

Bay Point Marriott, Panama City, Florida

Ecological Monitoring

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Telephone Number: (850) 873-7728

Start / End Dates: 2005

Key Project Personnel Involved in this Project:

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Project 9

Brief Description of Work Performed:

The Bay Point Marriott was expanding their marina's docking capacity and needed to satisfy FDEPs permit which requires a healthy aquatic system. To determine the ecological status of the system, Garlick Environmental Associates hired McGlynn Labs.



This assessment required field sampling, ecological monitoring and hydrological modeling all according to FDEP protocol. Hydrological models were used to estimate the time needed to reduce an initial concentration of hypothetical pollutant to 10% of its initial concentration. The model was field verified to determine the flushing and the advective/dispersive nature of the waterway using a tracer dye, Rhodamine, measured in the field with a Hydrolab Minisonde equipped with fluorescence sensors. Flow measurements were performed with both drogues and a Marsh McBurney 201D portable current flow meter, according to FDEP protocols (DEP-SOP-001/02, FT 1800, Field Measurement of Water Flow and Velocity).

We provided a detailed and specific description of: the system; changes in dimension; the longest path to open water; the mean tidal range, amplitude and periodity; flow amplitude at mid tide for ebb and flood at selected locations within the basin and the location of the entrances to the basin; the phase lag in the tide between the entrance and the center of the system and to the head of the system.

Laboratory Services were triplicate sampling and analysis according to Chapter 62-312, of the Florida Administrative Code. One station represented the worst-case scenario location (the northern basin), one in the middle of the proposed dock and one station 100 meters south of the facility. Sampling included: Fecal and Total Coliforms (10 samples over a 30 day period); Oil and Grease; Arsenic; Cadmium; Chromium; Copper; Lead and Zinc. Diel oxygen was measured at 4 hour intervals at all three stations for a 24 hour period. This was accomplished with a Hydrolab Minisonde pre-programmed and self-deployed. A few analytical parameters were analyzed at PPB Labs.



McGlynn Labs wrote the final report detailing: dates; sampling methods; Chain of Custody; accuracy; precision; NELAC certified; MDL; PQL; water temperature; salinity; depth; weather; tidal stage; the appropriate Rule 62-302, F.A.C., standard for the parameter being measured; and QA/QC data available on request. McGlynn Labs performs many similar studies throughout Florida.



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