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### **Keeping Our Waters Clean: From wastewater to wonderwork**

We all use water in our daily lives. According to the Metropolitan North Georgia Water Planning District, the average metro Atlantan uses around 50 gallons of water a day, most of which is used for drinking, bathing, washing clothes and dishes, and flushing toilets. When the water we use goes down the drain, the water is considered wastewater. To treat this water, we use the wastewater treatment process. Well, what exactly happens in this process?

Based on information from the Johns Creek Environmental Campus, the wastewater treatment process can be broken into a different number of stages depending on the treatment plant. Mostly everywhere in Georgia there are three to four stages to the wastewater treatment process. They are preliminary treatment, primary and secondary treatment, and maybe even tertiary treatment.

Preliminary treatment works to remove solids to get water ready for purification. This happens at the beginning of the process, when the water has just come into the treatment plant after being driven by gravity through pipes about sixty feet underground. Primary and secondary treatment are the two stages that purify and make the water safe to drink through processes like grit removal and aeration. Sometimes a plant will make use of tertiary treatment. In this stage, advanced techniques like Ultraviolet light disinfection are used to purify the water to increase the final quality. So, why does the Metro Water District work so hard for this anyways?

Water conservation is a vital part of Earth's ecosystems. It is the maintenance or preservation of the water. Returning treated wastewater to our rivers and reservoirs helps in water conservation. Cleaning or treating the wastewater also prevents depletion of natural water sources. "Since the creation of the Metropolitan North Georgia Water Planning District over 20 years ago, the per capita water use has dropped by more than 30%, thanks in part, to the water conservation efforts of metro area residents, utilities, schools, and businesses," says the District. What happens if the water is not treated?

Without treating wastewater, the environment and health of residents could be negatively impacted. Contaminated water can cause waterborne diseases like cholera and typhoid fever. By treating wastewater, the aquatic animals are also benefited by creating an

environment that is suitable and habitable for a thriving ecosystem. According to the EPA, the Environmental Protection Agency, other benefits of wastewater treatment include decreasing wastewater discharges and reducing and preventing pollution of drinking water. Recycled water can also be used to create or enhance wetlands and riparian habitats.

A big part of keeping our planet clean and habitable is taking care of our resources. By cleaning and saving water, we help keep our planet healthy and safe for everyone!