

**Lower St Johns Technical Advisory Committee (TAC)
Meeting Summary
Host: City of Jacksonville
City Hall, Exam Room #3
Jacksonville, FL
August 25, 2005**

Attendees

Sarah Anderson, UF
Russell Brodie, FWD
Richard Bryant, National Park Service
Tiffany Busby, Wildwood Consulting
Dean Campbell, SJRWMD
Cindy Cosper, DEP Watershed
Monitoring
Rea-Silvia Costin, COJ/PW/ENG
Barry Cotter, COJ-EQD
Betsy Deuerling, COJ
Dean Dobberfuhr, SJRWMD
Gretchen Ehlinger, FWC
John Hendrickson, SJRWMD
John Higman, SJRWMD
Mike Hollingsworth, USACE
Chad Hutchinson, UF-IFAS
Kimberly Jones, COJ
Tom Kallemeyn, FDEP
Debbie Kristiansen, St Johns County

Greg Kemelek, COJ
Daniel Littles, Jr., Clay County
Engineering
Pam Livingston-Way, SJRWMD
Michele Lockwood, SJRWMD
Lori McCloud, SJRWMD
Kraig McLane, SJRWMD
Dana Morton, COJ
Alan Obaigbena, FDOT
Pat O'Connor, FDEP-NED
Brad Russell, JEA
Lacey Smith, FDEP
Alicia Steinmetz, BCI/SJRWMD
Jean Tinsman, COJ
Mike Turtora, USGS
Patrick Victor, CDM
Scott Turner, Duval County Health
Dept.

Welcome and Introductions

The meeting began at 10:12 am. Dana Morton, Co-Chair, welcomed everyone to City Hall. Everyone introduced themselves.

Presentation: "Assessment of Coastal Water Resources and Watershed Conditions at Timucuan Preserve"

Dana Morton introduced Sarah Anderson, Graduate Research Assistant, Department of Environmental Engineering Sciences at the University of Florida.

Ms. Anderson reviewed the driving factors of conditions in parks. Parks are impacted by many visitors. There are 76 million visitors annually to 74 coastal parks. Fifty-five percent of the U.S. population lives in the coastal zone.

For her assessment procedure, they looked at the area off the Mississippi, Alabama and Florida coasts and used existing data. In parks outside Florida, the water resources were stressed and showed signs of fecal coliform and mercury contamination.

The Timucuan Preserve is a 46,000 acres site that includes several rare, natural communities. Key data sources about the Timucuan included the following: STORET, US. Geological Survey, City of Jacksonville, St Johns River Water Management District, and the Baseline Water Quality Data Analysis Report (National Park Service, 2002).

Parameters included in the analysis included nutrients, metals and dissolved oxygen. The conclusions on nutrients show that total nitrogen concentration declines from the headwaters to the mouth. The median concentrations for Florida estuaries and streams were exceeded more frequently for total phosphorus than total nitrogen. Generally, the concentration levels were similar to sites in South Carolina.

For other contaminants and metals, there were generally little to no metal or organic contaminants in the sediments. The exceptions were sites in Chicopit Bay and Spanish Pond.

For dissolved oxygen, the tidal creeks were not well-mixed (this was new information). Seasonal dissolved oxygen cycling exists with rare hypoxic events (less than six percent of the deployment period).

Links to biological resources included a study of major biotic resources of the Timucuan. The main determinant of vegetative changes is the increased tidal inundations and decreased freshwater flows. Regular vegetative monitoring is needed. The other link to biological resources includes a review of benthic invertebrate data (Long) and looking at the differences among the number of taxa, density and conductivity between 1983 and 2003.

Impacts of urbanization of fish assemblages that were reviewed showed that fish assemblages varied along freshwater and urban gradients. Urbanized creeks are still valuable nursery habitat. Routine sampling of fish assemblages is needed.

Recommendations from the study include the following:

- Data management;
- Biological resources
 - Linking monitoring inventories to habitat types
 - Using indicator species
- Hydrologic information
 - Residence time and circulations patterns
 - Influence of flow inputs
- Monitoring
 - Frequency and parameters (chlorophyll-*a*)
 - Septic systems—not a lot of data to characterize these systems

Future Study—Further investigations of the Nassau River data and land use patterns.

A question and answer session followed the presentation.

Nominate Honorary TAC Chair for 2006/Host for Winter Meeting

Dana Morton asked for volunteers or nominees to host the winter meeting. Dan Littles at Clay County Engineering volunteered to host the February 2006 meeting. His offer was gladly accepted.

Regional Update on Resource Monitoring and Assessment Projects (Research and Monitoring): This Fiscal Year and Future Plans

City of Jacksonville-Dana Morton

Dana Morton reported on a number of projects the City of Jacksonville is undertaking including the following:

- River Run Monitoring Program
 - 10 stations monitored—main focus is nutrients
 - Monthly samples
 - Coordinated with the Water Management District
 - Weekly sampling occurring—data on web, maintained by David Girardin
- Timucuan Run
 - 12 sites monitored (down from 14 sites)
 - Also, no longer monitor Fort George Island sites
 - Island was purchased by the State/threat to degradation alleviated
 - Samples taken every other month
- Tributary Intensive Monitoring
 - 16 sites monitored
 - Full suite of parameters measured (fecal coliforms, nutrients, heavy metals)
 - Three minor tributaries and major tribs above head of tide are monitored
 - Sampled via bridges or shoreline
 - Characterizing watershed
 - Metals were added to measures to capture toxic impacts
 - Red Bay Branch—very impacted. Adjacent to septic tank area.
- Quarterly Routine Tributary Monitoring
 - 104 sites monitored
 - Discovered 51 waterbodies out of compliance for fecal coliforms
- Other notes
 - There may be future changes to the Tributary Intensive Program
 - Doing NPDES/MS4 monitoring for City of Jacksonville Public Works Dept.
 - BMP effectiveness—looking at impacts of stormwater improvements (e.g. trying to treat PCBs out of Cedar River, Deer Creek and improve water quality)
- USGS Study (7 of 10 years)
 - Studying the impact of removing septic tanks
 - Murray Hill B
 - Fishing Creek and Pernicia/Johnny Circle

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- Contract with Mayor's Office
 - Thermal photography to identify illicit connections was flown in February 2004
 - Sites need to be ground-truthed
- Tributary pollution assessment project—they are working with JEA and FDEP

St Johns River Water Management District—Dean Campbell

- Resource Monitoring
- TMDL & PLRG Development
 - Hydrodynamic model
 - Some efforts are winding up
 - UNC Study on phytoplankton and algal growth rates will be done in September 2005; Sediment and water quality interactions will be done in September.
 - Plankton monitoring (Ed Flippis)
 - Model upgrades
 - Model is now four times faster than it was
 - Submerged aquatic vegetation (SAV) sub-model
 - Predicts SAV growth
 - SAV/Water quality interactions
 - SAV and Detrital Load—Dean Dobberfuhl
 - Impacts of land use changes
 - Ag area and nonpoint source pollution
 - Monitoring
 - Water quality monitoring
 - Working with Duval County
 - Conducting similar programs to the south
 - Work with Russ Brodie at FWRI on fish monitoring
 - Tide and flow measurements, salinity
 - Invertebrates: SAV-based invertebrate populations
 - Phytoplankton monitoring
 - With University of North Florida, looking at epiphytes on SAV
 - Groundwater nutrient loadings to the Lower St Johns for future inclusion to the water quality model=potential implications and understanding for the effects of reuse
 - Impact of land use changes in headwaters to main stem and urban stormwater—using hyperspectral imagery on SAV beds
 - Studies in Lake George
 - Sediment contamination
 - Assist Dana Morton with testing in the Cedar-Ortega
 - More work in Cedar-Ortega remediation
 - Look at additional contamination assessment areas and tissue burdens

St Johns River Water Management District—Pam Livingston-Way

The Agricultural Nonpoint Program has three main areas of activity: 1) Implementation; 2) Feasibility; and 3) Assessment and Research.

- Implementation
 - Twenty-one growers in the BMP program=51% of the agricultural area
 - Now there are best management practices (BMPs) on 70% of the total acres
 - Percentage could fluctuate wildly as some areas go back into row crops
 - Some growers who are implementing BMPs and are not enrolled and are not included in the 70% participation number
 - Regional Stormwater Treatment
 - Yarborough West-95% complete
 - Edgefield-About 60% complete
- Feasibility
 - Tri-County Ag Area Model—Now updating the model with BMP acreages and regional stormwater treatment for the purpose of addressing the TMDL and meeting load reductions
 - Controlled Release Fertilizer BMP
 - Being evaluated over the past five years
 - Test fields show 30-60% load reductions with good crop yields
 - One year of the evaluation is complete with two years to go
 - Look at Urban BMP monitoring
 - Last year for the BMP program—pull together the TAC for BMP program to review and update the program to make the BMP program more representative of the types of crops in the area
- Research
 - Controlled Release Fertilizer (CRF) Research—Cooperative effort with the Water Management District and the Florida Department of Agriculture and Consumer Services (FDACS) to accelerate CRF research
 - They looked at nitrogen, now are looking at phosphorus

Institute for Food and Agricultural Sciences (IFAS)--Chad Hutchinson

- Chad is the director of the Hastings Research Station
- The program with the Water Management District helps farmers to meet BMP goals and the TMDL through the use of controlled release fertilizers
- The controlled release fertilizers are not new—mostly used for home use and high value crops like horticulture
- Working with the producers of controlled release fertilizers (CRF) with a product for potato farmers—it is a customized release product for the potato crop and its growth cycle and nutrient needs
- Planning for the Future/IFAS

- They would like to create a facility at the 50-acre farm in Hastings to re-engineer it to a state of the art facility for studies on fertilizer and water control work
- Also could use station to look at urban BMPs, landscaping, and sod production
- If CRF will be cost-shared by the State, we need a facility to investigate whether the CRFs work as published by the manufacturer.

Florida Department of Environmental Protection, Watershed Monitoring—Cindy Cosper

- Integrated Water Resources Monitoring (IWRM) Program
 - Random site selection
 - Sample areas categorize as “major rivers” in freshwater sections (St Johns and Black Creek)
 - Example of sampling manual was shown—it has all the QA information from EPA for DEP-sponsored monitoring

Florida Department of Environmental Protection, Northeast District—Tom Kallemeyn

- TMDL Sampling
 - 65 sites in the Intracoastal and tributaries are monitored
 - Finishing cycle for Group 5 waters in December 2005 and will move to Group 1 waters (e.g. Suwannee River)
 - Since 1997, they have been producing “River At a Glance”
 - Now, seven sites are monitored (up from five sites) every month
 - Parameters measured include: DO, conductivity, TSS, BOD
Nutrients are measured quarterly
 - Small lakes status assessment is finished
 - Sampled 30 lakes for vegetated quality index (VQI)
 - Black Creek—identify turbidity problems
 - Looking at benthic data
 - Tributary Pollution Assessment Project
 - Fecal coliform sampling
 - Stormwater sampling
 - Supplemental sampling with the Water Mgt. District for algal blooms

Duval County Public Health Unit-- Scott Turner

- Monitoring of Septic Tank Failure Areas
 - Door to door surveys (two field employees) to check for:
 - Illicit discharges
 - Failing systems
 - 1 of 10 homes has some sort of failure
 - Currently concentrating on Eggleston Heights
 - Use GIS mapping
 - Starting some water sampling=New effort
 - Infrared technology may be a tool
- This Year’s Special Efforts

- Elevation of public awareness of this issue
- Raising awareness of maintenance issues with septic systems—need to be pumped every 3-4 years to remove the sludge

U.S. Geological Survey – Mike Turtora

- Looking for Funding
 - Partially funded through Paul Haydt with the Coastal Basin Program doing fisheries monitoring on shoreline restoration projects—potential synergy with Lower St Johns projects?
 - Methods
 - Mimic FWRI program for fisheries sampling, when possible
 - Look at erosion and habitat?
 - Contact Mike with funding ideas or project needs

Florida Fish and Wildlife Conservation Commission—Russ Brodie

- Expanded fisheries monitoring at 81 sites (St. Marys, Nassau, and St Johns)
- Starting 1 July, 2005-added 32 sites/month south from Doctors Lake to Palatka
- 3 year wildlife grant to look at low dissolved oxygen (DO) conditions and fisheries response
 - Three sites
 - Weekly sampling of 24 sites
- Water quality parameters are collected along with fish samples

Special Legislative Funding for the Lower Basin: Prioritizing Projects for Fiscal Year 2007/Nominating a Project for St Johns River Alliance Support

Kraig McLane, Lower Basin Program Manger, St Johns River Water Management District reported that he would send out an e-mail shortly to the TAC to collect their project wishes for next year for when the budget numbers are in, so we are prepared. For point source and nonpoint source projects, the projects are ranked using the nitrogen and phosphorus removal amounts with a ratio to total cost. Mr. McLane noted that he would be checking back with the project managers to review how they computed the reduction amounts. Project readiness and amount of political support will be considered in ranking the final list.

Discussion of the projects included the following points:

- Clay County Loch Rane project did not have their nutrient reduction numbers included in their submittal. They have those numbers now, which would move it closer to the #2 ranking.
- Clay County Utility Authority reuse project is not on the list and, as far as we know, was not submitted.
- Are the projects limited to nutrient reduction efforts—we may need a habitat restoration category.
- FDOT has a project they would like to submit.

After some discussion, the TAC agreed to rank the project list as follows:

1. *Put the point source reduction projects first;*

2. *Use cost per pound as the first level of ranking;*
3. *Separate the habitat projects so they don't have to meet then nutrient reduction standard; and*
4. *Check with project managers on reduction computation methods or for those whose reduction numbers were not included.*

Mr. McLane also outlined the need to designate a project for St Johns River Alliance support. Since the habitat projects on the list did not fit well with the legislative initiative, there was consensus that one of these two projects would be a good fit for Alliance support. Mike Hollingsworth provided some background on the projects, their status, and why they need funding support to get them moving.

After discussion, it was decided by consensus that the best project to for special Alliance support is the Hogan's Creek Project as it is further along in the feasibility stage.

Technical Updates and Announcements

St Johns River Alliance Update

mindy matthews [Editor's note: The lowercase capitalization is *not* in error] was unable to attend so Kraig McLane have the Alliance update based on information provided by Ms. Matthews including the following points:

- The Alliance is submitting a letter of support for restoration project funding and added facilitation for one project in each Basin. Middle Basin: Lockhart Smith Canal near Interstate 4, with extensive wetland mitigation and a planned nature center and trail component. Upper Basin: Probably a recreational fishing/access project and whatever is selected today by the Lower Basin. An Alliance Board Member sub-committee is on the Agenda at the next SJRWMD Governing Board meeting on September 13th.
- "The River Runs North" Alliance film was selected by PBS Select television to air nationally. The Alliance plans film event "fun-draisers" at zoos in each Basin: November 5th, from 4:00 pm - 7:00 pm for Sanford's Central Florida Zoo; December 3rd at Brevard and a probably a date in February for Jacksonville. Posters will be distributed and tickets pre-sold. TAC volunteers in each Basin are helping with committees for the event.
- The Alliance has transitioned to a "Friends Of" organization with annual dues and grassroots involvement. This will also increase involvement with the Citizen Advisory Committees.
- A "River Heroes" luncheon is planned in December, probably in Jacksonville. "River Heroes" will be named in each Basin.

TMDL Update—Tiffany Busby, Wildwood Consulting

Tiffany Busby provided the following information about the nutrient TMDL process:

- The next meeting date for the TMDL Executive Committee and Stakeholders Group are September 16th and October 13th;
- The Committee has completed the preliminary allocation for the TMDL;

- A value analysis, evaluating the costs of domestic wastewater treatment plant upgrades to identify the lowest cost options, has been undertaken by the St Johns River Water Management District through their contractor CH2MHill; and
- Over the next few months the committees will be working on issues such as MS4 allocations, pollutant trading, and the basin management action plan (BMAP).

Wrap Up, Announcements, and Next Meeting Date

- The next TAC meeting will be scheduled in November or December around the holiday schedule. Jim Maher at FDEP is scheduled to host. The following meeting will be hosted by Clay County.
- There were no comments or changes to the May 2005 TAC meeting summary.
- Tiffany Busby noted the TAC website had been recently updated. TAC members are encouraged to use the site at www.lsjr.org. There was discussion about how to create a data user group.
- Dean Campbell provided an informal report and slide show on the recent algal blooms in the river. Photos are available on the internet at www.cypix.net. For press or political questions about the algal bloom, please refer callers to Kraig McLane or Dean Campbell at the Water Management District.
- It was noted that the District had been floating a funding request of \$35K for harmful algal bloom work. They are also considering putting some data into a public-friendly format for better access by the press and the public health unit.

Adjournment

The meeting adjourned at 2:35 pm.

Meeting summary prepared by Tiffany Busby. Please send comments to busbytl@bellsouth.net or call 904-797-2721.