

*Re-evaluation
1976*

FREDERIC, POLK COUNTY

WASTEWATER RECEIVING STREAM CLASSIFICATION - AMENDED

Receiving stream - Brown Brook Tributary to North Branch Trade River
Q₇, 10 at discharge site = 0.00 CFS.

The 1975 wastewater receiving stream classification report for Frederic recommended reevaluation of the stream system during the summer of 1976 due to 1975 time limitations and rainfall preceeding the evaluation.

A reevaluation was conducted during 1976 which resulted in a stream classification and effluent limitation change for the Frederic wastewater treatment plant. Stream conditions during 1976 were as follows: From stream mouth upstream to the middle of section 4 (1/2 mile) standing water was present in the flow channel through a grass, tag alder, willow shrub swamp. The water surface was covered with duckweed and no water movement was discernable at flow constrictions such as road culverts. From the middle of section 4 upstream to the Coon Lake source the flow channel was dry except for sewage effluent about 1/2 mile below the discharge. Land use was not significantly changed by pasturing and definitely not to the extent of degrading the quality of stream water when present in this flow segment. The land was well vegetated with grasses and native shrubs and trees.

Another condition supporting a classification change is the "wet area" drainage above the wastewater treatment plant outfall is actually Coon Lake, a bass, bluegill, bullhead lake. Therefore, during periods of flow from Coon Lake game fish and forage fish may be distributed downstream, be present in the vicinity of the outfall and restricted to effluent laden water as surface flow subsides.

RECOMMENDATIONS:

In light of the above information, it is recommended that the wastewater receiving stream classification for the entire Brown Brook tributary of the North Branch Trade River be changed to noncontinuous flow, not capable of supporting a balanced aquatic community.

REEVALUATION DATES: September 23, 1976 and September 30, 1976.

PERSONNEL:

Terry A. Moe - Water Pollution Biologist - WCD (9/23 & 9/30/76)
David J. Teske - Environmental Engineer - WCD (9/30/76)

FREDERICK, POLK COUNTY

Wastewater Receiving Stream Classification

An existing drainage ditch is the effluent receiving stream for the Frederick WWTP. The ditch, a headwater tributary to Brown Brook, was constructed to drain upgrade wet areas and is dry during dry periods of the year. The stream flows through wooded and agricultural land and also marshes and ponds, at times nearly losing its identity as a stream. This condition is prevalent along the first mile of Brown Brook.

Below the WWTP, at the section 33/4 town road crossing, the stream is small with minimal flow through a lowland marsh area. Existent land use is pasture land. Flow status is noncontinuous above this road crossing and continuous below it due to swamp contribution.

At the section 4/5 town road crossing, Brown Brook is slowly flowing through a culvert. Tamarack, tag alder wetland is the land type and duckweed was abundant on the water surface. Brown and brook trout are documented as present in this stream (Surface Water Resources of Polk County, WCD, 1961).



First town road crossing
(Sec. 33/4) below Frederick
WWTP

Recommendations:

Brown Brook at the Frederick WWTP discharge shall be classified as a noncontinuous, marginal use stream. This classification shall persist to the first downstream town road crossing at the section 33/4 section line. Downstream from the section 33/4 road crossing, Brown Brook shall be classified as continuous flow intermediate aquatic life for one-half mile. From that point to the confluence with the Trade River, continuous flow, fish and aquatic life shall be the classification of Brown Brook.

It is recommended that Brown Brook, especially the upstream portion, be reevaluated during the summer of 1975 to confirm assigned classifications.

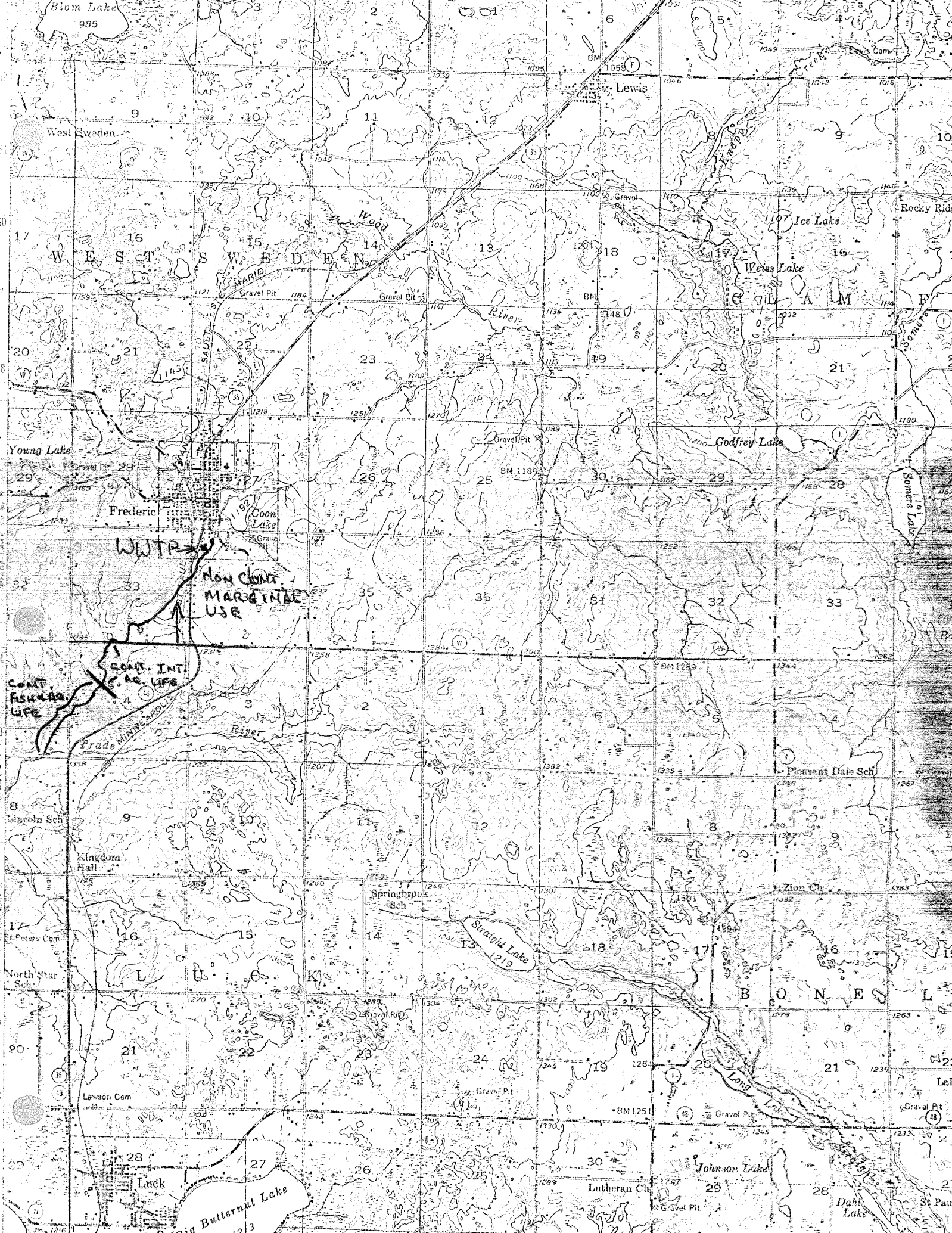
Evaluation Date: August 25, 1975

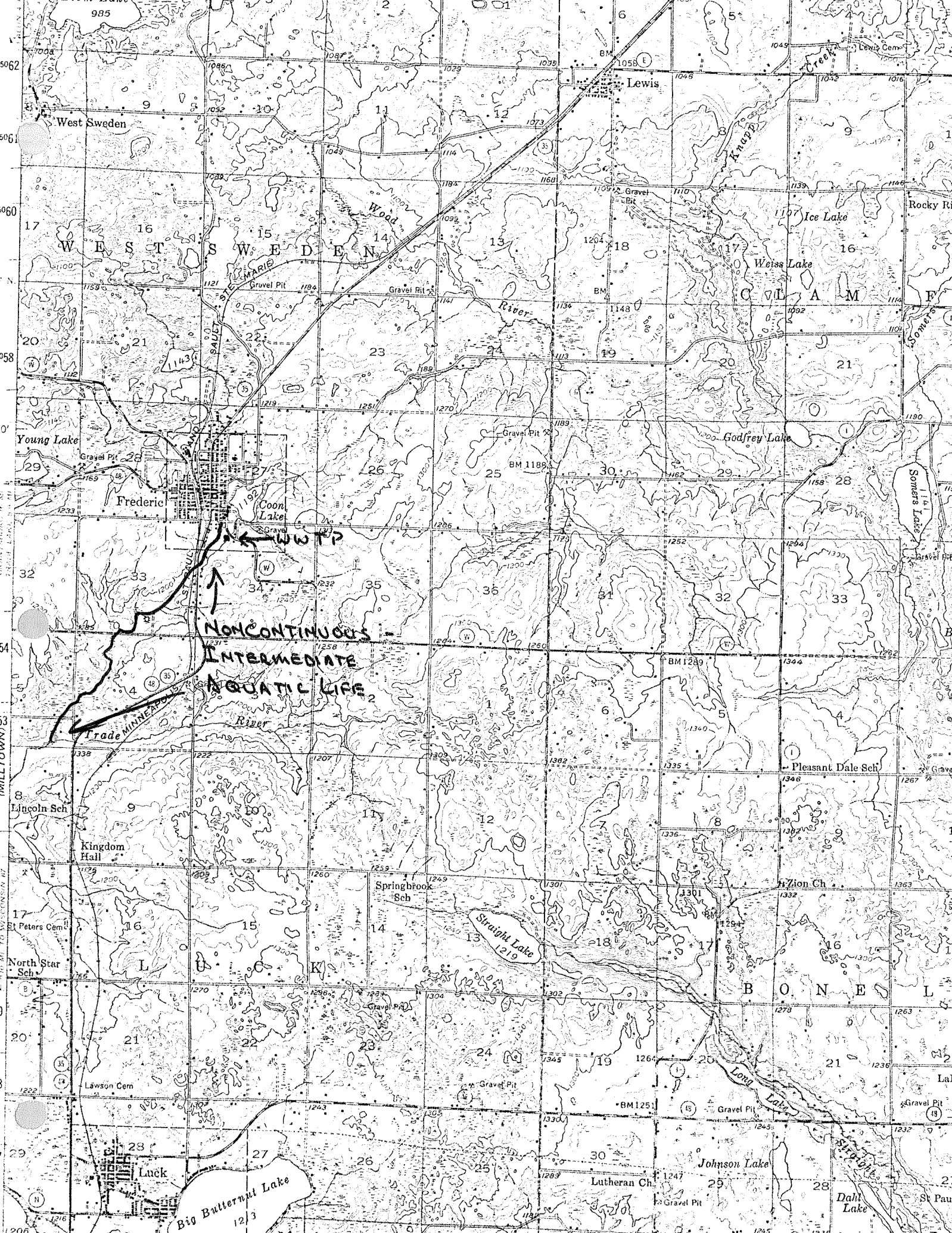
Personnel:

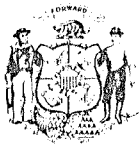
Lewis A. Seymour - Environmental Engineer - WCD
Terry A. Moe - Water Pollution Biologist - WCD
Bert J. Apelgren - Area Fish Manager - Menomonie Area
Ron Martin - Biologist - Water Quality Evaluation - Madison



Second town road below Frederick WWTP







State of Wisconsin \ DEPARTMENT OF NATURAL RESOURCES

West Central District Headquarters
1300 West Clairemont Avenue
Madison, WI 53701

Anthony S. Earl
Secretary

November 11, 1976

IN REPLY REFER TO: 3410

Mr. Victor O. Marz
Department of Natural Resources
Box 7921
Madison, WI 53707

DNR NOV 18 1976

Dear Mr. Marz:

On August 25, 1975, the following team evaluated Brown Brook below the east-west town road dividing sections 33/4.

Lewis A. Seymour - Environmental Engineer - WCD
Terry A. Moe - Water Pollution Biologist - WCD
Bert J. Apelgren - Area Fish Manager - Menomonie Area
Ron Martin - Biologist Water Quality Evaluation - Madison

This section of Brown Brook was classified as continuous, intermediate aquatic life (not capable of supporting a balanced aquatic community) stream. Due to lack of time, the number of classifications to be completed and rainfall preceding the date of classification, the upstream (above 33/4 town road) was not inspected. Based on Mr. Seymour's description, the upstream portion was classified as a noncontinuous marginal use stream. The classification report written by Terry Moe recommended that this portion be reevaluated in the summer of 1976.

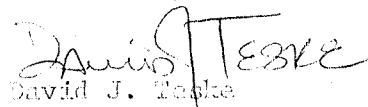
Frederic was reevaluated on Thursday, September 23, 1976, by Terry Moe and on Thursday, September 30, 1976, by Mr. Moe and the writer for concurrence with the September 23, 1976 evaluation. The following points are important to the Brown Brook classification:

1. Pasturing on the upstream portion of Brown Brook is not severe enough to degrade the stream.
2. The discharge area is heavily grassed woodland with many low shrubs.
3. Flow upstream of the discharge point, when present, is from Coon Lake, not "wet areas" as previously described.
4. Coon Lake supports a fishery and during times of high flow it can be assumed that fish enter Brown Brook.

Due to the reevaluation of conditions, Terry Moe and this writer are in agreement that the portion of Brown Brook from Coon Lake downstream to the discharge point be reclassified as noncontinuous stream, not capable of supporting a balanced aquatic community. In this case effluent limits as set in ER 104.01 shall be:

Parameter	Monthly Average (mg/l)	Daily Maximum (mg/l)	Weekly Average (mg/l)	Minimum (mg/l)
BOD ₅	15	30		
Total Suspended Solids	20	30		
NH ₃ -N (May-October)			3	
NH ₃ -N (November-April)			6	
Dissolved Oxygen				4

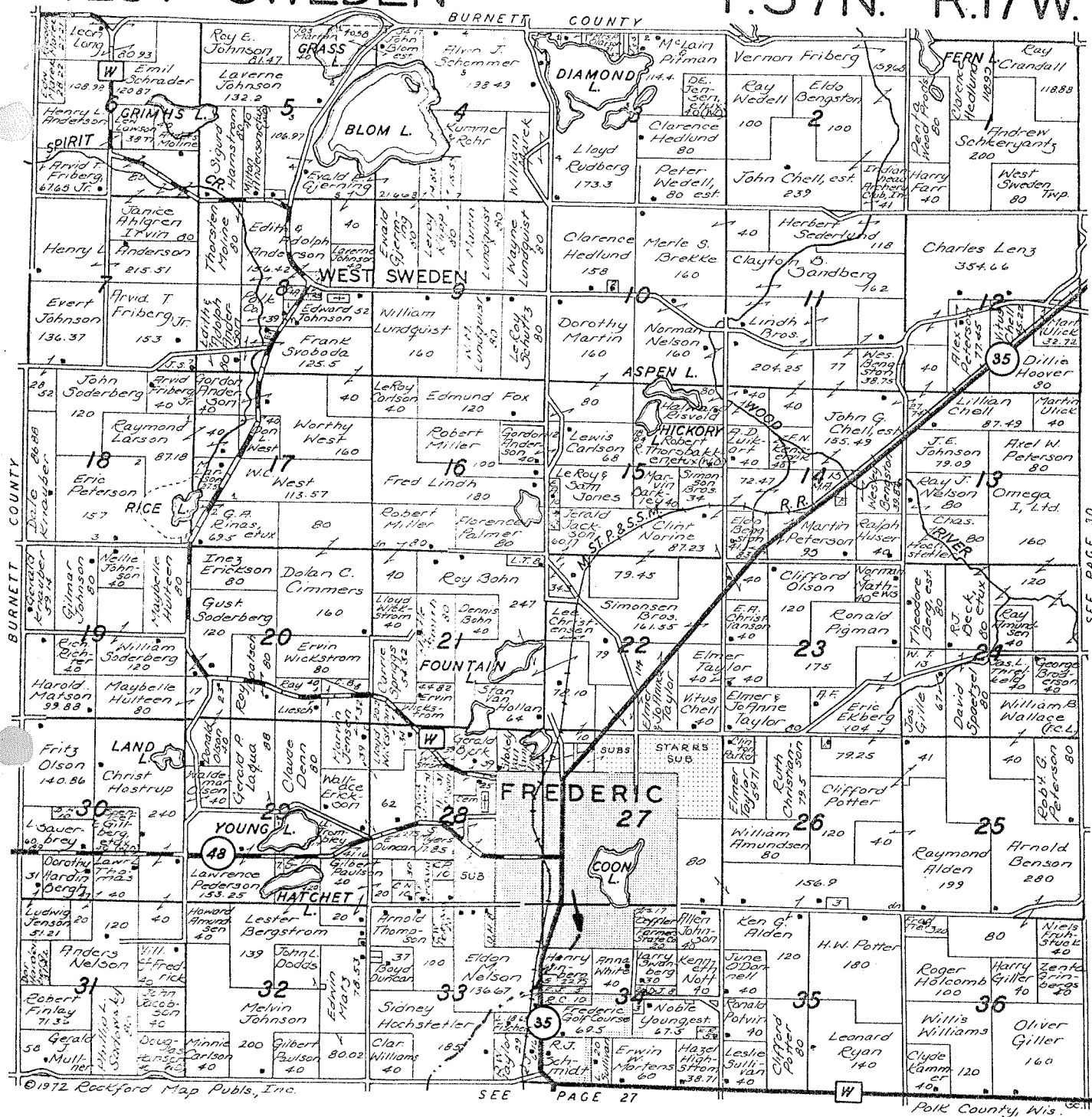
If there are any questions concerning this determination, please feel free to contact myself, David Teske, at 836-2910 or Mr. Moe at 836-2951.


David J. Teske

DJT:clw

cc: Robinson and Associates

Terry A. Moe



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