

**LOWER ST. JOHNS TECHNICAL ADVISORY COMMITTEE (TAC)  
MEETING  
City of Jacksonville Public Works – Ed Ball Building  
1<sup>st</sup> Floor Training Room  
Jacksonville, FL  
April 3, 2008**

**Participants**

Shelley Beville, TNC	Donna Kaluzniak, Atlantic Beach
Ray Bowman, UNF	Justin Levine, COJ/EREQ
Russ Brodie, FWC	Melissa Long, FDEP
Robert Burks, SJRWMD	Lori McCloud, SJRWMD
Richard Bryant, National Park Service	Kraig McLane, SJRWMD
Tiffany Busby, Wildwood Consulting	Mark Middlebrook, St. Johns River Alliance
Dean Campbell, SJRWMD	George Myers, FDEP/CAMA
Ed Cordova, JEA	Alan Obaigbena, FDOT
Barry Cotter, COJ	Ying Ouyang, SJRWMD
Betsy Deuerling, COJ	Marcy Policastro, Wildwood Consulting
Dean Dobberfuhl, SJRWMD	Ron Roberson, COJ
Adam Doyle, FDOT	Jennifer Sagan, BCI
John Higman, SJRWMD	Vince Seibold, COJ
Mike Hollingsworth, USACE	Lucy Sonnenberg, JU
Nam Huynh, COJ	Jennifer Tallerico, SJRWMD
Don Jacobovitz, Putman County	Pat Welsh, UNF
Amy Kalmbacher, FDEP/CAMA	

**Welcome and Introductions**

Nam Huynh welcomed the participants and noted that he was chairing the meeting for Dana Morton who is recovering from surgery. Participants introduced themselves and the entity they represent.

Tiffany Busby asked if there were any comments on the December 18, 2007 meeting summary. No comments were received but participants can provide comments later. Ms. Busby provided an overview of the meeting agenda.

**Presentation – A Decadal Review of SAV Status and Stressors in the LSJR**

Jennifer Sagan gave a presentation on the findings of the submerged aquatic vegetation (SAV) study over the past decade. This presentation is specifically related to SAV communities in the Lower St. Johns River Basin and is based on data from ground truthing sites and permanent data stations. There are 75 ground truthing sites, which were visited annually between June and July. For the purposes of the study, the river was divided into four sections: 1) marine; 2) mostly freshwater; 3) riverine; and 4) Crescent Lake. Data was collected for intercept length, canopy height, water depth, and substrate characterization. The permanent sites include a core group of eight sites that have been sampled since 1996. These sites have been visited at least quarterly since fall 2000 and yearly since 1996.

They found 11 species of macrophytes, most of which are freshwater species. *Vallisneria americana* is the most dominant species, found in 84 percent of transects surveyed. This species is associated with the deep water edge of the bed more than 90 percent of the time and they are also found in habitats that receive only nine percent of ambient light. This species was seen growing and flowering year round. The second most common species is *Najas guadalupensis*, which is a freshwater species that dies back when the salinity increases. The third most common species is *Ruppia maritima*. The remaining species collectively make up 10 percent of the total SAV species observed.

When studying the length of the SAV beds (with data from 1998-2007), it was found that Section 1 beds are generally longer than Section 2. This is due to the length of littoral areas in Section 1 and is not related to a water quality issue. Section 3 has the shortest bed lengths because this portion of the river is narrower, with shorter littoral zones and an overhanging canopy.

The maximum water depth distribution was studied using data from fall 2000 to fall 2004 at seven permanent monitoring sites. This period was a good representation because it spanned both wet and dry years. *Vallisneria* had a significantly greater maximum water depth distribution than the other two species. In terms of within bed distribution and cover, *Vallisneria* tends to appear throughout the bed but is dominant in the deep water. *Najas* is also found throughout the bed but not at the same cover as *Vallisneria*. *Ruppia* is found more near shore. Tiffany Busby asked, on the slide that shows percent cover, how more than one species can have 100 percent cover. Ms. Sagan responded that the percent cover is based on leaf quantity and two species can overlap in an area.

Ms. Sagan noted that during the study they found a “seesaw” pattern in SAV distribution. Two sites at the extreme ends of the Lower St. Johns River (Rice Creek and Buckman) were compared using monthly data since December 2000. It was found that when SAV in the upstream portion of the river is doing well, there are declines in SAV downstream, and vice versa. This is caused by swampland further upstream that discharges parameters to the river that affect light attenuation during high precipitation events. This causes a decrease in SAV upstream during wet periods. During drought conditions, this runoff is not occurring, which benefits SAV upstream. However, drought conditions increase the salinity downstream, which affects SAV coverage closer to the ocean.

Stressors to SAV include salinity, suspended solids, water color, phytoplankton, and epiphytic communities. Die backs in SAV were observed in 1999 when the river clarity was high. Using a Spearman rank correlation for parameters that affect light attenuation, they found an inverse correlation with salinity, which appeared to be the cause of the die backs. This was supported by the data from 1998-2001. Color, total suspended solids, and chlorophyll-*a* all affect light attenuation and they found that color affects 60 percent of light attenuation in the Lower St. Johns River basin.

The maximum detached macroalgae density was observed in August 2003 and this density is equivalent to what is seen in hypereutrophic systems based on literature values. The maximum epiphyte density per leaf area (scraped off *Vallisneria* leaves) has been found to attenuate the light reaching SAV by approximately 50 percent.

Section 1 of the river is an area of concern because the *Vallisneria* bed in 1996-1997 had good coverage and extended 90 meters from the shore. After each disturbance in this area, the bed has not recovered to the 1996-1997 length, which is unusual. This area has a lot of grass clippings and sediments in stormwater inputs, which are affecting the water quality and the SAV. The retrofits and septic tank removals occurring in this portion of the river should help. Another issue to consider is the potential salinity changes from the proposed surface water withdrawals. If the water withdrawal causes an increase in the salinity wedge, this would reduce SAV downstream. At the same time, rainfall will still occur, which will impact the SAV upstream (the “seesaw” effect as discussed above). There could be an additive impact to the SAV due to artificial drought conditions from the withdrawals.

Lucy Sonnenberg asked how long it takes to observe an impact to the SAV from an adverse condition. Ms. Sagan responded that since the monitoring is currently conducted only quarterly or monthly, it is difficult to determine exact response time. They will soon be starting weekly sampling at the Buckman and Shands sites. The SJRWMD has contracted with the USGS to put in continuous stations near those sites to obtain salinity data. This should help determine response time. In terms of recovery, they have

observed large changes in SAV cover in just one quarter. Ms. Sonnenberg asked if they have observed that one aspect of the SAV is impacted more than others. Ms. Sagan responded that the canopy tends to follow water depth and is separate from water quality parameters. With increases in salinity, patches of the bed die out first.

Donna Kaluzniak asked if increasing reuse in the basin and eliminating some of the wastewater discharges would affect the SAV. Ed Cordova responded that JEA has conducted some research and the effects are insignificant. George Myers asked how SAV extent affects the aquatic community. Dean Dobberfuhr stated that they have collected data on macroinvertebrates and fish and they are working to relate other species densities to SAV. Mr. Dobberfuhr has given presentations on this topic at conferences; however, there are no published papers yet.

### **Final Draft: Lower St. Johns SWIM Document**

Tiffany Busby stated that previous drafts of the SWIM Plan have been presented to the group but this version is the complete final draft. Ms. Busby requested that the TAC review the plan and provide any corrections and updates.

Ms. Busby provided a presentation to give an overview of the plan. The purpose of this SWIM Plan Update is to provide information on efforts since 1993, the state of the river, and management issues that will be addressed in the future. This update also includes the Lake George basin, which is the last section of the St. Johns River not listed as a SWIM waterbody. The plan is structured around six initiatives, which are based on SJRWMD programs. There is a goal to address each initiative with strategies to achieve the goal and associated objectives. The TAC helped to develop the goals and objectives for each initiative last year. This update also follows EPA's nine elements of a comprehensive watershed plan. FDEP recommended following these elements because federal funding given to states is increasingly constrained to plans that meet these criteria.

The Water Quality Initiative discusses the sources of pollutants, ongoing management efforts, and future strategies to decrease sources and conduct studies to gain a better understanding of river dynamics. The Biological Health Initiative discusses information that has been collected from ongoing studies, such as the SAV study, how the extent of impact will be determined, and a plan to develop restoration tools. The Sediment Management Initiative focuses on reducing sediments from construction activities and continuing maintenance dredging. The Toxic Contaminants Remediation Initiative discusses concerns related to the Cedar-Ortega river basin and strategies to conduct assessments and implement remediation planning. The Public Education Initiative reviews the River Agenda and River Accord, education efforts and media relations, and a plan to continue the paid media campaign. The Intergovernmental Coordination Initiative includes the TAC as a way to enhance coordination and also includes the River Accord efforts.

The Lake George information is provided in a separate chapter and includes information on the characterization of the lake. This program is not as developed as the Lower St. Johns and it is in planning stage with projects related to reconnaissance and assessment. The Lower St. Johns initiatives were used in the Lake George section but on a smaller scale. The water quality efforts focus on the inputs and impacts to the lake; biological health includes a plan to inventory natural system conditions; sediment management focuses on upstream reductions; public education efforts will be an extension of the current efforts in the Lower St. Johns; and intergovernmental coordination will enhance the coordination efforts from the Lower St. Johns.

The plan is available on the SJRWMD website for review. TAC comments are requested by April 8<sup>th</sup> and then the plan will undergo internal SJRWMD review. The plan will be posted for public review on April 18<sup>th</sup> with the public workshop held at the PALCOM meeting on May 8<sup>th</sup>. A draft will be sent out on May

15<sup>th</sup> for a 45 day review by agencies and local governments. Once comments have been incorporated, the plan will be presented to the SJRWMD Governing Board on August 11<sup>th</sup>.

Donna Kaluzniak asked how the TMDLs fit with the SWIM Plan. Ms. Busby responded that there are a lot of research projects related to the TMDL and these efforts are listed in the SWIM Plan. Kraig McLane added that the SWIM Plan is more overarching and the TMDLs are one of the components to restoring the river so these are complimentary efforts. Nam Huynh asked if the SWIM Plan includes any regulatory requirements for the local governments. Ms. Busby responded that the SWIM Plan does not include a regulatory aspect. One of the main purposes of the plan is related to the funding available for SWIM waterbodies. While this funding has been limited in recent years, federal funding has become more tied to management plan projects. Mr. McLane added that part of the reason for the update is to provide funding opportunities for the projects listed in the plan. The update was also necessary to include Lake George to provide opportunities for state and federal funding for projects in that part of the river. Dean Campbell also noted that while the SWIM Plan does not have a regulatory component, there are permits that ask if the project is compatible with the SWIM Plan.

Comments on the SWIM Plan should be sent to Tiffany Busby who will provide them to the appropriate SJRWMD staff. Mr. Campbell noted that a lot of great information is included in the plan and thanked Wildwood Consulting for pulling all the information together. Mr. McLane stated that at the May PALCOM workshop, there will also be a presentation with more detail on the TCAA projects. The meeting will be held at 6:00 PM at SJRWMD Headquarters in Palatka.

#### **Update: Funding for the Lower Basin Legislative Initiative**

Kraig McLane stated that due to the changes from tax cuts, the funding outlook for the next few years is not good. Legislative funding is fairly scarce and the past funds are almost all fully encumbered. The SJRWMD and the City of Jacksonville have a contract for septic tank phase outs that will be signed by the Mayor soon. The legislative funding went to reuse and wastewater treatment facility upgrades (\$10 million) and also to septic tank phase out and assessment work in the tributaries (\$12 million). The SJRWMD budget will be kept at baseline with current staff and existing studies. They are not looking to implement many new projects unless the funding improves. One proposed project to extend the fisheries study is currently not in the baseline and funding for this will have to be discussed during the budget exercise. The SJRWMD has tentatively budgeted \$4 million for cost share projects with local governments, focusing on those projects needed to meet the TMDL. This funding will be used for two or three projects. The SJRWMD also has funds in the Algal Initiative Program for capital and assessment projects to reduce phosphorus in the upstream portion of the Lower Basin. These will be cooperative projects with the local governments. In addition, the SJRWMD will continue their commitment to the reuse program with approximately \$15 million per year.

Jennifer Sagan asked how much funding is available for the Algal Initiative. Mr. McLane responded that this amount has not been set yet. They currently have \$7 million set aside but hope to add to this effort each year.

#### **Discussion: Feedback on Use of EPA's Water Quality Exchange (WQX) System**

Tiffany Busby noted that Stuart Chalk at UNF requested that this be discussed to determine if anyone is using WQX for water quality data storage. Ray Bowman added that Mr. Chalk also wanted to know if anyone is planning to attend the WQX conference, if there were any experts on WQX, or if anyone has thought about a proposed network node for the Lower St. Johns River. None of the TAC members are currently using this system. There was discussion about whether WQX will replace STORET. Melissa Long noted later in the meeting that WQX will replace STORET in approximately one year. Tiffany Busby will follow up with Mr. Chalk to see if he is available to provide a presentation on the WQX system at the next meeting.

Mr. Bowman stated that the Alliance's Research Consortium Subcommittee had discussed creating a digital archive for St. Johns River data. They would create a searchable database with all scientific information, including data that SJRWMD already has organized, and this can be expanded later to other aspects beyond science.

#### **Update: St. Johns River Alliance Water Quality Subcommittee**

Tiffany Busby noted that the Alliance created a Water Quality subcommittee as a way to promote information exchange between the TAC and the Alliance. Dean Dobberfuhl stated that the subcommittee held a conference call and decided that the best way to communicate water quality information to the Alliance is to use the SJRWMD Governing Board report and modifying it to focus on water quality issues. This document would be distributed to other agencies to add information and then it will be provided to the Alliance as a summary of efforts.

Ray Bowman stated that the Alliance is also planning a research symposium with a target date of May 2009. Speakers would present information on the St. Johns River and discuss what additional research should be conducted. The Alliance may be able to help fund some of these projects and this would be a way to educate members about what efforts are needed. The symposium will most likely be organized with speakers presenting overviews of different projects instead of having breakout sessions. The subcommittee will be seeking guidance from the TAC on how best to organize the symposium. Lucy Sonnenberg asked who the target audience is. Mr. Bowman responded that since the purpose is to provide a summary of research efforts, it may be more focused on people with a scientific background. This will have to be determined. Ms. Busby added that the symposium will include presentations for the entire river, not just the Lower Basin.

#### **Technical Updates and Announcements**

##### ***St. Johns River Alliance Update***

Mark Middlebrook stated that the Alliance was working to establish a St. Johns River license plate. They had raised the necessary funds and had support from Senator King. However, no license plates were approved by the legislature this session. The Alliance hopes the plate will be approved next year because they were estimating they would receive \$400,000 a year in revenue from this initiative. Justin Levine asked if the money would have to be raised again next year. Mr. Middlebrook responded that there is a one time only application fee. The Alliance is also in the process of conducting a survey to determine how many people would buy the tag. The next Alliance meeting will be June 6<sup>th</sup> at Stetson University in Deland.

##### ***Fisheries Data Collection Update***

Russ Brodie stated that they finished moving their offices to Jacksonville University and requested that Tiffany Busby provide the group with his updated contact information. The monthly fisheries sampling of the three rivers is continuing and he hopes the funding will be available to expand the sampling. Mr. Brodie noted they are also discussing sampling in Lake George related to gizzard shad populations to increase the understanding of this population. The State Wildlife Grant ends on July 1<sup>st</sup> and they are working on the finishing the analysis to determine how different species react to low dissolved oxygen.

##### ***Ocean Sensors***

Tiffany Busby noted that Pat Welsh with University of North Florida (UNF) had to leave early but he provided an update to the status of the new ocean sensor in Northeast Florida. UNF is currently in the process of building the buoy and adding the communications equipment for the sensors. The buoy should be deployed in the next six weeks and will provide data that should be useful to multiple parties. If TAC members would like additional information about the buoy, they can contact Dr. Welsh.

### ***Upstream Updates from Upper Basin and Middle Basin***

Tiffany Busby explained that there are efforts underway in the Middle Basin related to TMDLs. They are working on the basin management action plan (BMAP) for Lake Jesup, which is focused on phosphorus reductions. There is a lot of historic sediment build up in the lake that contains high nutrients. Information from SJRWMD studies for Lake George and Lake Jesup is being shared because these are similar systems. In addition, the SJRWMD is conducting research and monitoring in Lake Jesup. FDEP is also in the process of evaluating the big lakes (Harney, George and Monroe) to determine if they are impaired based on the trophic state index (TSI). If it is determined they are impaired, they will be included on the verified list this summer. Preliminary information shows they are not impaired, which could be an issue because the nutrient reductions for the Lower St. Johns River includes major load reductions from upstream (approximately 30 percent).

### ***Fecal Coliform TMDL Update***

Vince Seibold stated that the tributaries working group had been meeting regularly. FDEP currently has ten TMDLs and there are 54 impaired tributaries. The impairments are due to failing wastewater infrastructure, septic tanks, and pet waste. There is legislative funding for assessment of these tributaries to determine sources. This assessment work is being conducted by the Tributaries Assessment Team (TAT), which is collecting data to evaluate trends and determine potential sources.

Mr. Seibold also noted that the City of Jacksonville has proposed a fertilizer ordinance and a landscape irrigation ordinance. They are currently obtaining public feedback and have been meeting with homeowners associations and green applicators. The fertilizer ordinance follows the Model Ordinance that was created by the FDACS Statewide Task Force. The Model Ordinance allows for more stringent actions if there is a TMDL, and the City has adopted additional measures to address the TMDL. The model will be required to be adopted by all local governments by July 1<sup>st</sup> and the City hopes to have their ordinance adopted before then. The ordinance is only for the City of Jacksonville proper and does not include the beach communities which have their own local jurisdictions.

Lucy Sonnenberg asked what the feedback has been on the fertilizer ordinance. Mr. Seibold stated that they have offered to meet with the Citizen Policy Advisory Committees (CPACs) but only a few have taken this offer. They will also send information to the homeowners associations and offer to speak at their meetings. The Riverkeeper has submitted additional information and requested that the City make the ordinance more stringent. Jennifer Sagan stated that Florida Yards and Neighborhoods is an existing program that could be useful and Mr. Seibold noted that this program is referenced in the Ordinance.

Richard Bryant asked what the landscapers and sprayers have said about the ordinance. Mr. Seibold responded that they have been very supportive. The ordinance will also require certification of all lawn service companies. Alan Obaigbena asked if the ordinance recommended a formula for the fertilizers. Mr. Seibold responded that the ordinance references IFAS rates for different types of turf. George Myers asked how the enforcement would be carried out. Mr. Seibold responded that the City has a code compliance group and their main source of information is from complaint calls. Mr. Myers asked about creating a tiered rate structure for water consumption. Mr. Seibold noted that this is JEA's responsibility and they are looking into this option.

### ***LSJ Main Stem TMDL Update***

Melissa Long stated that EPA adopted their nutrient TMDL in January and FDEP is working to adopt the TMDL at the state level. This should occur in April and the next step will be to adopt the BMAP sometime in early fall. The BMAP is available on the FDEP Northeast District website and comments are requested by the end of April so that the updated draft can be provided to the Executive Committee in May for review. Tiffany Busby added that they working out details on some of the projects, monitoring

plan, and permitting. The next Executive Committee meeting will be June 4<sup>th</sup> at the FDEP Northeast District office in Jacksonville.

### ***Other Member Updates***

Barry Cotter stated that the City is conducting intensive fecal coliform sampling in Deer Creek for the tributary technical report.

Lucy Sonnenberg stated that Dan McCarthy asked her to give an update on the River Report. The report is currently in its second internal review. There will be at least one more internal review before it goes to the committee and then it will be finalized. Tiffany Busby added that Mr. McCarthy offered to provide an update on this report at the next TAC meeting.

John Higman stated that there is a site near Deer Creek that has been discussed for remediation. The company involved with this site met with EPA and agreed to conduct the remediation. There are several options for remediation that are being investigated and this is a positive step forward for this site. Ms. Busby stated that this is good information for the tributaries monitoring group if the remediation moves forward.

Melissa Long requested a copy of Jennifer Sagan's presentation. Dean Dobberfuhl noted that the full written report on this study will be available soon.

Justin Levine stated that they are working with Public Works on the Berrywood Lane project to clean out sediments that may be affecting Newcastle Creek. Newcastle Creek is located near Merrill Road and Townsend. It is taking some time to coordinate these efforts between JEA and the City's Public Works Department.

Mike Hollingsworth noted that the Port Authority is looking to deepen the main stem channel to 45 feet and the Corps is working on the incremental cost analysis for this project. There is also a two foot deepening project in the Tallyrand area that received authorization in the Water Resources Development Act of 2007; however, the funding was based on 2002 levels when the project was proposed. The Corps is reevaluating the economics of the project to determine if the project still meets the funding criteria based on current costs. For the proposed Mayport deepening project, a draft Environmental Impact Statement was released on March 28<sup>th</sup> with a 45 day comment period. The report is available on the Navy website and includes 12 alternatives depending on the number and types of ships that will be brought into the area. If no carriers are brought in, then dredging will not be needed. However, if carriers are included, then dredging will be required to 54 feet. The Big Fishweir Creek project is moving forward with geotechnical and sediment sampling surveys to determine potential restoration opportunities. Information and comments on this project will be requested from the TAC.

Tiffany Busby stated that FDEP is in the process of an internal review of the Lower St. Johns River Basin Status Report. This report should be ready for TAC review at the next meeting.

### **Next Meeting Date**

Tiffany noted that the next TAC meeting will be held in June so the group can discuss the legislative funding and then they will review the project list for the funding in August. Several participants stated that the first week in June would not work due to conferences. Tiffany stated she will send a notice once a date has been coordinated with FDEP, who is the host for the next meeting.

### **Adjournment**

The meeting was adjourned at 1:35 PM.