Reviewed by CBub Date 3/2004

Region NER **County** Manitowoc **Report Date** 3/1990 **Classification** LAL

Water Body: Pine Creek

Discharger: Stack Mfg Corp & Supper Club

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

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 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:

3/1990 - Tim Doelger

4/1978 - Dennis Weisensel / Bob Lucas

Additional Comments/How to improve report:

- flow is ID'd as factor contributing to LAL class'n. -- need to confirm if it is primary limiting factor

Triennial Review
(NR 109.07(2))
Tim Doelger
Mar. 1990

On September 11, 1989, three sites were evaluated on Pine Creek in Manitowoc County (see map). An abbreviated field check consisting of photographs, Habitat Rating Form (3200-68), and a data sheet was conducted at each site.

This stream is impacted by agricultural NPS, point source, and road crossings. If these impacts were eliminated, there is still too little flow to support a balanced aquatic community.

Below CTH R, a tributary enters which adds enough water to provide a continuous flow, but stream morphology and upstream impacts still preclude a balanced community.

During a spring runoff, it is possible that some anadromous species such as smelt might utilize the mouth areas for spawning, but year-round populations are not thought to exist.

It is my recommendation that until such time that electrofishing can be performed to determine if forage species inhabit the stream on a continuous basis, that it remain at its current classification.

Pt. Source = Stock Manufacturing and Supper Club.

Department of Natural Resources

STREAM SYSTEM HABITAT RATING FORM

Form 3200-68 1-85

Stream PINE CR Reach Location CARSTEN'S LK RD T19N, R23E, SEC 21 Reach Score/Rating 231/POOR

County MANITOWOC Date 9/11/89 Evaluator DOELGER Classification MARGINAL

Rating Item	Category			
	Excellect	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
Lower 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)
Pool/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 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 inhance aesthetics. Condition of stream is offensive. 16
Column Totals:				

Column Scores E ____ +G 9 +F 74 +P 148 = 231 = Score

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

FIELD MEASUREMENTS

D.O._____ TEMP_____ pH_____ AVG WIDTH 5'

AVG DEPTH 4" FLOW MEAS_____ LENGTH OF SEGMENT_____

OBSERVATIONS SCARCE (S), COMMON (C), ABUNDANT (A)

SLUDGE_____ MUD A MACROPHYTES_____ SLIMES_____

FILAMENTOUS ALGAE_____ LITTER & DETRITUS_____

PLANKTONIC ALGAE A IRON BACTERIA_____ TURBIDITY A

COMMENTS:

EXTERNAL IMPACTS SEVERE (S), MODERATE (M), LIGHT (L)

AGRICULTURAL S CHANNELIZATION M CONSTRUCTION_____

STORM SEWERS_____ POINT SOURCES_____

COMMENTS:

BIOTA	HBI	FBI	OTHER
MACROINVERTEBRATES	_____	_____	NONE OBSERVED
FISH OBSERVED			" "

WILDLIFE USES POSSIBLE WATER FOWL USES IN LITTLE LAKES

WATER CHEMISTRY NONE TAKEN

BOD5_____ TOT P_____ CHLORIDE_____ LEAD_____ MFFC_____

DISS P_____ CADMIUM_____ MAGNESIUM_____ HARDNESS_____

MFFS_____ TOT D N_____ CALCIUM_____ MANGANESE_____

COPPER_____ NH3N_____ NICKLE_____ SUSP SOLIDS_____

NO2-N+NO3-N_____ ZINC_____ IRON_____

CLASSIFICATION

GREAT LAKES COMMUNITY_____ WARM WATER FORAGE_____

COLD WATER COMMUNITY_____ LIMITED FORAGE FISH_____

WARM WATER SPORT FISH_____ LIMITED AQUATIC LIFE X

Department of Natural Resources

STREAM SYSTEM HABITAT RATING FORM
Form 3200-68

Stream PINE CR. Reach Location CENTER RD, T18 N, R23E, SEC 22 Reach Score/Rating 254/POOR

County MANITOWOC Date 9/11/90 Evaluator DOERGER Classification MARGINAL

Rating Item	Category			
	Excellect	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. (15)
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)
Lower 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. (15)
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. (15)
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)
Pool/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 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. (15)
Column Totals:				

Column Scores E ____ +G ____ +F ____ +P 254 = 254 = Score

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

FIELD MEASUREMENTS

D.O._____ TEMP_____ pH_____ AVG WIDTH 10'

AVG DEPTH <1" FLOW MEAS (0) LENGTH OF SEGMENT_____

OBSERVATIONS SCARCE (S), COMMON (C), ABUNDANT (A)

SLUDGE_____ MUD X MACROPHYTES_____ SLIMES_____

FILAMENTOUS ALGAE_____ LITTER & DETRITUS_____

PLANKTONIC ALGAE_____ IRON BACTERIA_____ TURBIDITY_____

COMMENTS:

INTENSE PASTURING

EXTERNAL IMPACTS SEVERE (S), MODERATE (M), LIGHT (L)

AGRICULTURAL X CHANNELIZATION X CONSTRUCTION_____

STORM SEWERS_____ POINT SOURCES_____

COMMENTS:

BIOTA	HBI	FBI	OTHER
MACROINVERTEBRATES	_____	_____	
FISH OBSERVED			NONE
WILDLIFE USES			

WATER CHEMISTRY Not taken

BOD5_____ TOT P_____ CHLORIDE_____ LEAD_____ MFFC_____

DISS P_____ CADMIUM_____ MAGNESIUM_____ HARDNESS_____

MFFS_____ TOT D N_____ CALCIUM_____ MANGANESE_____

COPPER_____ NH3N_____ NICKLE_____ SUSP SOLIDS_____

NO2-N+NO3-N_____ ZINC_____ IRON_____

CLASSIFICATION

GREAT LAKES COMMUNITY_____ WARM WATER FORAGE_____

COLD WATER COMMUNITY_____ LIMITED FORAGE FISH_____

WARM WATER SPORT FISH_____ LIMITED AQUATIC LIFE X

Department of Natural Resources

STREAM SYSTEM HABITAT RATING FORM

Form 3200-68

Stream PINE CR Reach Location CTH R (OLD 14) T18N, R23E SEC 27 Reach Score/Rating 205/POOR

County MONROE Date 9/11/90 Evaluator DOELGER Classification MARGINAL

Rating Item	Excellect	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
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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' (21)
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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. 15

Column Totals: _____ _____ _____ _____

Column Scores E ____ +G 18 +F 139 +P 48 = 205 = Score

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

FIELD MEASUREMENTS

D.O._____ TEMP_____ pH_____ AVG WIDTH 5'

AVG DEPTH 6" FLOW MEAS <1 LENGTH OF SEGMENT_____

OBSERVATIONS SCARCE (S), COMMON (C), ABUNDANT (A)

SLUDGE_____ MUD C MACROPHYTES_____ SLIMES_____

FILAMENTOUS ALGAE_____ LITTER & DETRITUS_____

PLANKTONIC ALGAE_____ IRON BACTERIA_____ TURBIDITY A

COMMENTS:

EXTERNAL IMPACTS SEVERE (S), MODERATE (M), LIGHT (L)

AGRICULTURAL X CHANNELIZATION_____ CONSTRUCTION_____

STORM SEWERS_____ POINT SOURCES X

COMMENTS:

BIOTA	HBI	FBI	OTHER
MACROINVERTEBRATES	_____	_____	
FISH OBSERVED			NONE OBSERVED
WILDLIFE USES			LIMITED

WATER CHEMISTRY NOT TAKEN

BOD5_____ TOT P_____ CHLORIDE_____ LEAD_____ MFFC_____

DISS P_____ CADMIUM_____ MAGNESIUM_____ HARDNESS_____

MFFS_____ TOT O N_____ CALCIUM_____ MANGANESE_____

COPPER_____ NH3N_____ NICKLE_____ SUSP SOLIDS_____

NO2-N+NO3-N_____ ZINC_____ IRON_____

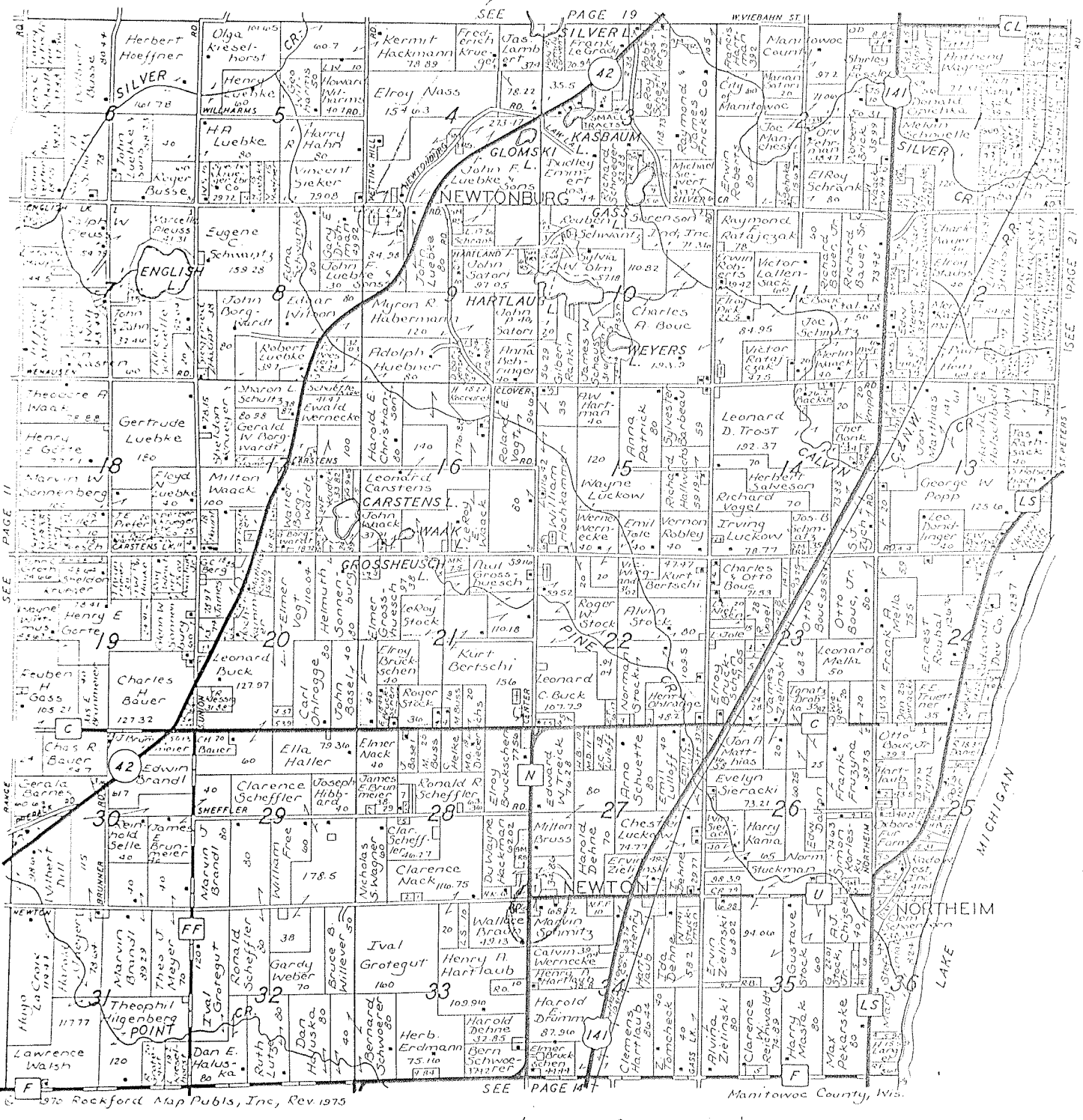
CLASSIFICATION

GREAT LAKES COMMUNITY_____ WARM WATER FORAGE_____

COLD WATER COMMUNITY_____ LIMITED FORAGE FISH_____

WARM WATER SPORT FISH_____ LIMITED AQUATIC LIFE X

NEWTON T. 18 N.–R. 23 E.



Pictures 9/12/89

CORRESPONDENCE/MEMORANDUM

STATE OF WISCONSIN

Date: April 11, 1978

File Ref: 3200
Duane Schuettpelz

To: Central Office - Madison

DNR
APR 18 1978

From: Dennis C. Weisensel

Subject: Stream Classification - Stock Manufacturing Corp., and Dinner Club -Pine Creek - Manitowoc County

Pine Creek was classified as non-continuous marginal use from Stock Manufacturing downstream to a tributary junction east of Highway 141. At that point it was classified as continuous-marginal variance to its mouth on Lake Michigan.

The upper segment of the stream flows through agricultural lands and derives some non-point contributions. The morphology of the stream does not contain sufficient pool areas to provide adequate habitat for fish sustainment. The non-continuous flow conditions would seriously disrupt the sustaining quality for a macro-invertebrate population.

Just downstream from Highway 141 the Creek develops a continuous flow. Even though a continuous flow exists, the morphology of the stream remains relatively the same. Sufficient deeper water areas do not exist to provide adequate habitat for the development of a fishery. The stream in the lower sector has little potential for recreational uses. The only known use is early spring smelt dip netting and this would be subject to high spring runoff periods. The stream is capable of supporting only a minimal macro-invertebrate population which is subject to non-point source agricultural disturbance. It was concluded that sufficient disturbance was received from surrounding agricultural use to warrant a marginal use variance.

If you have any comments or questions please let me know by April 25, 1978.

DCW:sh

cc: Bob Lucas

NOTED:

_____ Date _____

February 3, 1977

Stock Manufacturing Corp. & Dinner Club - Manitowoc County

The facility consists of a small package-type activated sludge plant discharging to Pine Creek.

Pine Creek is a small tributary to Lake Michigan which originates as the outlet from Carstens Lake. Bottom materials consist primarily of muck, rubble, and sand. The fishery consists of forage minnows and seasonal smelt runs during favorable years.

Recommendation:

Non-continuous, marginal uses from Carstens Lake outlet to tributary junction east of Highway 141. Continuous, marginal from tributary junction to Lake Michigan.

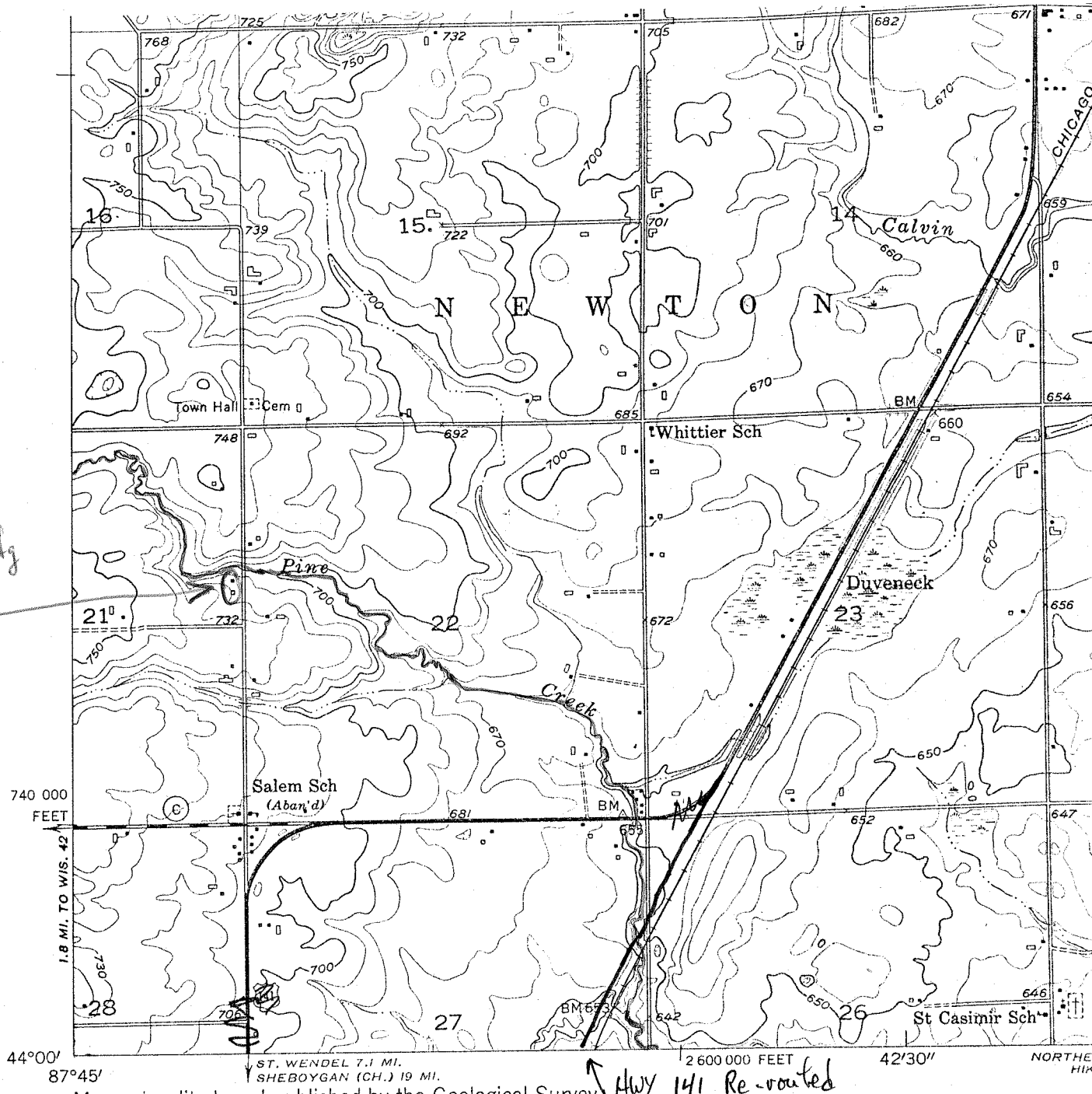
Bob Lucas

Robert B. Lucas

RBL:sh

Red indicates non-continuous, marginal uses

Blue indicates continuous, marginal uses



STOCK Mfg

Supper Club

↑ HWY 141 Re-routed Parallels railroad tracks

(ST. WENDEL)

Mapped, edited, and published by the Geological Survey

Control by USGS and USC&GS

Topography from aerial photographs by photogrammetric methods and by planetable surveys 1954. Aerial photographs taken 1951
Hydrography from U. S. Lake Survey Charts 735 (1:10 000) and 73 (1:120 000)

Polyconic projection. 1927 North American datum
10,000-foot grid based on Wisconsin coordinate system, south zone

1°

RUE NORTH

NETIC NORTH

1

1000

1


UNITED STATES
ARTMENT OF THE INTERIOR
OLOGICAL SURVEY
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MANITOWOC (CH.) 6.8 MI.
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(MANITOWO
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Newton
Pine Creek
Northeim
N E W T O N
NORTH WESTERN AND CHICAGO
St John Cem
Point Creek
Point River Sch
Point Creek
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T 17 N
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10
11

CARSTENS LK. RD.
FACING UPSTREAM

CENTER RD.
FACING DOWNSTREAM

CTH R
FACING DOWNSTREAM