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Assessment to Support Level II Water Quality Based Effluent Limitations for the Plant City Water Reclamation Facility (Hillsborough County)

February, 2017- April, 2018

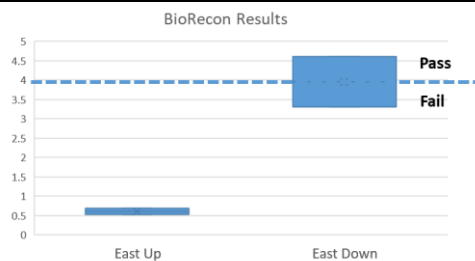
Client: City of Plant City/Janicki Environmental

Project Summary

Working with Janicki Environmental, Frydenborg EcoLogic conducted a study to provide the Plant City Water Reclamation Facility (WRF) with the scientific, technical, and regulatory support needed to determine if the facility’s permit may be revised to expand its permitted discharge from 2.68 MGD to at least 4.0 MGD. The direct receiving waters, East Canal, met the Numeric Nutrient Criteria (NNC) “ditch” exception definition. A comparison of an upstream control site with a test site downstream of the Plant City WRF discharge indicated that there were no imbalances in flora or fauna caused by nutrients. In fact, chlorophyll a, Rapid Periphyton Survey (RPS), Linear Vegetation Survey (LVS) and BioRecon data indicated somewhat improved conditions at the test site, compared to the control site. Farther downstream in Itchepackesassa Creek (which met the stream definition), the floral measures (chlorophyll a, RPS, LVS) AND faunal measures (Stream Condition Index), were achieved, as specified in Chapter 62-302.531, F.A.C. This demonstrates that the biological health in waters downstream of the Plant City WRF were protected. Additionally, both TP and TN measured in East Canal and Itchepackesassa Creek downstream of the Plant City WRF discharge complied with the regional nutrient thresholds.



Innovative approach



Knowledge of the ditch exception to NNC and ability to properly interpret the narrative “no imbalances” criterion were important for success of the project. Additionally, periphyton racks were deployed and retrieved to provide quantitative data for modelling purposes.

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