

STREAM CLASSIFICATION  
UNNAMED TRIBUTARY TO WAUPACA RIVER  
WEYAUWEGA

On August 18, 1981, a stream classification survey was conducted on an unnamed tributary to the Waupaca River at Weyauwega by Tim Doelger and Dennis Weisensel of the Lake Michigan District.

The new stream system habitat rating form was the method used to determine the classification. One form was filled out by each evaluator at the corner of STH 110 and CTH X. Conclusions are similar. The forms are attached and should be consulted for more detailed descriptions.

The stream itself is little more than overflow from a farmer's duck pond (see photo), receiving agricultural runoff at its head waters and urban nonpoint runoff for the rest of its length until its confluence with the Waupaca River.

Physically it is narrow (1-2'), has very little flow ( $< .5$  CFS), poor bottom type and is capable of supporting only the most marginal types of aquatic life.

From the proposed discharge location downstream to the Waupaca River is a distance of less than 1/4 mile. This is also an area where human contact with the stream is very possible. There are numerous asparagus plants along the north side and an industrial area along the south.

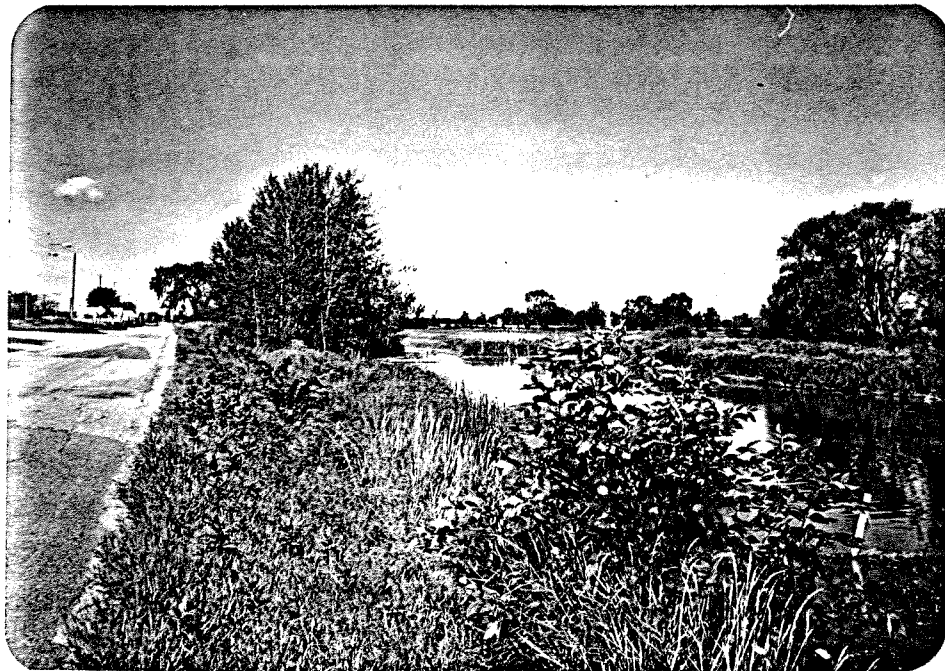
To protect water quality in the Waupaca River as well as people who may use this area and because of the obvious character of this stream, I am recommending that it be classified as Noncontinuous - Marginal.

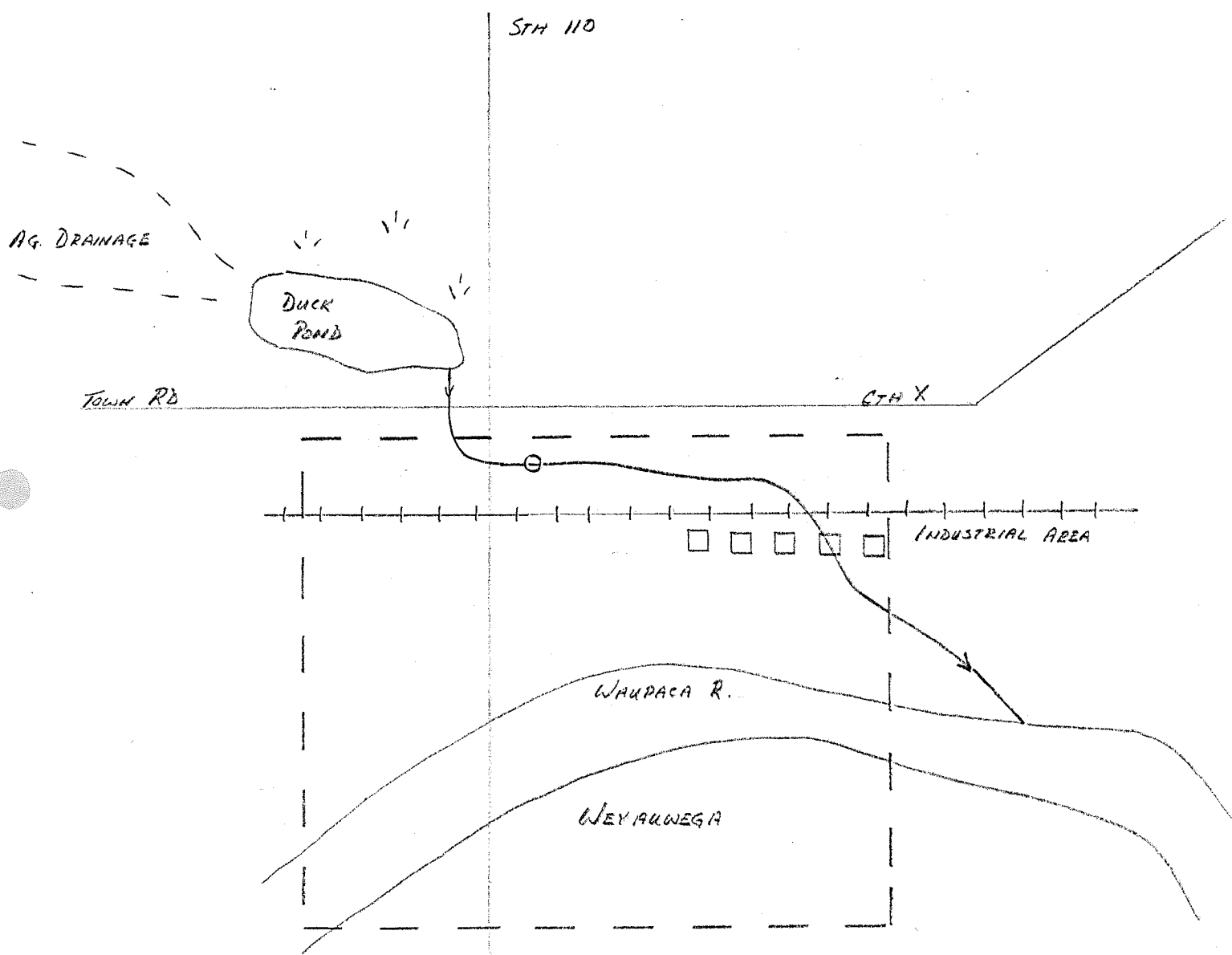
Tim Doelger

TD:cs

10/13/81

*ask Sue why the classification was requested.*





- ✓ MARSH
- VILLAGE BOUNDARY
- + — R.R.
- SITE LOCATION

STREAM SYSTEM HABITAT RATING FORM

Stream UNNAMED TO WAUPACA Reach Location STH 110 E X  
 County WAUPACA Date 8-18-81 Evaluator Doehner

Reach Score/Rating 192 FAIR ---

Classification NONCONTIN

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
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
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 $\leq 7$ .	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 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

20                      10                      58

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 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 -- 20

10

14

148

Add column scores E 20 + G 10 + F 14 + P 148 Total Reach Score 192

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

178  
14  
192

# STREAM SYSTEM HABITAT RATING FORM

Stream UNAMED Trib To The Waupaca River Reach Location Cornice 110 to Waupaca River along Co. "K" Reach Score/Rating 169 - FAIR  
 County Waupaca Date 8-18-81 Evaluator Wassenaar Classification noncontinuous

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
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). <i>Duck Pond</i>	20
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 $\leq 7$ .	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
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Watershed

Upper Bank

Lower Bank

Bottom

20  
90  
110

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
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Column Total -- 169

Add column scores E 12 + G 27 + F 14 + P 116 Total Reach Score

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

1  
116  
14  
27  
12  
169