

Region WCR County LaCrosse Report Date 5/1994 Classification LALWater Body: Mormon CreekDischarger: St Joseph WWTP

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: photos \_\_\_\_\_

#### Historical Reports in file:

- 5/4/94 - Paul Laliberte
- 9/14/89 - Paul Laliberte
- 9/29/76 - Terry Moe / Harold Erickson

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

- LAL b/c of "extremely" low flow

WATER QUALITY STANDARDS REVIEW FOR THE INTERMITTENT HEADWATER OF  
MORMON CREEK IN LA CROSSE COUNTY NEAR ST JOSEPH

May 4, 1994

BY: Paul La Liberte

Since the original stream classification was made in 1976, this stream was inspected four times; 6/5/78, 5/1/84, 9/5/84 and 4/7/94. Biotic index samples were collected in 1978 and 1994.

The original stream classification determined that the continuously flowing origin of Mormon Creek was a spring one quarter mile below the WWTP outfall. The 1978 study concluded that effluent seeped into the ground and did not reach the stream origin under non-event conditions. During the May 1984 inspection, water from recent rain was joining the St. Joseph WWTP effluent, causing it to persist downstream to the continuously flowing origin of Mormon Creek. The inspection in September 1984 found that the effluent seeped into the ground within one quarter mile and that the continuously flowing natural spring was no longer present. This condition was also noted in 1994, when the continuously flowing origin of Mormon Creek was determined to be a different spring one half mile below the WWTP outfall. It is suspected that erosion caused by logging or pasturing has blocked the former spring origin. During the 1994 inspection, a block of frozen sewage was present at the base of the ravine which conveys the effluent. It was melting and seeping onto the ground.

Since the length of headwater between the WWTP outfall and the stream origin has doubled to one half mile, the variance classification should be adjusted to match this condition. Furthermore, the extremely low flow in the variance reach, which is usually all effluent, is insufficient to support the designated use of limited forage fish. The average effluent flow for the St. Joseph WWTP was 0.06 cfs in 1993. The lack of flow, coupled with the stream's isolation from the natural spring origin of Mormon Creek by one quarter mile, indicates that a classification of limited aquatic life is appropriate. It is therefore recommended that the classification for this reach be changed to limited aquatic life and that it be as designated as indicated on the attached map and described as follows:

From the WWTP outfall in NW NE T15N R6W S13 to the spring located in SW NE T15N R6W (one half mile)

The macroinvertebrate sample collected in 1994 is being analyzed and will be used in conjunction with the sample collected in 1978 to track water quality trends in the continuously flowing headwaters of Mormon Creek.

stjoe.rpt

CC. C. Cameron - LAX

J. Ball - WR/2

Kate Barrett - WR/2

## CORRESPONDENCE/MEMORANDUM

STATE OF WISCONSIN

Date: September 14, 1989 File Ref: 3200

To: Duane Schuettpeitz - WR/2

From: Paul LaLiberte *Paul*

Subject: Water Quality Standards Review for the Headwaters of Mormon Creek near the St. Joseph POTW

Since the original stream classification was made in 1976, this stream was inspected three times; on 6/5/78, 6/1/84, and 9/5/84. The June inspection included a biotic index sample.

During summer dry weather, the POTW effluent flows about 1/4 mile before seeping into the ground. A short distance downstream, a spring constitutes the origin of Mormon Creek. During winter, the effluent collects and freezes into a large ice block at the head of the ravine. During snow melt and rainfall events, the ravine containing the effluent is hydrologically connected to Mormon Creek. The 1978 biotic index sample, collected just below the spring origin of Mormon Creek, indicated excellent water quality (1.62 on a scale of 0-5 utilizing Hilsenhoff's November 15, 1978 revision of DNR Bulletin #100).

Based on this information, the receiving water for the St. Joseph POTW should remain as originally classified; intermediate (use class D) from the POTW downstream to the spring origin of Mormon Creek where the classification changes to fish and aquatic life.

Attach.

c: B. Erickson  
WR/PL026.sz

ST. JOSEPH, LA CROSSE COUNTY

WASTEWATER RECEIVING STREAM CLASSIFICATION

Receiving stream - Tributary stream of Mormon Creek,  $Q_{7,10}$  at discharge site = 0.00 CFS.

St. Joseph STP discharges to a steep wooded coulee. Normal flow is southeast approximately 1/4-mile where the coulee joins headwater springs of Mormon Creek. Beyond a wooded buffer zone, the coulee is surrounded by agricultural land. At the time of inspection only sewage flow occurred in the coulee. Beyond the springs Mormon Creek is a small (0.1 CFS) continuous stream filled with water cress.



Outfall spillway to Coulee



Coulee at point of discharge



Overview of Coulee ravine

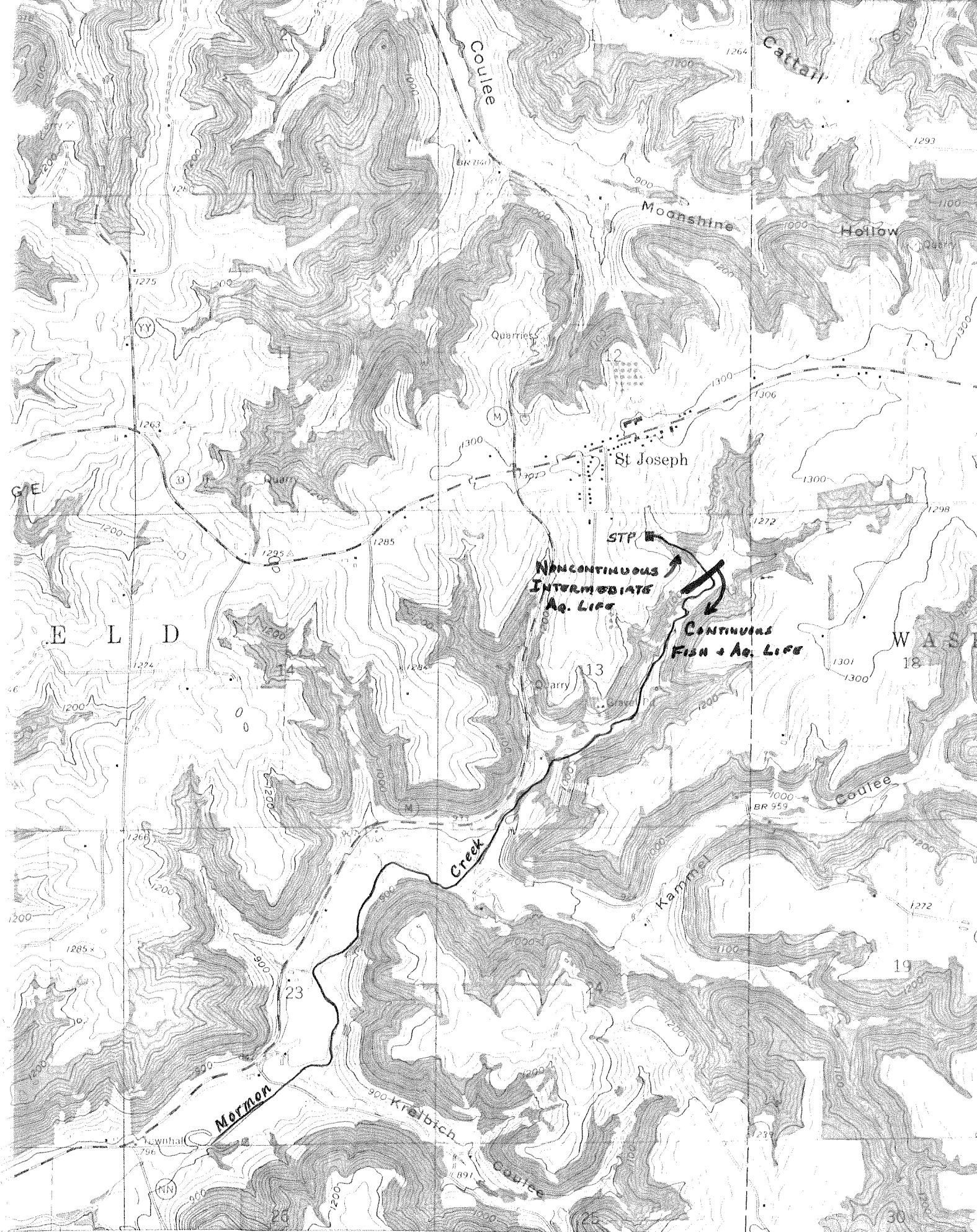
RECOMMENDATIONS:

The coulee receiving discharge from St. Joseph STP shall be classified noncontinuous, intermediate aquatic life. Mormon Creek is continuous, fish and aquatic life.

EVALUATION DATE: September 29, 1976

PERSONNEL:

Terry A. Moe - Water Pollution Biologist - WCD  
Harold Erickson - Environmental Engineer - WCD



(STODDARD 1:62 500)  
2771 II

SCALE 1:24 000

658000m E. R. 6 W. R. 5 W.

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