

RESEARCHING THE EFFICACY OF RECLAIMED WATER BMPS FOR NUTRIENT LOAD REDUCTIONS IN RESIDENTIAL AREAS

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Population growth and other anthropogenic and environmental factors put Florida's freshwater resources under exceptional and persistently increasing demand. Expanding sustainable use practices to reduce the strain on the state's groundwater stores is critical to protect environmental systems, ensure public health, and promote economic development. These practices should also not contribute to the many water quality issues plaguing freshwater and marine ecosystems around the state. This research aims to investigate the water quality impact of using treated municipal wastewater or reclaimed water for residential landscape irrigation. Study sites are located in the Indian River Lagoon watershed in St. Lucie County, Florida. Water samples collected from household sprinkler systems that utilize reclaimed water are used to quantify the concentration of nitrogen and phosphorus. Homeowner irrigation behaviors will be surveyed to aid in assessing possible over-irrigation. Additionally, we seek to quantify the amount of wasteful sprinkler overspray, or the amount of water being applied to impervious surfaces such as driveways, sidewalks, and roads. Combining those points allows us to determine the amount of possible nutrient reductions in the watershed if improper or unnecessary irrigation practices are reduced. The eventual goal of this research is to develop science based BMPs for using reclaimed water in residential irrigation settings and ultimately to reduce nutrient loads being received by the St. Lucie estuary.

PRESENTER BIO: Dylan is a MS student in the Soil and Water Sciences Department under the supervision of Dr. Mary Lusk at the UF/IFAS Gulf Coast Research and Education Center in Wimauma, FL.