its effluent via an effluent channel to an unnamed tributary of Beaver Creek. Beaver Creek is classified as trout waters. The  $7Q_{10}$  above the STP is known to be 0.0 cfs. An effluent ditch approximately 65 feet long and three feet wide by 1/2 foot deep contains sludge deposits and sphaerotilus growths. The tributary, which it feeds, originates approximately two miles above, east of the Village of Pound and travels one mile below the STP to Beaver Creek.

The tributary runs through heavy cedar swamp over most of its course, being continually fed by swamp drainage. Inspection of stream bed above revealed a limited benthic community and below the STP a degraded community existed. The tributary was dark in color, slow moving and contained sludge deposits in the reaches below the STP.

Recommendations:

The unnamed tributary to Beaver Creek is determined to be noncontinuous and acceptable for intermediate aquatic life. The noncontinuous classification is based on a 0  $7Q_{10}$  above the STP. It is known that natural swamp drainage supports a continuous flow in reaches below the STP.

*Dennis C. Wewersel*  
DAF:ct

9/11/75

*DAF*

POUND - UNNAMED.  
TRIB TO BEAVER CREEK  
STREAM CLASSIFICATION

BEAVER CREEK

Tributary to BEAVER

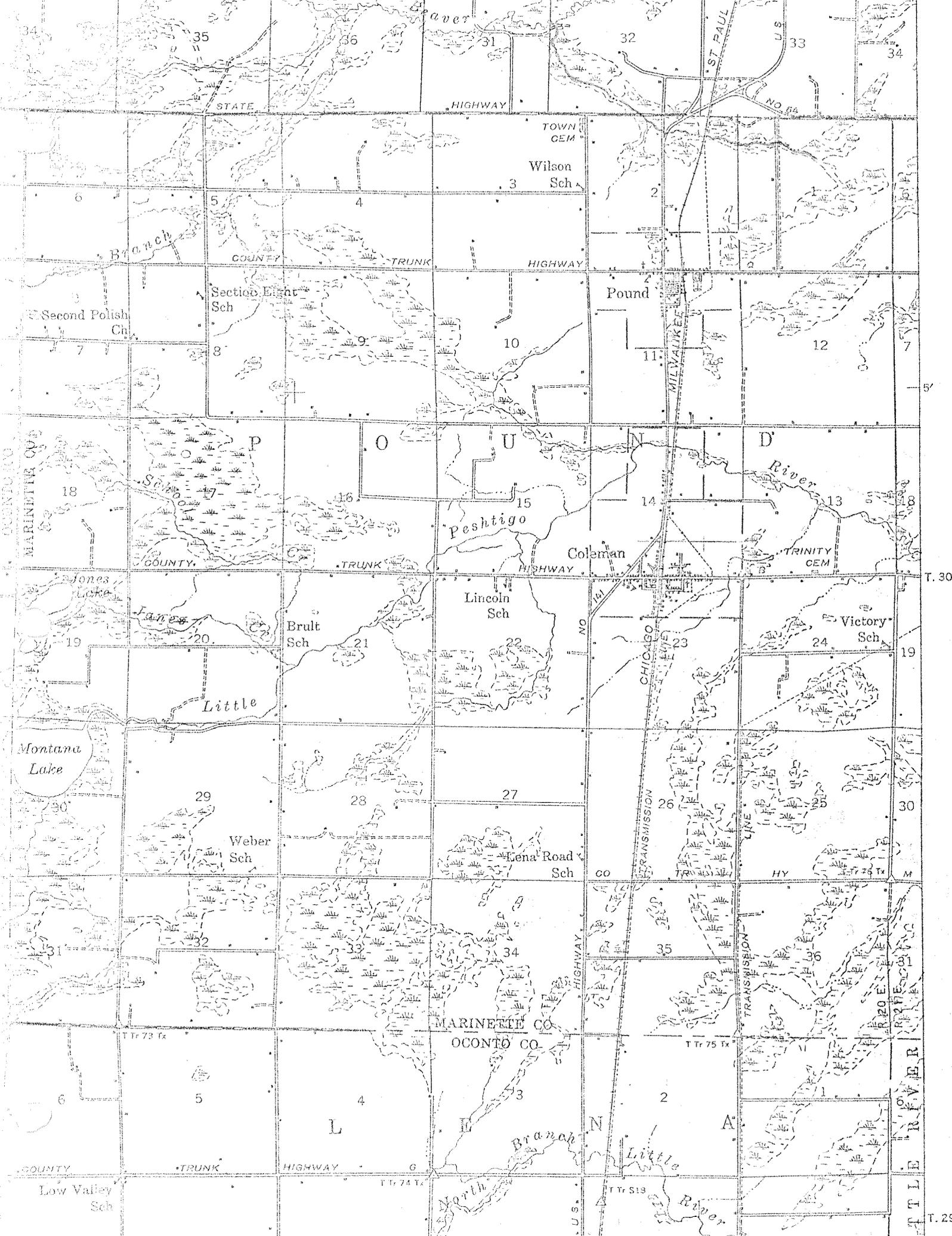
ST HY '64'

STP  
w/ Effluent Ditch

CREEK

ST HY '41'

Village of  
POUND



34

35

36

31

32

33

34

STATE

HIGHWAY

ST. PAUL  
MILWAUKEE

U.S.  
NO. 64

TOWN  
CEM

Wilson  
Sch

6

5

4

3

2

Branch

COUNTY

TRUNK

HIGHWAY

Second Polish  
Ch

Section Eight  
Sch

Pound

7

8

9

10

11

12

5

MARINETTE CO.

P  
S  
C  
COUNTY

O  
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N  
D

Peshtigo

River

18

17

16

15

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13

18

Jones  
Lake

Little

Brult  
Sch

Lincoln  
Sch

Coleman

TRINITY  
CEM

T. 30

19

20

21

22

23

24

19

Montana  
Lake

Little

Lincoln  
Sch

Coleman

Victory  
Sch

29

28

27

26

25

24

30

Weber  
Sch

Lena Road  
Sch

CHICAGO  
MILWAUKEE

TRANSMISSION  
LINE

CO

HY

M

31

32

33

34

35

36

MARINETTE CO.  
OCONTO CO.

T Tr 73 Tr

T Tr 75 Tr

6

5

4

3

2

1

LITTLE RIVER

COUNTY

TRUNK

HIGHWAY

T Tr 74 Tr

T Tr S13

Low Valley  
Sch

Branch

Little

North

River

T. 29

The named Tributary To BEAVER CREEK - 8-12-75



Above STA @ CT Road

6' W x 1' D

no flow



STP EFFLUENT CHANNEL

3' W x 1/2' D