

## Bub, Laura A

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**From:** Hazuga, Mark J  
**Sent:** Tuesday, May 10, 2005 4:20 PM  
**To:** Bub, Laura A  
**Subject:** RE: NR 104 Clarifications

Info in red.

Thanks again for everything.

Mark

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**From:** Bub, Laura A  
**Sent:** Tuesday, May 10, 2005 3:39 PM  
**To:** Hazuga, Mark J  
**Subject:** RE: NR 104 Clarifications

Thanks for sending this summary, Mark--it was helpful to me. I think that the haze is starting to clear on this end. I only have Rozellville left to enter into the database, and I think that we should be set.

Here's what I'm thinking about for Rozellville--let me if you can recommend any edits, or if the descriptions are just plain wrong. Also, if you'd be able to provide any GPS/latlong/TRSS info, that might be helpful (I think that this sort of information will be especially useful if this information will eventually be digitized for spatial viewing).

- a) from WWTP outfall (44 degrees 44' 13"N 90 degrees 2' 8"W; T26N R4E Sec 16 SE of NW), downstream roadside ditch, through grassed waterway to confluence with unnamed tributary (44 degrees 44' 30.6"N 90 degrees 2' 28.5"W; T26N R4E Sec 16 NW NW) **(VTAL/LAL)**
- b) unnamed tributary from confluence with grassed waterway downstream to Folz Rd (44 degrees 44' 25.2" N 90 degrees 2' 43.5"W; T26N R4E Sec 16 NW of NW) **(TFAL/LFF)**
- c) unnamed trib from Folz Rd downstream to confluence with Wild Creek (44 degrees 44' 16.8"W 90 degrees 2' 53.6" W; T26N R4E Sec 17 SE NE) and Wild Creek **(DFAL)**

Finally, I have a question about the name associated with the "Arpin" discharger on Hemlock Creek. Right now the database has "Arpin WWTP & Dairy" listed as the discharger. Is this correct? Should "Dairy" be replaced with "Sorrento, Inc."? Should the WWTP still appropriately be included?

So, that's it. Once I hear back from you, I should be able to finish this up.

Thanks-

Laura

**Laura Bub**

Bureau of Watershed Management

(608) 261-4385

-----Original Message-----

**From:** Hazuga, Mark J  
**Sent:** Monday, May 09, 2005 12:07 PM  
**To:** Donaldson, Eric J.; Pfefferkorn, Peter R.; Oldenburg, Patrick S.  
**Cc:** Laliberte, Paul J.; Bub, Laura A  
**Subject:** NR 104 Clarifications

WCR, Marathon Co.  
 Wild Creek @  
 Rozelville  
 ~1550'

### Watershed Viewer

### Legend



-  Local Roads
-  Rivers and Streams
-  24K Open Water
-  County Boundary
- Municipalities**
- Village
- City
-  WMTPLagoons
-  discharge path
- ~1800 ft

### Disclaimer

The data layers shown on this map represent potential sensitive data from the Water Divison, please contact Lisa Helmuth with any questions about this map or the Watershed Web Viewer application.

Scale: 1:9,548

DATE: October 14, 2002 FILE REF: [Click **here** and type file ref.]

TO: Pat Oldenburg – Eau Claire  
Paul LaLiberte – Eau Claire  
Tom Jerow – Wisconsin Rapids  
Eric Donaldson – Wausau  
Al Hauber - Wausau

FROM: Mark Hazuga - Wausau

SUBJECT: Stream Classification Of Wild Creek, Unnamed Creek 17-4 and grassed waterway

The Rozellville Sanitary District operates a three cell stabilization lagoon system and currently discharges using the Fill and Draw Mode. The discharge is to a roadside ditch in T26N R4E Sec 16 SW NE that flows north ~ 0.3 mile to a grassed waterway which in turn flows west ~0.3 mile to Unnamed Creek 17-4. The unnamed stream then flows ~ 0.5 mile to Wild Creek. The current stream classifications listed in NR 104 for the roadside ditch, grassed waterway and Unnamed Creek 17-4 is “Limited Aquatic Life” and “Limited Forage Fish” for Wild Creek from the confluence with Unnamed Creek 17-4 downstream to the confluence with the Little Eau Pleine River (Figure 1). Waste water is discharged to groundwater in cells two and three as a result of leakage from the lagoons. The first cell is lined with a plastic liner to prevent leakage to groundwater. A 50 mg/l BOD limit applies to the groundwater discharge.

The Sanitary District typically discharges for a one week period, one or two times a year and effluent flows range from 750,000 to 1 million gallons for a weekly discharge. Effluent limits are based on the “Limited Aquatic Life” classification of the grassed waterway and Unnamed Creek 17-4.

Eric Donaldson and I conducted stream classification surveys on August 20, 2002 to review the current classifications using the new draft guidance for designating fish and aquatic life uses for surface waters. Fishery surveys were completed on Wild Creek and Unnamed Creek 17-4 and observations were made on the grassed waterway that flows to the unnamed stream.

### **Wild Creek**

Wild Creek is approximately 10 miles in length and is identified as a perennial stream for most of its length on the USGS Hewitt and Stratford Quadrangle maps. Landuse in the watershed is pre-dominantly agriculture with a few forested riparian areas. The current stream classification for Wild Creek is Tolerant Aquatic Life or Limited Forage Fish from the confluence with Unnamed Creek 17-4 downstream four miles to the confluence with the Little Eau Pleine River.

and creek chubs were found in small shallow pool at the end of the station. The percent fish tolerant of low dissolved oxygen would likely be higher if shocking continued upstream of the pool where the channel was shallow and overgrown with vegetation. The channel was observed near the confluence with the drainage way. Habitat and channel conditions were very similar to what was found just upstream (Station 3) of Folz Road. Most of this segment appeared ditched based on the 1998 aerial map. The ditching upstream of Folz Road appears older than the segment just below the road.

### **Grassed Waterway and Roadside Ditch**

The roadside ditch extends south ~0.3 mile up hill from the grassed waterway to the waste water lagoons. Precipitation runoff and seasonal discharge from the treatment plant constitute flow in the ditch. The grassed waterway flows ~0.3 mile from the road ditch to Unnamed Creek 17-4. The grassed waterway was dry in the summer of 2000 during a field visit. On August 20, 2002, there was very little water and minimal flow into the upper portion of the waterway, probably a result of recent rainfall. Standing water was observed in nearby road ditches with culverts that discharge to the grassed waterway. Vegetative growth along the drainage way consisted mostly of reed canary grass that also covered much of the channel. The lower reach of the drainage way was dry at the confluence with Unnamed Creek 17-4.

### **Recommended Stream Classifications**

#### Wild Creek

Currently, Wild Creek is classified in NR 104 as a Limited Forage Fishery (Tolerant Aquatic Life) from the confluence with Unnamed Creek 17-4 (T26N R4E Sec 17 SE NE) downstream to the confluence with the Little Eau Pleine River (T26N R4E Sec 27 SWSE). Based on surveys and observations completed in 2002, Wild Creek should be classified as Full Fish and Aquatic Life (Diverse Fish and Aquatic Life) in this entire reach. Habitat and water quality conditions in the stream support a diverse forage fish community that was represented by 15 species. The percent of low dissolved oxygen tolerant fish species was 40%, which is well below the 95-75% threshold listed in guidance. The stream upstream and downstream of the fish survey site had similar in-stream habitat conditions and fish were observed in both reaches. Therefore, the Limited Forage Fish classification (Tolerant Aquatic Life) listed in NR 104 should be removed allowing the default classification of Fish and Aquatic Life (Diverse Fish and Aquatic Life) to become effective (Figure 2).

#### Unnamed Creek 17-4

Unnamed Creek 17-4 is classified in NR 104 as a Limited Aquatic Life stream (Very Tolerant Aquatic Life) from the confluence with the grassed waterway to the junction with Wild Creek. Based on surveys completed in 2002, the stream should receive two classifications. The fish community collected at the station below Folz Road consisted of 10 species and the percent of low oxygen tolerant fish was 76%. An instantaneous dissolved oxygen reading was 4.34 mg/L. The number of species collected from this segment would suggest a classification of Fish and

as result of runoff from a previous rainfall. Flow in the grassed waterway appears to be a function of precipitation runoff and the seasonal discharge from the sanitary district. Tolerant fish species inhabiting Unnamed Creek 17-4 could potentially migrate up the grassed waterway during a long duration runoff period but they would not likely survive long term. Therefore, the existing use of Limited Aquatic Life (Very tolerant Aquatic Life) is likely the potential use of the road ditch and grassed waterway as long as the discharge is seasonal. If the Sanitary District were to switch to a continuous discharge the classification of the grassed waterway should be re-evaluated. A continuous discharge could potentially maintain permanent streamflow and improve habitat and water quality conditions of the grassed waterway.

**Appendix 1. Wild Creek Fish Survey Results**

(REV. 7/15/2002)

<b>Sample Date</b>	08/22/2002
<b>SITE</b>	Wild Creek upstream confluence with Unnamed Creek 17-4
<b>PERSONNEL</b>	Hazuga, Donaldson

MATRIX	VALUE	SCORE	Equipment Type =	Back Pack
total # of fish	565	n/a	<b>Stream width (m) =</b>	3.1
total # of native spp.	15	5	Ln stream width (m) =	1.13
total # of darter spp.	1	0	<b>Distance shocked (m)=</b>	150
total # of sucker spp.	1	2	Is your sample site greater than 8 km from a lake?	y
total # of sunfish spp. < 8km from lake	0	0		
total # of sunfish spp. >8km from lake	2	10		
total # of intolerant spp.	1	2		
total # of tolerant fish	456	0		
total # of omnivores	86	10	% of tolerant spp.	81
total # of insectivores	237	5	% of omnivorous spp.	15
total # of top carnivores	0	0	% of insectivores	42
total # of simple lithophils	86	0	% of carnivores	0
	subtotal	34	% of simple lithophilous	15
Correction Factors		34	Correction Factors	
<b>total # of DELT fish</b>	0	34	# of nontolerant fish per 300m	218
Total after correction factors =		34	% DELT	0
<b>IBI SCORE =</b>		<b>34</b>		

**Biotic Integrity Rating**

**FAIR**

# of fish      Fish species      Notes      1 200

- 200 Creek Chub
- 83 Central Mudminnow
- 58 Green Sunfish
- 43 Brook Stickleback
- 43 Fathead Minnow
- 41 White Sucker
- 29 Blacknose Dace
- 23 Johnny Darter
- 16 Common Shiner
- 13 Northern Redbelly Dace
- 8 Hornyhead Chub
- 3 Pearl Dace
- 2 Bluntnose Minnow
- 2 Pumpkinseed
- 1 Blacknose Shiner

<b>Stream Class Guidance (6/2002) Tolerance Summary Data</b>	
Total # of game-fish species with more than 2 individuals per 100m.	0
Total # of DO tolerant fish	227
Total # of DO tolerant fish per 100 meter stream length	151
% fish belonging to spp. that are tolerant to low DO	40 %
Total # of fish tolerant to disturbed habitat	272
Total # of fish tolerant to disturbed habitat per 100m. stream length	181
% of fish species that are tolerant to disturbed habitats	48 %
% of DO fish AND tolerant to disturbed habitat fish spp.	88 %
Total # of DO tolerant species =	4
Total # of Disturbed habitat species =	4
Total # of fish species collected =	15
Total # of fish collected =	565
Stream length shocked (m) =	150

**Appendix 2. Unnamed Creek 17-4 Fish Survey Results (below Folz Road)**

(REV. 7/15/2002)

<b>Sample Date</b>	08/20/2002
<b>SITE</b>	Unnamed Creek 17-4 73 meters downstream Folz Road
<b>PERSONNEL</b>	Hazuga, Donaldson

MATRIX	VALUE	SCORE	Equipment Type =	Back Pack
total # of fish	396	n/a	<b>Stream width (m) =</b>	1.6
total # of native spp.	10	10	Ln stream width (m) =	0.47
total # of darter spp.	0	0	<b>Distance shocked (m)=</b>	73
total # of sucker spp.	1	10	Is your sample site greater than 8 km from a lake?	y
total # of sunfish spp. < 8km from lake	0	0		
total # of sunfish spp. >8km from lake	2	10		
total # of intolerant spp.	0	0		
total # of tolerant fish	321	0		
total # of omnivores	86	5	% of tolerant spp.	81
total # of insectivores	241	10	% of omnivorous spp.	22
total # of top carnivores	0	0	% of insectivores	61
total # of simple lithophils	1	0	% of carnivores	0
	subtotal	45	% of simple lithophilous	0
Correction Factors		45	Correction Factors	
<b>total # of DELT fish</b>	0	45	# of nontolerant fish per 300m	308
Total after correction factors =		45	% DELT	0
<b>IBI SCORE =</b>		<b>45</b>		

**Biotic Integrity Rating**

**FAIR**

# of fish      Fish species

**Notes**

\*\* STREAM WIDTH BELOW IBI MODEL CALIBRATION (<2.5m or 1 200

- 183 Central Mudminnow
- 85 Fathead Minnow
- 38 Creek Chub
- 31 Northern Redbelly Dace
- 23 Pearl Dace
- 18 Brook Stickleback
- 14 Green Sunfish
- 2 Black Bullhead
- 1 Pumpkinseed
- 1 White Sucker

<b>Stream Class Guidance (6/2002) Tolerance Summary Data</b>	
Total # of game-fish species with more than 2 individuals per 100m.	0
Total # of DO tolerant fish	302
Total # of DO tolerant fish per 100 meter stream length	414
% fish belonging to spp. that are tolerant to low DO	76 %
Total # of fish tolerant to disturbed habitat	39
Total # of fish tolerant to disturbed habitat per 100m. stream length	53
% of fish species that are tolerant to disturbed habitats	10 %
% of DO fish AND tolerant to disturbed habitat fish spp.	86 %
Total # of DO tolerant species =	5
Total # of Disturbed habitat species =	2
Total # of fish species collected =	10
Total # of fish collected =	396
Stream length shocked (m) =	73

**Appendix 3. Unnamed Creek Fish Survey Results (above Folz Road)**

(REV. 7/15/2002)

<b>Sample Date</b>	08/20/2002
<b>SITE</b>	Unnamed Creek 10 meters upstream Folz Road
<b>PERSONNEL</b>	Hazuga, Donaldson

MATRIX	VALUE	SCORE	Equipment Type =	Back Pack
total # of fish	86	n/a	<b>Stream width (m) =</b>	1.7
total # of native spp.	6	5	Ln stream width (m) =	0.53
total # of darter spp.	0	0	<b>Distance shocked (m)=</b>	80
total # of sucker spp.	0	0	Is your sample site greater than 8 km from a lake?	y
total # of sunfish spp. < 8km from lake	0	0		
total # of sunfish spp. >8km from lake	1	2		
total # of intolerant spp.	0	0		
total # of tolerant fish	62	0		
total # of omnivores	30	5	% of tolerant spp.	72
total # of insectivores	38	5	% of omnivorous spp.	35
total # of top carnivores	0	0	% of insectivores	44
total # of simple lithophils	0	0	% of carnivores	0
	subtotal	17	% of simple lithophilous	0
Correction Factors		17	Correction Factors	
<b>total # of DELT fish</b>	0	17	# of nontolerant fish per 300m	90
Total after correction factors =		17	% DELT	0
<b>IBI SCORE =</b>		<b>17</b>		

**Biotic Integrity Rating**

**VERY POOR**

# of fish      Fish species

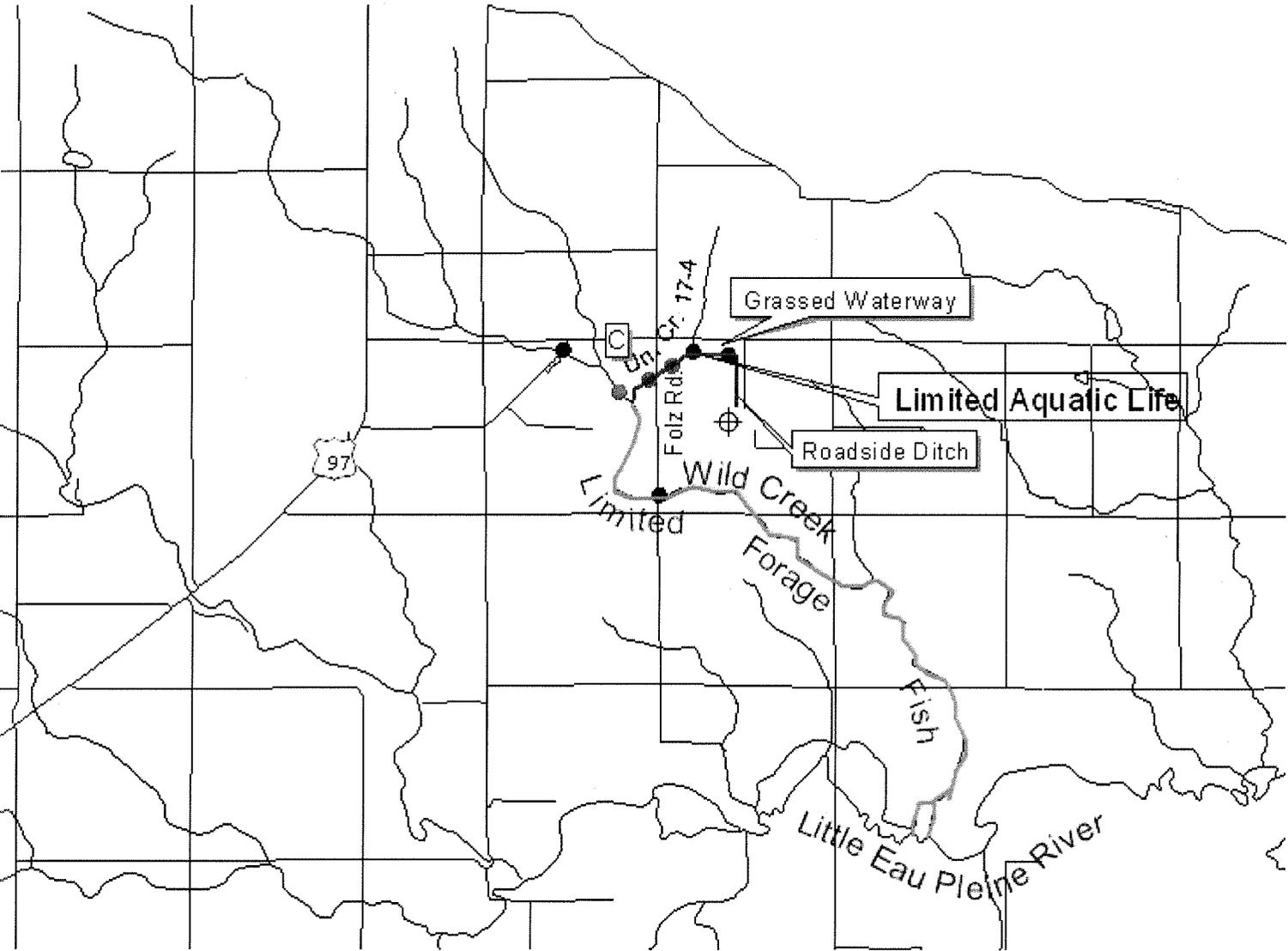
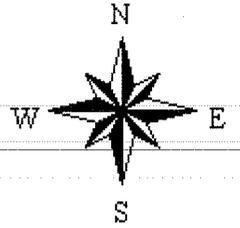
**Notes**

\*\* STREAM WIDTH BELOW IBI MODEL CALIBRATION (<2.5m or 1 200

- 30 Fathead Minnow
- 22 Central Mudminnow
- 14 Northern Redbelly Dace
- 10 Brook Stickleback
- 6 Green Sunfish
- 4 Creek Chub

<b>Stream Class Guidance (6/2002) Tolerance Summary Data</b>	
Total # of game-fish species with more than 2 individuals per 100m.	0
Total # of DO tolerant fish	68
Total # of DO tolerant fish per 100 meter stream length	85
% fish belonging to spp. that are tolerant to low DO	79 %
Total # of fish tolerant to disturbed habitat	4
Total # of fish tolerant to disturbed habitat per 100m. stream length	5
% of fish species that are tolerant to disturbed habitats	5 %
% of DO fish AND tolerant to disturbed habitat fish spp.	84 %
Total # of DO tolerant species =	4
Total # of Disturbed habitat species =	1
Total # of fish species collected =	6
Total # of fish collected =	86
Stream length shocked (m) =	80

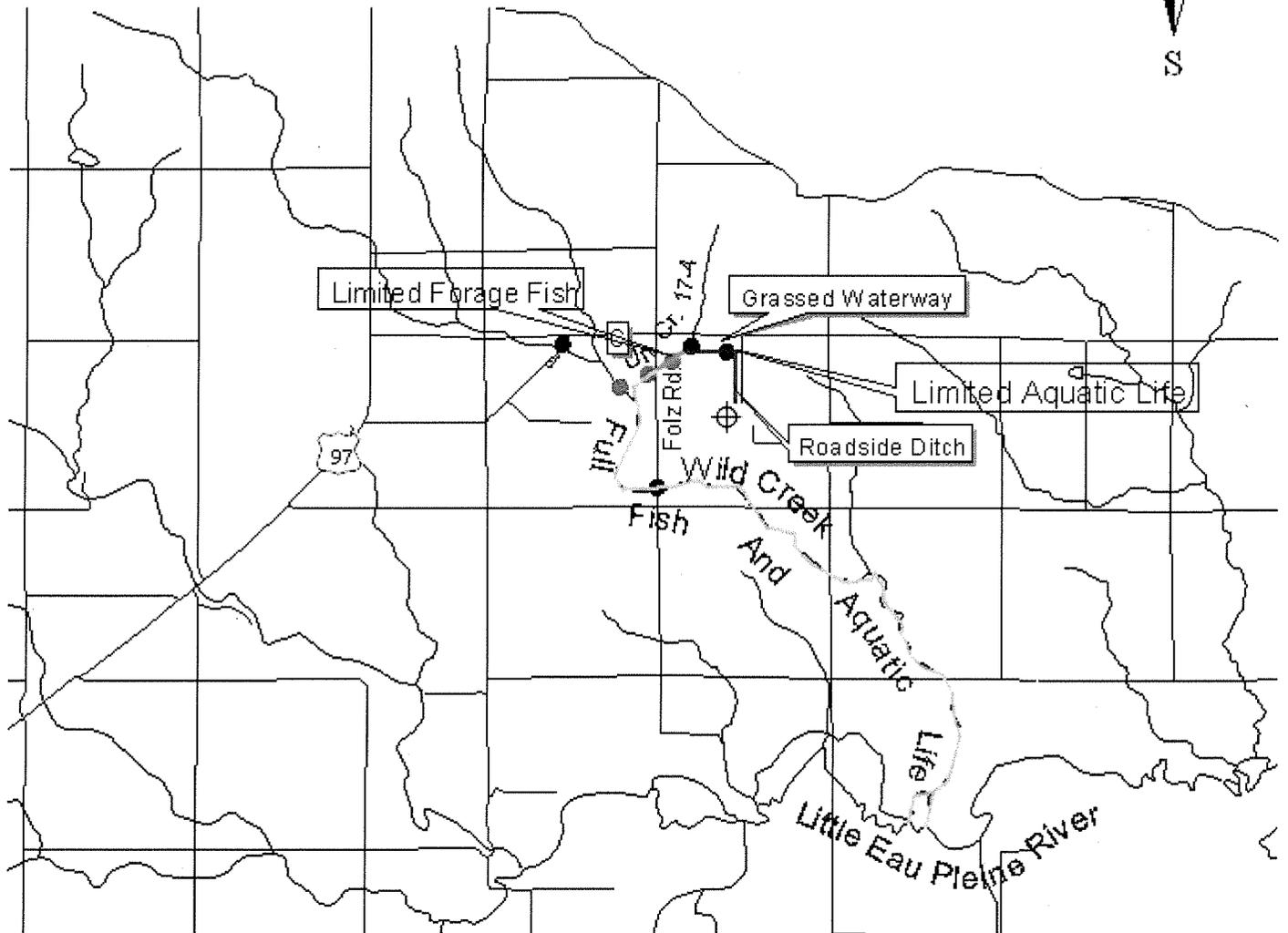
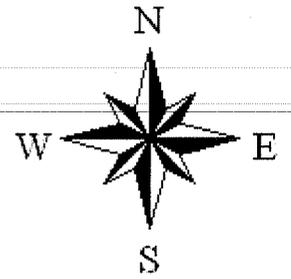
# Rozellville WWTP Current Stream Classifications



- Observations
- Fish survey site
- ▬ Streams
- ▬ Local roads
- ▭ Watershed
- ▬ Limited Aquatic Life
- ▬ Limited Forage Fish



# Rozellville WWTP Proposed Stream Classifications



- Observations
- Fish survey sites
- ▬ Streams
- ▬ Local roads
- ▭ Watershed
- ▬ Limited Aquatic Life
- ▬ Limited Forage Fish
- ▬ Full Fish and Aquatic Life





Wild flowers in Rosenthal, Massachusetts

Region WCR County Marathon Report Date 11/1976 Classification LAL/LFF

Water Body: Wild Creek, Trib to

Discharger: Rozelville STP

**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
- 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: photo

**Historical Reports in file:**

11/1976 - Bill Joeger

**Additional Comments/How to improve report:**

- need data to justify classn.  
- check w/ region to see if add'l data available

Rozellville, Marathon County

Wastewater Receiving Stream Classification

Rozellville treats its sewage with a two cell lagoon system. The second lagoon has an outfall but because of seepage and evaporation has never been known to discharge. If a discharge would occur, it would flow 2,000 feet down a shallow roadside ditch and join a tributary to Wild Creek. The tributary is .8 of a mile long and is normally dry. The 7 day  $Q_{10}$  of Wild Creek has not been determined but is almost certainly zero. The drainage area of Wild Creek above the tributary is only 6.7 square miles and zero flow was noted in fall of 1976. Below the Rozellville tributary Wild Creek has a length of four miles before joining the Little Eau Pleine River. The watershed of Wild Creek is almost all farmland with about 15% woodland.

The aquatic community of Wild Creek is unknown. When the survey was conducted, most of the stream was dry so there was very little aquatic life present. During flow periods minnows are probably present and in spring some fish such as northern pike and suckers may use it during spawning migrations. The overall quality of the Wild Creek aquatic community is probably quite low because of the intermittent flow conditions.

Recommendations: The roadside ditch which receives the Rozellville discharge should have the diffuse surface water hydrologic classification. The tributary to Wild Creek and Wild Creek itself should be classified noncontinuous. The path of flow from the outfall to Wild Creek should have the "marginal" water quality classification and Wild Creek itself should be classified "not supporting a balanced aquatic community."

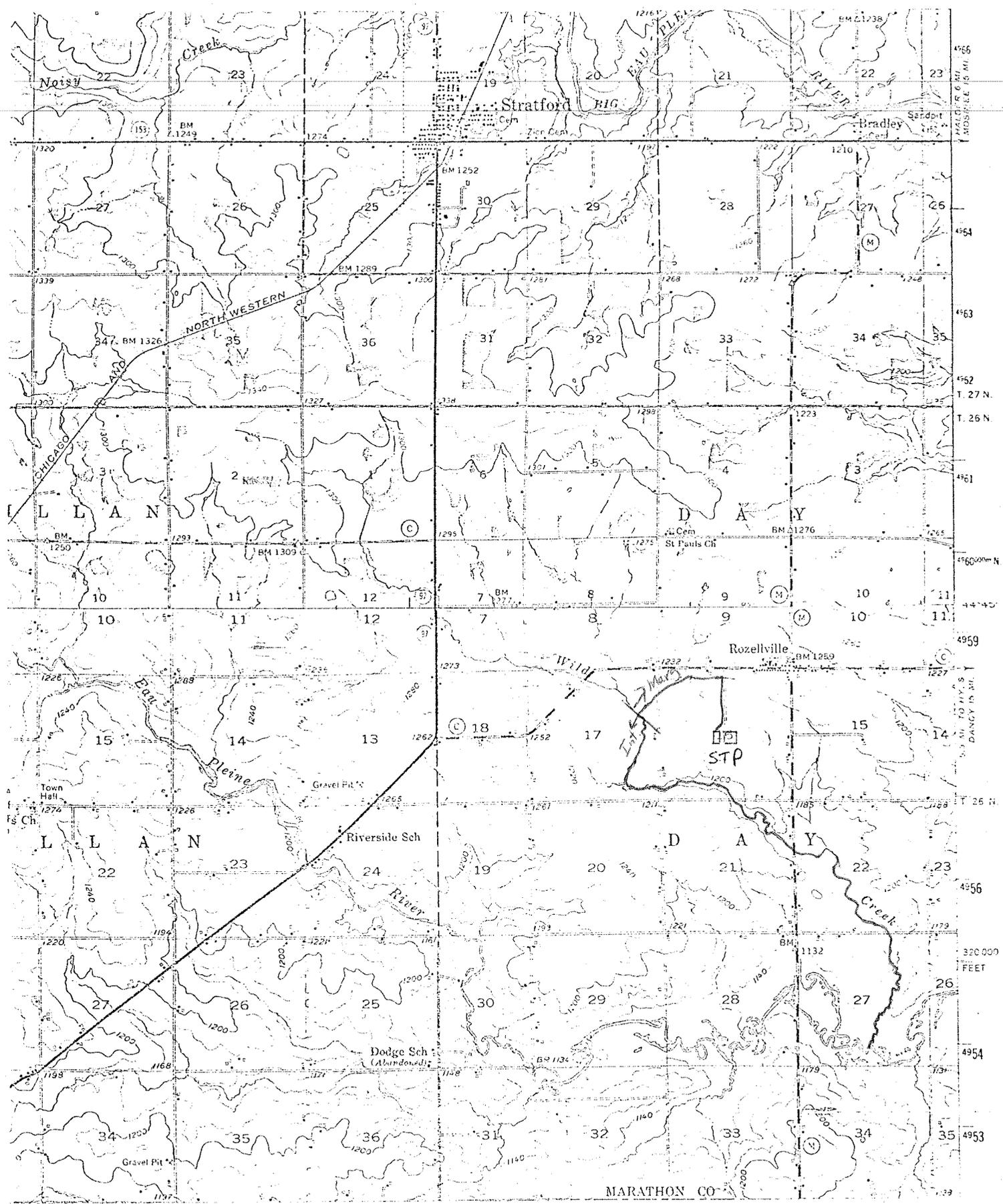
Field survey dates: Primary 10/21/76  
Followup 11/30/76

*intermediate*

Prepared by Bill Jaeger, E. P. Biologist



Wild Creek at CTH "M"



4°56'  
W. 100° 00' 00" N  
MOBILE 10 MI

4°54'

4°53'

4°52'

T. 27 N.

4°51'

T. 26 N.

4°50' 00" N

4°49'

4°48'

4°59'

4°58'

4°57'

4°56'

4°55'

4°56'

4°55'

320 000  
FEET

4°54'

4°53'

4°52'

4°51'

4°50'

MARATHON CO