

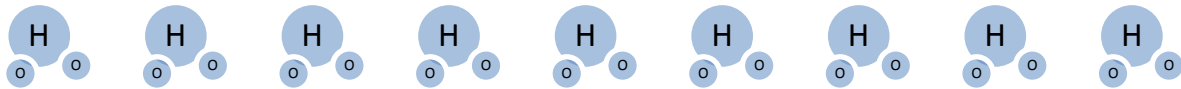
Florida DEP 2011 SWPBA Update

Hello SWPBA members! It's hard to believe nearly 9 months have gone by since the 2010 meeting and just a few months away from the meeting in Tennessee. It makes me realize just how busy we've all been. With that in mind, rather than go into individual projects, here is a general overview of the kinds of monitoring projects we're either currently involved in or that are proposed for the upcoming year.

We hope to see everyone in November – budgets willing!

All the best,

Your friends in Florida



- **Monitoring to Support Criteria Development**

Several water quality criteria are outdated and in serious need of revision, including nutrients, dissolved oxygen, conductivity, iron, transparency and turbidity, and bacteria, meaning DEP must invest in water quality standards and biological assessment methods development. The inaccuracy associated with many of these criteria result in erroneous TMDL development and unneeded resource expenditures. Biological assessment is a powerful tool to demonstrate where healthy, well-balanced communities are present. Biological assessments are currently used to support non-impairment determinations and revise inaccurate criteria, which should result in significant cost savings. Although biological assessment methods have been developed for streams and lakes (at significant DEP effort), much additional investment will be required to develop tools for marine systems.

- **Monitoring for TMDL and BMAP development**

Verified impaired waters require sufficient sampling to calibrate and validate water quality models and calculate the necessary pollutant load reductions for waterbody restoration. Additional field support, in the form of intensive surveys, is needed primarily to produce data needed to support such activities. Based on the expectation that these duties will be needed to support the conducting of as many as **2000 additional TMDLs** for newly verified impaired waters (i.e., beyond those on the 1999 Consent Decree).

- **Monitoring for Use Attainability Analyses (UAA)**

Reclassifying a waterbody to a lower class (e.g., Class III-Limited), requires a comprehensive scientific assessment of the factors affecting the attainment of the waterbody's designated uses, including appropriate and scientifically defensible water quality, biological, hydrological, and habitat studies and analyses, as well as environmental, social, and economic information. There is a large

number (**over 5000**) of **physically and hydrologically altered systems in Florida** where reclassification may be appropriate, thereby saving resources by not conducting unneeded TMDLs.

- **Monitoring for Site Specific Alternative Criteria (SSAC)**

Many systems naturally do not meet certain water quality criteria, meaning alternate, but equally protective, criteria should be developed to prevent attempts to (erroneously) restore the waters or abate natural conditions. There are approximately **200 waterbodies** that do not attain water quality criteria due to natural conditions and therefore need a SSAC, with many more expected.

- **Monitoring to Identify Causative Pollutants**

Stressor Identification requires a complex suite of analyses to determine the various factors, potentially a causative pollutant or physical issues, which are responsible for waterbody impairment. Stressor Identification study results are extremely important to assure that DEP is spending resources mitigating the correct stressor. There are currently approximately **600 waterbodies listed in assessment category 4d**, meaning DEP needs to perform a stressor identification study to determine a causative pollutant, reclassify, and/or develop a SSAC for these waters.

- **Monitoring for Agriculture Best Management Practices**

DEP is required by section 403.067(7) subparagraphs 1-3 to verify Best Management Practices, which are adopted by DACS by rule. Initial Verification is to be performed using best professional judgment based on existing information and then follow up “Confirmatory Verification” through water quality monitoring is required. Twelve BMP manuals have received initial verification but only 1 has been confirmed through water quality monitoring.

- **Strategic Monitoring for Verification of Potential Impaired Waters**

Strategic monitoring activities are designed to assess the proper DEP course of action regarding potentially impaired waters, which could involve verifying impairment for TMDL development (which often requires conducting a Stressor Identification study to determine a causative pollutant), or deciding that a reclassification (Use Attainability Analysis) or Site Specific Alternative Criteria (SSAC) are more appropriate. Investing in sampling to choose appropriate DEP actions will prevent erroneous TMDL development and significantly prevent unneeded resource expenditures for both the agency and stakeholders.

- **Status and Trend Network Monitoring**

The probabilistically-based Status network is extremely effective at extrapolating from a relatively small number of data points to establish regional and State-wide patterns. Trend sampling, generally conducted where rivers enter Florida from other states or near the bottom of drainage basins, allows statistically significant statements regarding water quality changes over time.

- **Specialized Projects Monitoring**

Specialized sampling may involve targeted sampling in response to a specific spill, such as the Deepwater Horizon oil spill or Piney Point releases, and monitoring in response to litigation (Clam Bayou, etc). DEP needs sufficiently trained “reserve” staff to allow rapid response to emerging, high priority, time sensitive issues.

- **Monitoring of Ground Water Dominated Systems**

Ground water is a major contributor into many surface water features in Florida. The assessment and monitoring of these systems for the verification of impaired waters, TMDL and BMAP development, and verification of best management practices (BMPs) requires specialized skills and knowledge. Staff are required to measure discharge using perpendicular transects and handheld Marsh-McBirney type meters; conduct Rapid Periphyton Surveys (RPS); deploy customized remote underwater seepage meters to directly measure base ground water flow in streams, lakes and spring runs; and deploy and recover onsite radon measurement equipment in water bodies.

- **Monitoring for Point Source Permitting**

Prior to permit renewal, DEP conducts a thorough water quality and biological assessment of the discharger and receiving waters to ensure permits are neither under- nor over-protective.

Value of Monitoring Data

The current EPA-promulgated Numeric Nutrient Criteria (NNC) is an example of how monitoring activities implemented by DEP could save the State of Florida **billions of dollars**. DEP’s current rule-making efforts would require biological confirmation prior to determining that a waterbody is impaired. Had DEP not developed the biological tools and associated monitoring tools the State would not be in a position to offer a scientifically defensible, significantly lower cost NNC option.



Osprey, Roseate Spoonbills, and a Great Egret share space in Clam Bayou - July 2011. Photo by Gitta Schmitt, Biologist in DEP’s Southwest District Office.