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**Statistical Analysis of the Effectiveness of Microbial Lift Treatment in Stormwater Ponds for Achieving TMDL Goals (Duval County)**

April 2019- Ongoing

Client: City of Jacksonville

**Project Summary**

Frydenborg EcoLogic designed a study to statistically assess the effectiveness of the Microbial Lift treatment in reducing pollutants (especially TN and *E. coli*) in water discharging from Jacksonville area stormwater ponds. The treatment is intended to reduce pollutant loading of TN and *E. coli* to assist in TMDL achievement. The statistical approach employed in this analysis is the modified Before-After-Control-Impact/Intervention (BACI) method, using nine control sites and nine test sites. These sites will be sampled monthly for water quality parameters of interest over time, both before and after the intervention. Sites were divided into two statistically indistinguishable groups (control and test) after analyzing the first five months of water quality data. The intervention consists of Microbial Lift treatment at the test ponds, while the control ponds will not receive treatment.



**Innovative approach**



This study design and analysis examines if the Microbial Lift treatment potentially affects different ponds spatially, while considering temporal variances, and/or their interactions. Using this approach, it is possible to determine if there will be an interaction between the differences in water quality among the test sites and control sites through time.

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