

Protecting Our Water



In some of our previous articles, we have discussed a broad overview of the process of cleaning wastewater. In this article, I would like to discuss one significant aspect of that treatment - the permit. Permits dictate how much of a particular nutrient can be found within our effluent (water leaving the wastewater treatment plant) and the permit for each plant looks a little different. We hold three wastewater discharge permits for each wastewater treatment plant issued by the Environmental Protection Division of the Georgia Department of Natural Resources (GaEPD). Each receiving stream differs in composition and normal volume; therefore, the amount of nutrients that can be added before the water is adversely affected is also different.

The process of setting nutrient limits for the permit is a complex one that involves a lot of data collection from a variety of locations. From 2006-2012 a project known as the Lake Allatoona/Upper Etowah River (LAUE) project established a baseline for how much of a given nutrient was coming into Lake Allatoona and from where it was coming. This project resulted from a combined effort from various governmental entities from Lumpkin, Dawson, Cherokee, Bartow, Pickens, Forsyth, and Cobb Counties. Each entity was responsible for sampling the particular surface waters within their jurisdictions for a set of defined parameters. GaEPD then used these results to determine a background for what was already coming into Lake Allatoona. This included entities that already held discharge permits and runoff contributions from agriculture, residential, and urban sources. These results subtract from the Total Maximum Daily Load (TMDL), and this data is used to determine future discharge permits and renewals to existing permits. The TMDL is the maximum amount of nutrients a body of water can accept without any adverse consequences. When the body of water exceeds the TMDL you start seeing things like algal blooms and fish kills.

A composite (many small samples over 24 hours) sample is collected and tested from every treatment plant every day for a gambit of parameters. These results must fall below the amount the permit specifies; otherwise, the GaEPD must be notified. Infractions result in a fine paid to the GaEPD and an inability for a plant to obtain any awards on plant performance. Infractions are reported on the honor system until a utility has demonstrated a chronic inability to act with honor. These systems are kept under a much closer watch.

Wastewater discharge permits are reviewed and renewed on a 5-year basis and are subject to becoming more stringent based on what is going on in the receiving water and/or watershed. Besides setting nutrient limits for the plants, each permit also has additional requirements for the utility. These requirements include surface water monitoring and education, and outreach. Each year, we must submit a Watershed Improvement and Implementation Plan (WIIP) to GaEPD that contains the data and analysis for all 23 sites we monitor in Cherokee County. Some of these sites were remnants of the LAUE project, but the vast majority were added. The WIIP is a portion of the evaluation of the renewal to monitor any changes occurring in the last five years to the watershed.

We hope this has shed light on what is involved in the treatment of wastewater and the complexity and volume of work that goes into the protection of our environment and our community. This protection is data-driven and based on sound science to ensure we are proactive of human health and organisms that share our community with us.



*Just as a reminder, if you have a particular topic or question you would like us to address, please send it to ccwsaea@gmail.com.