CORRESPONDENCE/MEMORANDUM

State of Wisconsin

DATE: 11/13/2024 FILE REF: NA

TO: Ben Hartenbower, Limit Calculator; Jenna Monahan, Compliance Engineer

FROM: Chris Willger, Stream Biologist; Kristi Minahan, Water Quality Standards; Diane Figiel, Limit Calculator Coordinator

SUBJECT: Unity WWTF, Wetland drainage to Little Eau Pleine River (WBIC 1412600), Clark County

Overview of issue

In preparation for reissuance of the Unity WWTF permit, staff were requested to do a site visit to determine the appropriate stream classifications for the receiving waters. Unity WWTF is a continuous discharger, with an annual average design flow of 0.045 MGD (0.084 cfs). They previously operated as a modified fill and draw discharge but have been discharging continuously since January 2023.

The immediate receiving water is a natural wetland (Segment 1), that drains to the Little Eau Pleine River (Segment 2). Neither the wetland or the Little Eau Pleine River are listed in ch. NR 104 as Limited Aquatic Life or Limited Forage Fish (LAL/LFF). The facility's previous permit limits were based on LAL, with downstream protection limits for phosphorus based on the Wisconsin River TMDL.

On June 20, 2024, Chris Willger, Stream Biologist, along with Mycal Raleigh and Jenna Monahan, did a site visit to assess the receiving water and downstream water. The main objective of this site visit was to verify whether the receiving water is a wetland and that the effluent has not formed a channel through the wetland with the potential to support fish. Additionally, staff looked for connectivity with the downstream water, the Little Eau Pleine River.

Summary of previous and current stream class recommendations

- **Segment 1 (most upstream): Wetland from outfall to Little Eau Pleine River**
  - *Codified designated use:* Because this is a non-channelized wetland, this qualifies as an LAL per s. 104.02(3)(b), even though it is not specifically listed in ch. NR 104.
  - *Classification used for previous permit issuance:* LAL
  - *Previous stream class recommendations:* None
  - *Modeled Natural Community:* NA
  - *New recommended Natural Community and Designated Use:* LAL – wetland; no channelized flow observed in wetland.
- **Segment 2: Little Eau Pleine River (WBIC 1412600)**
  - *Codified designated use:* Fish & Aquatic Life (FAL) (not in code as LAL or LFF, and not classified as Trout water)
  - *Classification used for previous permit issuance:* Warmwater Designated Use
  - *Previous stream class recommendations:* none
  - *Modeled Natural Community:* Cool-cold Headwater (However, per Chris Willger, the Wisconsin Stream Model is inaccurate for Clark County and the Little Eau Pleine would appropriately be in either the Warm or Warm-Transitional Headwater NC category.)
  - *New recommended NC & DU:* Not reviewed as part of this site visit, but NC would be expected to be Warm or Warm-Transitional Headwater, which are both in the Warmwater DU category.

Site overview map

Site observations

- Segment 1 (most upstream): Receiving wetland, mainly reed canary grass with pockets of standing water, with no discernible flow. Standing pockets of water were in the immediate vicinity of the outfall, and there was a channel that connects to the adjacent surface water, the Little Eau Pleine River. Antecedent weather for the spring and summer were wetter than average, and there was still no connection to the downstream receiving water.
- Segment 2: Little Eau Pleine River, downstream receiving water of adjacent wetland and wastewater treatment plant discharge.

Discussion and Designated Use Recommendations

In our best professional judgement, segment 1 is a wetland and therefore appropriately fits into the Limited Aquatic Life (LAL) category as there is no channel or stream for fish to inhabit. The isolated pockets of standing water in the immediate vicinity of the discharge pipe have no direct connection to the downstream receiving water, so there is limited potential for fish to migrate to the diffuse pockets of standing water.

Are code changes needed?

Because the immediate receiving water is a non-channelized wetland that does not have potential to support fish, it is therefore covered under the LAL use category per s. NR 104.02(3)(b), which states that LAL includes "all surface waters classified as effluent channel, wetland or diffuse surface water." Because it is included in the LAL category per code, it does not necessarily need to be added to the ch. NR 104 tables of LAL and LFF waters, but could be added for clarity.

Attachments

Photo 1: Looking northwest from the outfall at the treatment pond before discharge pipe to wetland.

Photo 2: Looking south from the outfall at the receiving reed canary grass wetland.

Photo 3: Discharge pipe into receiving wetland, with small pocket of standing water that diffuses further away from pipe.