

Region WCR County Monroe Report Date 10/1995 Classification LAL

Water Body: Little LaCrosse River

Discharger: Cashton 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:**

10/16/95 - Paul Laliberte

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

- limited flow - insufficient to support FAI  
= is there data available?

WATER QUALITY STANDARDS REVIEW FOR THE HEADWATERS OF THE LITTLE  
LACROSSE RIVER IN ~~VERNON~~ <sup>Monroe</sup> COUNTY NEAR THE DISCHARGE FROM CASHTON WWTP  
T15N, R4W, SECTIONS 24 & 25  
T15N, R3W, SECTION 30

Paul La Liberte

October 16, 1995

This stream was first evaluated and listed as a variance water in NR104 in 1975 as "non-continuous, capable of supporting marginal fish and aquatic life". The basis for the classification was:

1. The effluent creates a small amount of flow in a drainage channel which is otherwise dry under base flow conditions.
2. The effluent seeps into the groundwater within one mile of the outfall and does not reach the continuously flowing waterbody downstream (Little LaCrosse River).

A 1988 standards review report recommended continuing the same classification. Additional inspections since 1975 have confirmed that the conditions described in the original stream classification are still present. On all occasions where observations were made during base flow conditions, the effluent did not reach the continuously flowing portion of the Little LaCrosse River. Usually, the effluent seeped to groundwater. However, in the winter of 1994, particularly cold temperatures resulted in the effluent freezing into a large block of ice. The location of the ice block was only a few hundred feet upstream from the area where flow typically ends due to seepage. The seepage/freezing area is about 0.5 miles below the WWTP. The continuously flowing headwater of the Little LaCrosse River is 0.9 miles below the WWTP.

The limited flow in the drainage channel provided by the facility is insufficient to support a classification higher than Limited Aquatic Life (formerly called marginal aquatic life). Below its continuously flowing origin, the Little LaCrosse River is classified as a Class II trout stream. The half mile of dry channel that exists between the outfall and the continuously flowing origin of the Little LaCrosse River effectively isolates the facility's wastewater load under base flow conditions. Flow would reach the river only under conditions of significant stormwater flow or snow melt. Under these conditions, the wastewater would be diluted with a sufficient quantity of surface water to render the wastewater load insignificant. The isolated nature of the discharge removes it as a threat to downstream surface waters. It is therefore a candidate for an alternative effluent phosphorus limit.

In a 1980 report, the Department presented the results of an evaluation of stream water quality using an Amendola model. The report concluded that secondary treatment at the WWTP was adequate to maintain the water quality criteria associated with the recommended classification. The facility has operated under a WPDES permit with secondary effluent limits ever since.

*In database at  
Monroe County?*

The adequacy of this level of treatment was further evaluated biologically. Macroinvertebrate samples were collected in the continuously flowing reach of the LaCrosse River at locations 0.1 and 0.7 miles below its origin (1.0 and 1.6 miles below the WWTP, respectively). Data is available from before the WWTP was upgraded (1979), and after upgrading (1986 & 1994). The results of application of the Hilsenhoff Biotic index to these samples appear in Table 1.

TABLE 1. MACROINVERTEBRATE STUDY RESULTS				
	1.0 MILE BELOW WWTP		1.6 MILES BELOW WWTP	
DATE	BIOTIC INDEX	RATING	BIOTIC INDEX	RATING
4/4/79	4.5	VERY GOOD	4.4	VERY GOOD
10/30/79	5.1	GOOD	4.7	GOOD
10/23/86	4.3, 4.1	VERY GOOD	3.3, 2.5	EXCELLENT
10/25/94	4.4	VERY GOOD	3.2, 3.3, 3.4	EXCELLENT

These results indicate that the Cashton WWTP is not adversely affecting the water quality of the Little LaCrosse River. The improvement in Biotic Index at the downstream site since 1979, is most likely the result of improvements in watershed nonpoint sources, since the WWTP has been shown to be hydrologically separated from the stream.

Because the effluent from this facility seeps to groundwater, compliance with groundwater standards must be considered, as well as surface water standards. The most recent WPDES permit issued to the facility includes measures to assess impacts on groundwater.

cashton.rpt

- c. T. Jablonski - LAX
- J. Boettcher
- J. Ball - WR/2
- B. Masnado - WR/2



Remnants of frozen sewage

4-7-94



Sewage Zone on 5-17-94

