



Michele Duspiva
U.S. Environmental Protection Agency – Region 1
5 Post Office Square, Suite 100 (06-4)
Boston, MA 02109-3912
Telephone: (617) 918-1682
Email: Duspiva.Michele@epa.gov

4.28.2023

Subject: Northampton Wastewater Treatment Plant, Northampton, MA, MAC011818

Michele Duspiva,

I am submitting comments on the revised draft National Pollutant Discharge Elimination System (NPDES) permits for the Northampton Wastewater Treatment Plant (WWTP) on behalf of the Connecticut River Conservancy (CRC), formerly the Connecticut River Watershed Council. CRC is an environmental nonprofit dedicated to protecting the entire Connecticut River valley through initiatives that support clean waters, healthy habitats and thriving communities. The Northampton WWTP discharges into the Connecticut River and Old Mill River, and so is of interest to us. We extend our gratitude to the staff at the Northampton WWTP for their work to protect and restore the Connecticut River, and we thank staff at DEP and EPA for their work to draft this permit as well as your consideration of our comments below. We had the chance to speak with staff at the Northampton WWTP prior to submitting these comments and appreciate the insights they provided. CRC recognizes that wastewater operators and staff at the Northampton WWTP work hard to protect and restore the Connecticut River and the tremendous improvement in the river's water quality is a testament to their effort.

1. Outfall 002

CRC understands that discharges from Outfall 002 into the Old Mill River channel did not take place in the most recent review period. After speaking with Northampton WWTP staff, it is understood that outfall 002 is a critical component of emergency flood control, as the height of the river during extreme flood prevents the facility from continuing to pump through 001. CRC was informed that outfall 002 will generally become active when the river reaches the height of 125ft, and we think this information is important to include in the fact sheet and that limits should be established specifically for this outfall if they do not already exist. It would also be helpful for the fact sheet to have a record of when outfall 002 has historically been used so as to get a better understanding of if/when it may be active in the future. The review period is only five years, which was intended to represent the span of the initial permit, but the permit itself is now over a decade old and so there is a data gap in the fact sheet between 2008 and 2018.

2. Chlorine

In the 2008 permit, EPA noted that the permittee was planning to replace chlorine disinfection with ultraviolet disinfection during the period of the permit. From our conversation with Northampton staff, we understand that the facility transitioned away from chlorine gas to sodium hypochlorite in 2018 and we support this change. This information was not included in the fact sheet, and we request that it be added in. Additionally, we would like to understand if or how this transition impacts the



need for an expanded pH range, given that this could eliminate the need for a lower pH limit. Finally, we note there were four exceedances of the TRC average daily limitations in the review period; have the sources of this issue been resolved? We are supportive of the switch to UV and ask that EPA and Northampton WWTP consider a feasibility assessment to understand if a UV disinfection system may be suitable

3. **Bacteria**

The receiving waters of this facility are impaired for recreation due to E. coli. We are supportive of EPA's decision to carry forward the limit of 409 colonies/100 ml and to continue year-round effluent limitations. We note that there were four exceedances of the maximum daily limit in the review period ranging from 19% - 140%. Have the causes for these violations been identified and resolved? An increase in frequency in monitoring from could help to understand why these violations are occurring.

4. **Ammonia**

As described in the fact sheet, ammonia criteria are dependent on both temperature and pH. In determining the appropriate criteria, EPA uses temperatures of 25 Celsius and 5 Celsius as inputs in the mass balance equation. Were these temperatures decided based on historic or projected average temperatures for this part of the Connecticut river?

5. **pH**

The median pH for the Northampton WWTP was 7.29 S.U. in the review period, with no reported pH values below 7.00. As with the Amherst WWTP, EPA is extending the expanded allowable pH range for this facility of 6.0 - 8.3 S.U., instead of the state-wide standard of 6.5 - 8.3 S.U.. CRC supports the requirement for the facility to submit a pH study in order to continue their expanded range with a minimum of 6.0 S.U.. The original request for this expanded range is now a quarter of a century old, and while we understand that this switch may require an in-depth review of pH data and the installation of a new system, we encourage EPA and the facility to transition to the MA WQS range of 6.5 - 8.3 S.U. Additionally, we learned that later this year, Coca Cola, an industrial user that contributes to 20 – 25% of the facilities inflow, will be leaving the city and no longer discharging to the WWTP. We request this be noted in the fact sheet for reference in the future, and the pH study should assess how this change will impact pH levels entering the facility.

6. **Nitrogen**

We recognize that Northampton has already invested a substantial amount to reduce nitrogen loading from their facility through optimization of their plant in recent years and appreciate the progress made on this front. CRC understands EPA's reasoning in determining the tiered approach for TN limits for WWTPs in Massachusetts based on facility design flow. While we agree with the elimination of alternatives, such as a standard 8mg/l limit across all WWTPs, we have some feedback on this proposed approach.

- a. We understand EPA's desire to make decisions with the best available science, including the need for better modelling of the specific levels of pollutant control. In the justification of EPA's approach, the fact sheet cites the decision of Natural Resources Defense Council, Inc. v. Costle, saying, "EPA may issue permits with conditions designed to reduce the level of effluent discharges to acceptable levels. This may well mean opting for a gross reduction in pollutant discharge rather than the fine-tuning suggested by numerical limitations." CRC understands this to mean that EPA has discretion to further lower nitrogen limits for WWTPs across the watershed, rather than just maintaining the cap.



- b. Northampton WWTP is the fourth largest Massachusetts facility contributing to nitrogen loading in LIS, so reductions in nitrogen discharge have a significant impact on the watershed and LIS health. Holding TN loading constant to existing design flows may not always work towards reductions in nitrogen discharges to LIS from MA WWTPs. For example, the Northampton WWTP had a 12-month rolling average ranging between 441 – 541 lb/day. The full actualization of the WWTP’s annual limit of 574lb/day could represent an increase in nitrogen discharge. For future permits it could make sense to cap TN limits closer to the 12-month rolling average of 541 to ensure actual TN loading does not increase. We believe it would also be helpful if optimization requirements were associated with measurable targets.
 - c. We understand that the removal of the Coca Cola plant as an industrial user may impact how the facility operates, specifically related to nitrogen removal. Will this be taken into account for the final permit?
 - d. Optimization requirements for the facility should include measurable benchmarks for the facility to minimize TN discharge over the life of the permit. Such benchmarks will allow both the facility and the public a better understanding of how to approach reducing nitrogen discharge at this facility.
 - e. We would appreciate it if annual reports regarding optimization projects could be made accessible in the fact sheet.
 - f. When considering the tiered structure for TN allocations, EPA notes the decision is based on technical and environmental factors as well as equitable considerations. Can EPA expand on what were considered in terms of “equitable considerations?” EPA also states that larger facilities can spread the cost of upgrades over a larger user base. The three largest facilities in the Connecticut River watershed (Springfield, Holyoke and Chicopee) are in communities with lower median household incomes than two of the next largest facilities in the watershed, Northampton and Amherst. Springfield, Holyoke and Chicopee have average median household incomes of \$43,308, \$45,045, and \$56,509, respectively, while Northampton and Amherst have median household incomes of \$72,687 and \$61,127. How did EPA go about calculating the relative ability of larger communities with lower median household incomes to pay for facility upgrades? Has EPA explored a tiered structure that includes weighted reductions based on ability of the community to pay?
7. **Whole Effluent Toxicity**
Given the size of this facility and the nature of the discharge, we believe WET testing four times per year is a reasonable frequency and will not impose an undue burden on the WWTP. This will provide critical information to inform future permits.
8. **Phosphorus**
CRC notes that the data used to determine reasonable potential for phosphorus is 15 years old. This highlights the need for DEP and other agencies to expand nutrient monitoring to provide recent data to inform these permits. As WWTPs work to reduce nutrient loading, having a continuous dataset for nutrients is critical to understand the role these facilities play in improving the health of the Connecticut River and LIS. Data from 2008 is not recent enough to reliably inform these permits. Accordingly, we request that EPA instate a monthly, or at minimum, a quarterly monitoring requirement for phosphorus under this permit.



9. **PFAS**

CRC supports the efforts of EPA and DEP to characterize PFAS inputs to river systems. We support the quarterly influent, effluent, and sludge testing requirement. We understand that WWTPs are not yet equipped to limit or treat PFAS and support EPA's intent to use these data to ensure the future permits will continue to protect designated uses.

10. **Endangered Species**

EPA identified only two federally endangered species in their review, including the northern long-eared bat and the shortnose sturgeon (SNS). The threatened Puritan tiger beetle (*Ellipsoptera puritana*)² and the endangered Dwarf wedgemussel (*Alasmidonta heterodon*)³ are found in the area either directly adjacent to, or downstream of, the Northampton WWTP outfall, yet these species are not mentioned in the permit. In 2016, FirstLight completed *Study No. 3.5.1 Baseline Inventory of Wetland, Riparian, and Littoral Habitat in the Turners Falls Impoundment, and Assessment of Operational Impacts on Special Status Species* as a part of their relicensing study process. The study found that the only known populations of both the Puritan tiger beetles and cobblestone tiger beetles in Massachusetts are found along the Connecticut River. Specifically, the report found the only known site for Puritan tiger beetles to be at Rainbow Beach in Northampton. We request that EPA undergo biological assessments or consultations with the appropriate federal agencies to determine the impact of this facility on Dwarf wedgemussels and Puritan tiger beetles.

11. CRC is supportive of the requirement to create an operation and maintenance plan to account for major flood and storm events. In the context of a rapidly changing climate, this requirement seems reasonable for WWTPs to be best prepared for a potential increase in the severity and/or frequency of major storm events. We appreciate WWTP staff providing us with more information on what work, particular to I/I, took place over the life of the previous permit. It would be useful if these annual reports were more easily accessible through the fact sheet in the future.

CRC appreciates the opportunity to provide comments on the draft permit. I can be reached at kwentling@ctriver.org or (413) 834-9777.

Kelsey J Wentling