

DATE: 03/22/2023 FILE REF: Wetland discharge Glenwood City WWTP

TO: Ben Hartenbower, Limit Calculator; Adebowale Adesanwo, Compliance Engineer

FROM: Chris Willger, Water Resources Management Specialist; Kristi Minahan, Water Quality Standards; Diane Figiel, Limit Calculator Coordinator

SUBJECT: Glenwood City WWTP discharge, Wetland drainage to Tiffany Creek (WBIC 2070500) classification visit, St. Croix Co.

### Overview of issue

The Glenwood City WWTP (Fig. 1) has an artificial wetland as part of its treatment system (Fig. 2), after which effluent discharges to a natural wetland on the west edge of the facility. The flow path from the natural wetland would travel north of the facility and then east to Tiffany Creek, a coldwater stream. Prior to permit reissuance, staff were asked to do a site visit to determine whether there was any channelization within the natural wetland from the discharge location. The facility's discharge is noncontinuous, with an average annual flow rate during discharge of 0.26 MGD (0.41 cfs). Its limits have previously been based on Limited Aquatic Life (LAL) with phosphorus limits based on downstream impacts to Tiffany Creek. Ammonia limits are based on downstream protection of Tiffany Creek (Coldwater). On September 8th, 2022, Chris Willger conducted a site visit to the wetland discharge location of the Glenwood City WWTP.

### Summary of recommendations

- **Segment 1 (most upstream): Wetland from outfall to Tiffany Creek (flow path goes around the facility to the north and east to Tiffany Cr.)**
  - *Codified designated use:* This receiving water is not listed individually in ch. NR 104 as LAL or LFF, but because it is a wetland it is covered by the LAL classification per s. NR 104.02(3)(b)1. [\*\*Note that ch. NR 104 is confusing because there is a different facility listed as LAL in the NR 104 tables, shown as "Emerald and Glenwood SD". That is for a different facility/waterbody than Glenwood City, which is not in code.]
  - *Classification used for previous permit issuance:* LAL-Wetland
  - *Previous stream class recommendations:* 2003 proposal recommended LAL for "wetland tributary in the S1/2 of T30N R17W S25 to Tiffany Creek"
  - *Modeled Natural Community:* NA
  - *New recommended Natural Community and Designated Use:* LAL-Wetland; no channelized flow observed in wetland, wetland had no standing water, and was completely vegetated.
- **Segment 2: downstream receiving water, Tiffany Creek (WBIC 2070500)**
  - *Codified designated use:* Tiffany Creek is a Class II trout water at the point of discharge (and Class 1 farther upstream), and was listed as such in the 1980 Trout Book, so is explicitly assigned a Coldwater designated use in NR 102.
  - *Classification used for previous permit issuance:* Coldwater
  - *Previous stream class recommendations:* None
  - *Modeled Natural Community:* Cool-cold mainstem
  - *New recommended Natural Community and Designated Use:* No change; not reviewed as part of this site visit. Tiffany Creek is a Coldwater and is managed as a Class II trout water where the wetland would discharge to the stream. It is managed as a Class I trout water upstream of the treatment ponds, and there has been trout habitat restoration work on the upstream segments.
- It may be useful to conduct a site review during a wet year, but there was no evidence of a channel within the wetland, and the conditions were dry at the time of the site visit.

## Site observations

- **Segment 1 (most upstream): Wetland from outfall to Tiffany Creek (flow path goes around the facility to the north and east to Tiffany Cr.)**

The portion of the wetland assessed during this site visit was from the discharge pipe to the NW corner of the wastewater ponds berm (on map, area where photos 1-4 were taken).

- Upon arrival, it was clear that there was no channelization, and the wetland itself was dry, with no standing water even in the lower points of elevation within the wetland. Western Wisconsin was in drought conditions at the time of the visit, and the facility is an intermittent or seasonal discharger.
- Due to the site conditions, no fish or habitat surveys were conducted, as there was no water or observed channel.
- Because it was dry and vegetated, the remainder of the potential flow path north and east of the facility was not walked.

## Discussion:

In our best professional judgement, the segment is a wetland and would therefore appropriately fit into the Limited Aquatic Life category as there is no stream or stream channel for fish to inhabit. Per ch. NR 104.02(b)1., wetlands are automatically classified as LAL even if not listed individually in the NR 104 tables. However, another site visit might be useful under more normal to wet precipitation conditions to see whether water channelizes around the north and east side of the facility.

## Site overview maps

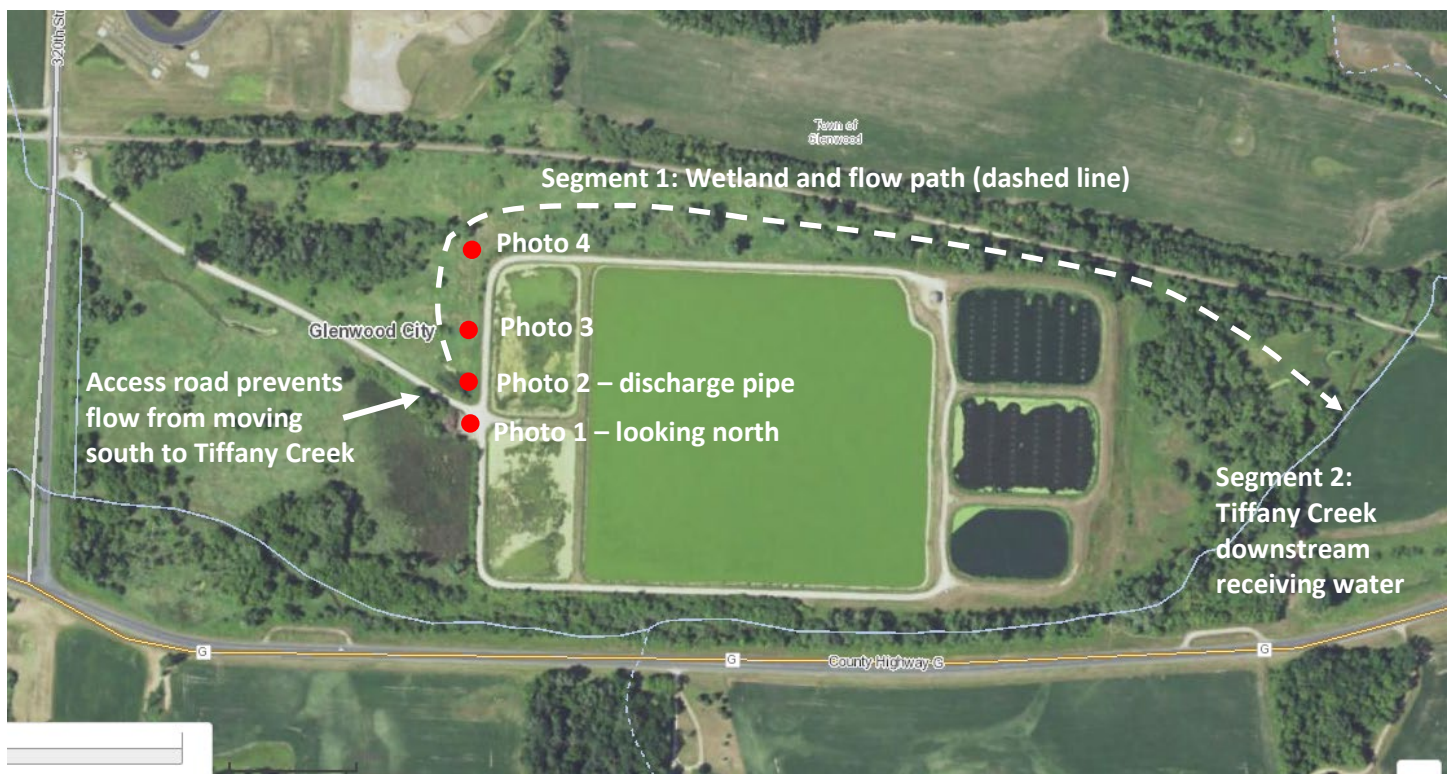


Figure 1 – Map of the site showing the receiving wetland (natural wetland flow path shown as white dashed line), Tiffany Creek downstream, and photo locations (red dots).



Figure 2 – Map showing the extent of the artificial wetland (red line) that is part of the treatment system, and the surrounding natural wetland that is the direct receiving water (black line).

Photos (Chris Willger, 9-8-2022)



*Photo 1 – Access road west of Treatment pond, looking north towards discharge pipe*



*Photo 2 – Discharge pipe*



*Photo 3 – Wetland looking west, not standing water or channelization*



*Photo 4 – Looking north at wetland. No standing water, no channelization*