

Lower St Johns Technical Advisory Committee (TAC)
Meeting Summary
Host: SJRWMD
St. Johns County Utility Department
March 15, 2007

Attendees

Alex Ainza, CCUA
Gretchen Bielmyer, UNF
Peter Bottone, King Engineering
Russell Brodie, Florida Fish and Wildlife Conservation Commission
Tiffany Busby, Wildwood Consulting
Ed Cordova, FDEP
Cindy Cosper, DEP Watershed Monitoring
Matt Dinkins, King Engineering Associates
Dean Dobberfuhr, SJRWMD
Sandra Fox, SJRWMD
John Hendrickson, SJRWMD
John Higman, SJRWMD
Debbie Kristiansen, St Johns County-Engineering
J. David Lambert, University of North Florida-Environmental Center
Kraig McLane, SJRWMD
Mark Middlebrook, The Middlebrook Company
Dana Morton, COJ-EQD
Jeremy Parrish, FDEP
Barbara Seymour, GPI Southeast
Michael B. Stone, Environmental Services, Inc.
Patrick Victor, CDM

Welcome and Introductions

The meeting began at 10:00 am. Dean Dobberfuhr welcomed everyone. The participants introduced themselves.

No comments were made on the December 12, 2006 meeting summary.

St Johns River Alliance Update

Mark Middlebrook described recent Board of Directors changes for the nonprofit St Johns River Alliance including the additions of John Delaney and John Hankinson. New County participants have also been added. The Alliance plans to focus on the following issues: 1). Water quality restoration; 2) Land acquisition (headwaters protection and public access); 3). Creation of a research consortium among regional research institutions (Rollins College, Stetson University, University of North Florida, Jacksonville University and the resource management agencies). The Alliance wants to take a positive, pro-

active approach to restoration of the St Johns River rather than a judge of what actions or policies are working. The next meeting will be on April 6th at Stetson University.

State of River Report Update

The River Report will include existing water quality data and new data. The proposal goes to the Jacksonville City Council for final approval in two weeks. The proposal includes two years of funding from the Environmental Protection Board (EPB). Perhaps the Alliance can consider funding the effort after that. There will be a press release when the funding is approved.

Presentation: “Use of Arc Hydro in Natural Resource Analyses”

Dean Dobberfuhr introduced Sandra Fox from the SJRWMD. Ms. Fox gave an introduction on Arc Hydro. Arc Hydro follows water from rain to the ocean in a geographic context. It uses a behavior model (flow) and spatial data and combines them to trace the flow of water. The river networks in ArcHydro are not just lines but represent behavior of water. ArcHydro Schema include: Drainage, network, hydrography, and channel details to compute flow over time.

Feature of interest include the following: Catchments; water quality monitoring sites; hydrodynamic monitoring sites engineering structures; springs, dams, etc; and three-dimensional representation of channels and lakes.

How is ArcHydro used? In San Antonio, they used Nexrad rainfall data as input, applied the local processes, modeled the flood flow and modeled the flood depth.

ArcHydro represents the integration of surface water and groundwater information. The dream is to describe the entire hydrologic cycle. There is now a national standard to represent water within a GIS. Future will be to expand that to include groundwater and coastal areas.

The surface water quality monitoring program (SWQM) is used to better delineate watersheds. Custom tool development is possible.

There is a Districtwide “check in-check out tool” that uses Districtwide data. The tool allows the user to use a smaller piece of the area (e.g. the Lower St Johns) and use it while retaining all the network information. Also, the user can update the smaller piece and “check it back in” to the larger model. This process helps with modeling and evaluating pollutant loading.

There is an inventory tool too. The motivation for the creation of this tool was that the District needs a user friendly means of accessing water resources models, reports, data, etc. The District needs a means of summarizing information from existing analyses.

Coastal and Estuarine Project--The SWQM monitors 73 sites. The methods used include statistical analyses and pollutant load screening model (PLSM) estimated loadings on drainage basins (using the District’s standard methods). The pilot project is the St Augustine Inlet. The critical issue is the integration of diverse data topics. They are using LIDR data in this project. ACES is the analytical framework for the Coastal and Estuarine Project. They are starting with water quality data and possibly adding sediment transport.

What is next? They will be updating the Fact Page project by adding new sites and new summaries for the local basins. They will be updating the tools to version 9.2. They will use the updated PLSM—a Districtwide application—that includes the 1995 Water Management Plan and

extended tool functionality. The coastal project will be expanded to all District estuaries. They will continue to coordinate with the South Florida Water Management District and the Southwest Florida Water Management District. The Florida ArcHydro Working Group (FOG) meets monthly. There is also a Florida ArcHydro Users Group.

Kraig McLane said that he has the Georgia GIS information for the St Marys River basin. John Hendrickson asked when they will update the hydrographic information? How frequently? Ms. Fox responded that they do update it but it happens slowly. Dave Clapp is the main contact. The big problem now is that they are data rich but how to get that information out to the right users.

Dana Morton asked if there are any connections with City of Jacksonville data sources. Ms. Fox answered that data collection is often a delicate issue and proper communications with other agencies and entities is very important.

Dean Dobberfuhr thanked Sandra Fox for her presentation.

Presentation: “Results of the 2006 MS4 Stormwater Monitoring Program-City of Jacksonville”

Dana Morton, City of Jacksonville Biologist, stated that he has a hard copy of the report available in .pdf format. The report is the 2006 MS4 Annual Report highlights for the City of Jacksonville. The first goal of the water quality program is to identify potential water quality problem areas related to stormwater runoff that can be targeted for corrective actions, retrofits, etc.

They have a routine sampling program that has specific objectives, which he noted. The objectives include long-term water quality trend analyses. There is also a tributary intensive program where 16 stations are sampled two times per year in the dry season and three times in the wet season. This program began in 2002.

The field parameters collected include: DO, percent saturation, temperature, pH, specific conductance, salinity, nutrients, heavy metals, and fecal coliform bacteria.

The second goal of the program is to measure the effectiveness of the stormwater pollution reduction measures (BMPs) that have been or will be implemented.

There are two high-tech BMP monitoring sites in Deer Creek and Cedar River where sediments and biology are also monitored. A future presentation of the Deer Creek results is possible.

They are conducting event-based sampling and have captured two events so far this year. Seven events will be captures. The results are pending.

Mr. Morton described their efforts in specific basins including: Arlington River, Broward/Dunn Creek Basin, Cedar River, Julington/Durbin, Ortega River, Trout River, etc.

Mr. Morton summarized the results of interest such as:

- A tributary near Egleston Heights (which is a septic tank area) has very high NO₂ and NO₃;
- Deer Creek has some high numbers;
- Bedford Creek at Little Pottsburg Creek has clear improvement of nitrogen concentration but they are not sure why;
- NH₃ problem areas include Deer Creek and McCoys Creek; and

- Trout River Upstream has high ortho-phosphate perhaps due to historic agriculture or an old silviculture site?

The “Top Three” of the data indicate the following target areas: Little Fishweir Creek; McCoys Creek; Deer Creek; and Trout River.

Mr. Morton had general discussion about the results and answered questions. Dean Dobberfuhl thanked Mr. Morton for his presentation.

Lunch Break

Technical Updates and Announcements

NE Florida Utility Managers Meetings

Kraig McLane explained that the group was bringing wastewater and reuse options forward and identifying the possibilities for regional projects. The SJRWMD staff has been holding individual meetings to look at the possibility for moving wastewater to reuse on each side of the River. They are looking at the possibility of moving the Buckman wastewater treatment plant (WWTP) out of the river for reuse. They are also trying to get bulk dischargers out of the river. Currently, the staff is working on a memorandum of agreement (MOA) with JEA on moving forward with a reuse project. April 13th is the next Northeast Florida Utility Managers meeting at the St Johns County Utility Department in St Augustine.

Funding Update

Kraig McLane stated that the SJRWMD’s general goal is to translate its commitment of \$150M over ten years to specific reuse projects. Some of the funding will go into a fund for projects still being developed and then funded in future years. \$10M has been committed to upgrades to the JEA Arlington East WWTP and the Jacksonville Beach WWTP.

Projects for the upcoming year—please consider submitting your project to Kraig if you have new projects that were not included in the past. If you are on the list it may also help you secure other funding.

Also, the District is funding \$2M for septic tank remediation in the City of Jacksonville.

Fisheries Data Collection Update

Russ Brodie reported that his team is working on the 2006 data summary of the Fisheries Independent Monitoring results.

SWIM Plan Update

Kraig McLane commented that they are in the process of pulling together the core project data for the SWIM Plan update. Mr. McLane reviewed the schedule for the document production and approval.

Fecal Coliform TMDL Update

Dana Morton noted that Sharon Evans had been corralling the key staff that monitor fecal coliforms in the tributaries. Monthly meetings have been held with representatives from the following agencies: Duval Dept. of Health; City of Jacksonville-Public Works; City of Jacksonville-Environmental Quality Division; and JEA. Work assignments have been made and PBS&J was previously contracted to take a close look at six tributaries. Overall, we are way behind in assessing the sources of fecal coliforms in all 54 impaired areas. Mr. Morton added that they are sampling for total coliform now as an assessment tool.

LSJ Main Stem TMDL Update

Tiffany Busby noted that John Hendrickson and Pete Sucsy have been working on the final model run to confirm that the allocation approach will meet the TMDL as well as analyzing the MS4 information. There are upcoming TMDL meetings on March 28 and 29. Anyone is welcome to participate in these TMDL meetings.

Presentation: “Water Quality Credit Trading in the Lower St Johns Basin”

Ed Cordova gave a presentation on Water Quality Credit Trading. Trading allows for the most cost-effective solutions to be implemented and to achieve load reductions. Trading can lower costs and increase the environmental benefits. Trading allows and additional nexus for addressing nonpoint sources and new growth which are outside the usual regulatory structure.

Principles of water quality credit trading include the following:

- Must meet the Clean Water Action requirements (e.g. no “hot spots” and meets applicable technology-based requirements);
- Must occur between specific watershed or segment;
- Must be enforceable if a point source is involved;
- Must be able to quantify reductions for credits; and
- Need an organizational structure/marketplace to process trades, track implementation and monitor effectiveness.

Legislative direction includes the following:

- State will need to adopt binding rules;
- Report due prior to adopting rules; and
- PTPAC Report has been submitted.

The Pollutant Trading Policy Advisory Committee (PTPAC) met 17 times to discuss water quality credit trading. The report that was submitted to the Legislature includes FDEP’s recommendations for statutory changes. Some of the provisions include:

1. Requires legislative authority;
2. Should statutorily limit formal trading to areas where BMAPs that have been adopted;
3. To ensure enforceability, trades should be incorporated into permits, BMAPs, certifications, or other binding mechanisms;
4. Should statutorily limit “equitable abatement”;
5. Expand authority to use administrative orders to include permit revisions;
6. Need a rule addressing credit adjustment factors (e.g. location factors, uncertainty factors); and
7. Need a rule to establish a credit tracking registry.

Mr. Cordova noted that the Department plans to issue a notice of rule development in March.

Dean Dobberfuhl thanked Mr. Cordova.

Next Meeting Date

The next meeting will be held in August 2007. No dates were suggested to avoid (conferences, etc.). Tiffany Busby agreed to sent out a notice when the meeting date was set.

Adjournment

The meeting adjourned at approximately 2:20 PM.

Meeting notes taken by Tiffany Busby, Wildwood Consulting. Please send comments to busbytl@bellsouth.net or call 904-797-2721.