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Level II Water Quality Based Effluent Limits for the City of Gainesville Kelly Generating Station

August 2015-
August 2018

Client: Gainesville Regional Utilities

Project Summary

As part of NPDES permit renewal, the City of Gainesville Kelly Generating Station (KGS) was required to comply with Numeric Nutrient Criteria (NNC) in Sweetwater Branch and its receiving waters, Paynes Prairie and Alachua Sink. It was anticipated that the KGS would discharge TP at levels that exceeded the regional nutrient thresholds for streams. Frydenborg EcoLogic and Dynamic Solutions developed a Plan of Study for establishing Level II Water Quality Based Effluent Limitations (WQBEL) for the facility, which was subsequently approved by FDEP. Frydenborg EcoLogic conducted data collection that simultaneously sampled periphyton chlorophyll *a* and Ash Free Dry Weight via the artificial substrate method AND the Rapid Periphyton Survey, to establish a relationship between the two techniques for modeling purposes. Other sampling included the Stream Condition Index, Linear Vegetation Survey, Habitat Assessment and routine water quality parameters. A Stressor Identification analysis (EPA *Causal Analysis/Diagnosis Decision Information System*, CADDIS) was also conducted and computer modeling (QUAL2K) performed.



Innovative approach



Due to artificial channelization and hydrologic modifications in Sweetwater Branch, a Stressor Identification Study (EPA CADDIS) was required. Frydenborg EcoLogic is the only Florida firm trained by EPA to conduct these CADDIS analyses.

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