

**LOWER ST. JOHNS RIVER TECHNICAL ADVISORY COMMITTEE (TAC) MEETING
City of Jacksonville - Jake Godbold Building - City Hall Annex
1st Floor Conference Room, 407 North Laura St., Jacksonville, FL 32202
July 15, 2011**

Participants

Karen Ahlers, Putnam County Environmental Council	Dwight Jenkins, SJRWMD
Eesa Ali, FDEP	Donna Kaluzniak, Atlantic Beach
Stephany Birkholz, FDEP	Kerry Kates, FFVA
Errol Bos, ETM	David Kaufman, JaxPort
Steve Bratos, USACE	Mike Kelter, Legacy Civil Engineers
Russ Brodie, FWC	Pam Livingston Way, SJRWMD
Robert Burks, SJRWMD	Melissa Long, FDEP
Derek Busby, SJRWMD	Jim Maher, FDEP
Tiffany Busby, Wildwood Consulting	Tom Mallett, COJ
Dean Campbell, SJRWMD	Tom Mayton, SJRWMD
Tim Cera, SJRWMD	Teresa Monson, SJRWMD
Stuart Chalk, UNF	Marcy Policastro, Wildwood Consulting
Erin Condon, Florida Defenders of the Environment	Cicely Pontiflet, NPS
Ed Cordova, JEA	George Porter, JEA
Brian Cornwell, USACE	Dick Powell, USACE
Barry Cotter, COJ	Katie Roark, JEA
Larry Danek, ECT	Geoff Sample, SJRWMD
Betsy Deuerling, COJ	Aaron Sarchet, FDEP
Jonathan Deuerling, Citizen	Vince Seibold, COJ
Patricia Gee-Jones, COJ	Lucy Sonnenberg, JU
Kevin Hayes, COJ	Angelo Speno, Putnam County
John Hendrickson, SJRWMD	Scott Turner, DCHD
Mike Hollingsworth, USACE	Jennifer Zimmerman, Hach Hydromet
Chuck Jacoby, SJRWMD	

Welcome and Introductions

Tiffany Busby welcomed everyone to the meeting and thanked the City of Jacksonville (COJ) for hosting. The participants introduced themselves and the entity they represent.

Mile Point Feasibility Study and Jacksonville Harbor Deepening Update

Mike Hollingsworth stated that the U.S. Army Corps of Engineers (USACE) just completed the draft feasibility study on the Mile Point project. They are authorized to release the draft study to the public and will hold a meeting on August 15th. USACE has a planning process to develop new projects, and both the Mile Point and Jacksonville Harbor deepening projects are in the feasibility study stage. The Mile Point project is closer to the end of this stage. The feasibility study phase can last three years or longer. After this stage, there is about one year of review by USACE Headquarters and then the project needs to be authorized by Congress before USACE can obtain funding for the project. Therefore, both projects are likely several years away from construction.

Jacksonville Harbor has been altered many times over the years including straightened, deepened, and training walls added. The Mile Point training wall has existed since about 1910 and the purpose is to train the river currents in a certain direction. In addition to the navigation issues related to the wall, there are other problems associated with its location at the intersection of the Intracoastal Waterway (ICWW) and the Jacksonville Harbor. The purpose of the feasibility study is to determine options to eliminate or alleviate the crosscurrents caused by the wall. USACE began developing and evaluating alternatives in

2002. These options included relocating the wall, diverting the wall, creating a groin field, changing the shape of the wall, and adding a submerged weir. The Tentatively Selected Plan (TSP) is the redirection of the wall to remove a portion and replace it with a new wall to the east. The plan also includes adding a western wall to help protect the proposed created wetlands. Adding this wall would cut off some of the flow from two creeks so USACE is proposing to cut a new channel to allow flow to the river. This channel is needed because the restoration of Great Marsh Island would restrict tidal flows and access to Chicopit Bay, Greenfield Creek, and Mt. Pleasant Creek. Both creeks are 303(d) listed waters, and flushing of these creeks is important to reduce the impairment and not affect basin management action plan (BMAP) efforts.

USACE modeled this project with the 2D RMA2 model, and the results were used to determine erosion areas and ship simulation efforts with the proposed changes. They also used an acoustic Doppler current profile to look at flows through the channel. Bathymetry of the area shows deep scour areas near the training wall. In addition, water flow from the ICWW during an ebb tide is constricted by the wall, which is causing erosion and makes navigation difficult. Removing the wall would cause an increase in velocities where the wall used to be located. USACE is also working on environmental coordination related to this project, and they have prepared a Draft Environmental Assessment (EA) and mitigation plan. They are also doing a water quality evaluation, coordinating Coastal Zone Management compliance, starting the pre-application process for water quality certification from the Florida Department of Environmental Protection (FDEP), and public and agency coordination efforts. The Alternatives Formulation Briefing (AFB) was held at the end of May and they received authorization from Headquarters to release the feasibility study to the public. The District Engineer's transmittal letter is scheduled for October 2011, which will initiate design. Construction can begin in 2013, if the project receives authorization and funding, and will take over one year to complete.

Mike Kelter asked what the shipping channel width and velocities are. Dick Powell responded that some areas have velocities up to 5 feet/second. The channel is 405 feet wide with most of the traffic is going to Dames Point. Mike Kelter asked where most of the traffic is coming from. Mike Hollingsworth responded that most of the traffic is coming from the Jacksonville Harbor channel because the ICWW authorized channel is only 12 feet deep. Errol Bos asked what impacts to the BMAP efforts are expected. Mike Hollingsworth responded that they hope there will not be any impacts since the project will allow for the approximately same amount of flushing. Mike Kelter noted that while the project seems to be primarily addressing a safety issue, there also appears to be a navigation issue that could be improved. Mike Hollingsworth responded that USACE is working under the navigation and erosion authority. Mike Kelter asked if there would be any positive impacts on Blount Island from this project. Mike Hollingsworth responded that the USACE economics team is looking at the economic benefits of the project as part of the feasibility study.

Jim Maher noted that in addition to the federal interest, the Florida legislature has looked at this area because many ships cannot get through this point, which is having an economic impact. The legislature recently approved funding to help with this project, in addition to Congressional funding. Mike Kelter asked how much support there is for the project. Mike Hollingsworth responded that there is a lot of financial support. The Jacksonville Port is the local sponsor for the project, and the Port requested that USACE look at the national benefits as well as the local benefits. USACE will look at other ports and determine the value of this project to the country. The Port also has the option to fund and add other components to the project, if they want to augment the USACE plan.

Mike stated that for the Jacksonville Harbor Deepening project, USACE is preparing the second General Re-evaluation Report (GRR). The entrance to the harbor is currently 42 feet deep and the U.S. Navy is deepening the channel to 52 feet from the entrance to Mayport and in the turning basin. From Mayport to Terminal Channel (near the Buckman Wastewater Treatment Facility [WWTF] outfall) the channel is 40

feet deep. After this point the channel is 34 feet deep and the channel is 30 feet deep around Blount Island. USACE uses Buck Island and Bartram Island for disposal areas. There is also the option for offshore disposal and USACE is looking to obtain approval to place appropriate material back on the beach. The Jacksonville Port asked USACE to look at both the funding and environmental costs of the deepening. The project would be done in segments with segment 1 from Mayport to just past the existing cruise terminal, segment 2 to Buckman WWTF, and segment 3 in the west Blount Island channel. USACE is evaluating each segment in one foot increments to look at the costs. In addition, disposal areas have to be identified and there is a lot of rock that would likely need to be blasted. Segments 2 and 3 are being considered for deletion from the project and a TSP should be ready in spring 2012 for segment 1. USACE will conduct an economic evaluation of each depth and an assessment of environmental effects. Then the TSP will be identified and modeled.

There have been many people working on the Lower St. Johns River (LSJR) and models have been developed, which provide an excellent starting point for the analyses. The St. Johns River Water Management District (SJRWMD) has been helpful in coordinating with USACE staff on the use of their models. Two hydrological models and one hydrodynamic/water quality model will be used for the project. The design will include deepening, turning basins, widenings, and vessel handling. Potential project impacts include shoaling rates, salinity, water levels, flows in adjacent embayments, and littoral processes in the coastal oceans. USACE is using information that SJRWMD developed for the water supply impact study including water quality and ecological models. Other modeling efforts will include advanced circulation models, regional boundary conditions, and affects to tidal creeks, salt marshes, and ICWW. After the models have been run, USACE will bring information to the local sponsor to determine the final recommended plan. Then they will complete the feasibility study, brief Headquarters, release the draft report to the public, finalize the report, go for authorization, obtain permits, and design and construct the project.

Mike stated that Jim Maher had asked him how the TAC could be involved in the process. USACE has already received a lot of support from the TAC agencies by providing the models. TAC members can also take part in the comment period on the report, participate in coordination meetings, and a subcommittee may be needed to discuss what type of mitigation is appropriate, if needed. The TAC could also provide assistance with the development of monitoring plans. Donna Kaluzniak asked if there is additional information about these projects on the USACE website. Dick responded that both the documents and public workshop information are posted on the Jacksonville District website: http://www.saj.usace.army.mil/Divisions/Planning/Branches/Environmental/DocsNotices_OnLine_DuvalCo.htm.

Changes in Nutrient Concentration and Load Associated with Management Drawdowns of Rodman Reservoir

John Hendrickson stated that the Rodman Reservoir is part of the works of the Cross Florida Barge Canal (CFBC). The Ocklawaha River has run through the reservoir since it was constructed in 1969. The CFBC project ceased in 1999 but the infrastructure is still in place, and the reservoir has been managed as a recreational area. SJRWMD started to look at the potential for restoring the Ocklawaha River by removing the reservoir, and examined any potential increases in nutrients and the effects of hydrologic manipulations associated with the drawdowns. Over the years, development in artesian aquifer areas has led to an increase in nitrate concentrations in springs, which can lead to impairments of natural flora and fauna. This also poses a concern for downstream waters. The Ocklawaha River is the largest tributary to the LSJR and is a big part of the flow in late winter and early spring; therefore, it is influential for the LSJR during this time. When comparing the chemical characteristics of the Ocklawaha River and LSJR, the LSJR is more salty than the Ocklawaha River and also has more total phosphorus (TP). LSJR is typically light limited and color affects light attenuation. The Ocklawaha River has lower color than the

LSJR. Tiffany asked if groundwater causes the differences in solids. John responded that a lot of this difference is due to the groundwater inputs to the Ocklawaha River because it is fresher water.

The reservoir drawdowns occur to maintain an open water system because of hydrilla in the reservoir. Drawdowns occur about every three years to control hydrilla. The first phase is the drawdown phase, which lets all the water out of the reservoir. Then there is the low pool phase followed by the refill phase. SJRWMD modeled the effects of the drawdown to see the downstream TP and chlorophyll changes in the LSJR for the period of 2000 and forward. The modeling looked at the current scenario under the normal drawdown condition and an alternate scenario of no drawdown. When the reservoir is in drawdown, it contributes more water than when it is in the reservoir state. There are several submerged springs that are suppressed when water is in the reservoir, and when the reservoir is in drawdown the springs rebound. The drawdowns are initiated in late November and take about 60 days. The low pool stage lasts until March when the reservoir is refilled again.

During drawdown and low pool the volume of water is higher than under the no discharge scenario. During refill there is a lower discharge than under the no discharge scenario. There was no strong pattern for total nitrogen (TN) after the drawdowns; however, there were negative values for TP in the season after a drawdown, which means that more TP comes out of the reservoir than went into it. TN goes up when the drawdown begins and peaks in the middle of the low pool stage. TN then starts to decrease in the low pool stage. What is likely happening is that the reservoir is reaching a new stable state with the new vegetation in the reservoir, which is an unexpected pattern because it was thought that TN would go down in the refill stage. When looking at TP, there is a small increase in drawdown with a greater increase in the low pool and a large increase during refill. Turbidity and chlorophyll-a had a big spike in the low pool and again in the refill. Nitrite-nitrate was high in the low pool, ammonia and organic nitrogen were high in drawdown and refill, orthophosphate was high in the low pool, and non-orthophosphate phosphorus was high in refill. During the drawdown phase, there is an increase in the TP load but a decrease in the TP concentration, which will benefit the LSJR. During the low pool phase, there is an increase in both TP load and concentration. In the refill phase, there is a decrease in load but an increase in concentration, which appears to be the release of TP from the sediments. This is a concern because refill starts in March when algal blooms can occur.

This information was used as the Ocklawaha River boundary in the water quality model simulation. The drawdown lowers salinity in the LSJR. In 1999, it took about three weeks for changes in salinity to occur at the Palatka station, one month for changes at Racy Point, and six weeks to reach the Shands Bridge. During refill, there is less water out of the Ocklawaha River and it took one month for a change in flow in Palatka, two months at Racy Point, and longer for the Shands Bridge. The simulation results for TP in 1999 was lower concentrations in the drawdown stage under the current scenario then if no drawdowns occurred and higher concentrations in low pool and refill. For chlorophyll-a, concentrations were higher in low pool but lower in refill. Colored dissolved organic matter (CDOM) was lower in low pool but higher in refill. CDOM increases light limitation, which is why the chlorophyll-a concentration is lower. In 2002, TP was lower in drawdown and low pool but higher in refill compared to the no drawdown scenario. CDOM and chlorophyll-a were lower in drawdown and low pool but about the same in refill. In 2005, TP was low in drawdown and slightly higher in low pool and refill compared to the no drawdown scenario. When the total maximum daily load (TMDL) is achieved in the LSJR, this analysis will need to be reexamined. It may also be that concentration is better than load as an indication for what will happen in the LSJR.

Tiffany asked if the hydrilla in the reservoir have a polishing effect for the nutrients. John responded that the uptake in nutrients increases in the years between drawdowns. Tiffany asked if hydrilla are captured in the reservoir or if they are sent to the river. John responded that the hydrilla are kept in the reservoir but any plants that have broken down will go to the river as part of the nutrient contribution. Mike Kelter

asked if there are any conclusions about whether having the reservoir in place is a plus or minus. John responded that some water quality analyses have been done to answer this question but more work is needed since the dynamics are more complicated than originally thought. SJRWMD is working on building a hydrodynamic model that extends up the Ocklawaha River to help answer this question. Karen Ahlers stated that there was a PBS&J study from a few years ago that said the nutrient uptake of hydrilla was negligible. John responded that the reservoir is efficient in taking up nutrients, but it would be interesting to see how much water from the floodplain is then exported from the Ocklawaha River.

Mike Kelter asked what algae are in the river this year. John responded that there have been blooms in Lake George since the beginning of April but downstream of Palatka there has been hardly any algae. This seems to indicate that projects have improved the water quality. This has also been a dry year, which limits the amount of nonpoint source pollution.

Technical Updates and Announcements

Fisheries Data Collection

Russ Brodie stated that the fisheries monitoring occurs on a monthly basis, with 79 sites in the St. Johns River. Since 2005, they have received funding from SJRWMD for 32 of the sites; however, with budget changes, this funding source may not be available in the future. SJRWMD funds the stations from Julington Creek to Palatka and valuable data would be lost if funding does not come through. They are looking for other ways to fund these stations if needed. There are some documents that will come out later this year on several fish species and a potential update to the species in the St. Johns River should be ready by the end of this year. The 2010 annual report was recently completed and Russ will send this to Tiffany for posting on the TAC website.

SJRWMD

Dean Campbell stated that budget is an issue for SJRWMD. In past years, there were a lot of programs that allowed scientific staff to go out and assess issues but management has disbarred this effort. The Governing Board has approved the draft budget but technical staff have not been informed about what technical efforts are included in the budget. There is a significant reduction in staff underway of 130 positions, which will be cut next month. The Environmental Sciences (ES) Division will also be reorganized by system instead of by basin. The new format will be wetlands and watersheds, rivers and lakes, and estuaries and lagoons. The ES staff who have been involved in LSJR Basin will be reassigned to one of these systems. Lucy Sonnenberg asked what the rationale is for the reorganization. Dean responded that one of the issues had to do with an effort to flatten the organizational structure; this will reduce the number of supervisors in ES to three instead of seven. Mike Kelter stated that the initial rationale for cutting back the WMDs was to help focus on their “core mission.” He asked if there is a document that describes these core functions. Dean responded that Section 373, Florida Statutes, is the founding legislation for the WMDs and identifies the mission. Flood protection and consumptive use are the chief tenets; however, since that legislation, additional laws, such as the Surface Water Improvement and Management (SWIM) Act, have passed that added responsibilities. The WMDs are now being limited on how much they can collect in taxes. SJRWMD is limited to \$85 million, which is why staff have to be cut. There are also a lot of contingent workers that will be lost. These cuts are going to reduce SJRWMD’s ability to respond to environmental events.

Dean stated that after last year’s environmental events, the TAC formed an *ad hoc* committee, which met in April to start coordination. An email distribution list for this group has been established and a calendar of monitoring activities was created for the agencies to upload their activities. There was also discussion about creating a separate repository for event information and the TAC website was updated to include information on monitoring and field reports. FDEP will notify the list if any of the dissolved oxygen thresholds are not met during the transect sampling. The committee also discussed having a place to store data. Lucy stated that the idea was to put all unpublished data in a single place to help with the analysis

of information. The data would be searchable by different parameters (location, date, type of information). Lucy initially talked with Jacksonville University staff about setting up a site and Stuart Chalk at the University of Florida agreed to be involved. They started to develop the site with 2010 data to see if it will be useful. Lucy stated that she should have more information at the next meeting. Dean noted that the committee may also hold a conference call with appropriate staff to determine the best way to distribute information to the public during an event.

Dean stated that another implication of the ES reorganization is the coordination of the quarterly TAC meetings. SJRWMD has been funding the Wildwood Consulting contract and they will likely not have the funds to keep this contract. SJRWMD reached out to FDEP and COJ about the potential for pooling funding, and they may be able to raise about \$3,000-\$4,000 per agency to keep Wildwood involved. Lucy asked if the COJ Environmental Protection Board (EPB) has been approached for funding. Dean responded that they have not talked with them yet. Any other ideas about funding are appreciated. SJRWMD staff will stay involved in the TAC to the extent possible after the reorganization.

Dean stated that ES has a technical seminar every other week that is arranged for staff, but is open to anyone who is interested. On August 18th at 2:30, Dr. Jim Griffin will present on the Water Atlas Program. He would like to expand the program to other areas, and any interested counties should attend. There is funding for this program and Jim will be available before and after the presentation for further discussion.

Other Member Updates

Patricia Gee-Jones stated that the EPB Symposium will be held on August 19th and she provided agendas and registration forms. Two awards will be presented during the symposium and the EPB is looking for nominations. In terms of funding for the Wildwood Consulting contract, the EPB is always open for proposals and presentations.

Mike Kelter stated that Orange Park sent treated wastewater to the Clay County Utility Authority for reuse for the first time last month.

Mike Hollingsworth stated that the draft feasibility report for Big Fishweir Creek has been delivered from the USACE division office with minor comments. They will schedule an AFB and can then release the report to the public. This could be a future topic at a TAC meeting. The Hogan Creek project is still on hold because there was no funding this year. USACE advertised the Jacksonville Harbor maintenance dredging, which will occur in December through March or April. This activity should not get in the way of sampling efforts, but people should notify USACE if there is anything amiss. The Mayport project is on hold and will probably start again in August. The entrance channel to Mayport is a feeding location for juvenile green turtles; therefore, they have to redo the environmental coordination for take before dredging again. The turning basin has been deepened and the focus is now on the Jax Harbor and Mayport Entrance Channels. The project is about 50% complete.

Jennifer Zimmerman stated that Hydrolab is holding a training session on August 5th in Brunswick for hands on calibration troubleshooting of equipment if anyone is interested in attending.

Vince Seibold stated that an update on the Florida State University septic tank model and COJ septic tank phase out project will be part of the symposium. Also on the agenda are managed aquatic plant systems and an update on the Deer Creek pond project, low impact development (LID) efforts, and a water supply update from SJRWMD and JEA. COJ has been designated one of ten cities for both the Environmental Justice and Green Infrastructure Partnership programs through the U.S. Environmental Protection Agency (EPA). EPA is in town today to look at projects. FDEP sent out an email that the numeric nutrient criteria rulemaking workshops will be held on July 27th in Leesburg and August 3rd in Tallahassee.

Next Meeting Date

The next meeting will tentatively be held in October 2011 and will be hosted by the Florida Department of Environmental Protection.

Adjourn

The meeting was adjourned 12:34 PM.