

Water Quality Subcommittee Report

St. Johns River Alliance

June 6, 2008

Status & Trends Update

Upper St. Johns River Basin

Three Forks Marsh Conservation Area (TFMCA): The contractor for the U.S. Army Corps of Engineers (USACE) continues to make good progress toward the completion of the improvements in the TFMCA. To date, the foundation lift for the C-1RA levee, which makes up the northern boundary of the TFMCA, is complete and the contractor is beginning to place embankment material to bring the levee to final grade. Construction of the TFMCA outlet structure, S-257, is underway. The dewatering cofferdam is completed and installation of the sheet pile for the over flow weir is begun. The excavation of the L-74N flowway is nearly complete.

Jane Green Detention Area: The cutting of the two 8' x 8' holes through the sill of the S-161 structure is complete. The contractor is in the process of removing the concrete. The USACE anticipates project completion by the end of July 2008.

Fellsmere Water Management Area: St. Johns River Water Management District (SJRWMD) is well underway in the construction of the L-75 erosion bench and the internal improvements to the Natural Resources Conservation Service's (NRCS) 4,000 acres known as "Area 1". The work is expected to be completed by the end of September 2008. Design is ongoing for the eastern levee in the adjacent 2,000 acres known as "Area 2". Construction in Area 2 will begin in FY 2008-2009.

Moccasin Island: SJRWMD has completed the hydraulic/hydrologic analysis to assess the potential impacts to offsite drainage from the degradation of the Moccasin Island outside levee. The analysis reveals that there are no adverse impacts to drainage from the degradation of the north/south section of the outside levee. SJRWMD staff is seeking NRCS approval to degrade this levee.

Banjo Groves Restoration: SJRWMD continues to monitor water quality conditions within the Banjo Groves restoration area. Plans are proceeding for the implementation of the final phase of restoration in FY 2008-2009 that involve the removal of the exterior

levees and reconnecting the restoration area with the adjacent marsh.

Turkey Creek Ranch: SJRWMD is working with NRCS to develop a restoration plan for the recently acquired Turkey Creek Ranch property.

Middle St. Johns River Basin

MSJRB TAC: Scheduled to meet in June 2008, date TBA. Topics of discussion will follow up a discussion from the March 2008 TAC regarding irrigation with reclaimed water. The discussion at the upcoming TAC will focus on reclaimed water/nutrient and utility issues, opportunities, and limitations. Additionally, information will be provided on the SJRWMD Stormwater Cost Share program's upcoming funding cycle.

Lake Harney, Lake Monroe, and the St. Johns River sections in the MSJRB

Pollutant Load Reduction Goals (PLRGs): PLRG development is underway and scheduled to be complete prior to the total maximum daily load (TMDL) development date set by the Florida Department of Environmental Protection (FDEP), which is late 2009. SJRWMD environmental staff developing PLRGs for these water bodies are sharing information with FDEP.

Lake Monroe

Midway Regional Facility: The Midway Regional project is a partnership project between the SJRWMD and Seminole County. The project area watershed currently drains into Lake Monroe, which is included on the Section 303(d) list of impaired water bodies for nutrients and dissolved oxygen. Records indicate that total nitrogen and total phosphorus concentrations in the lake have been increasing in recent years. The objective of the proposed project is to reduce the pollutant load to the lake including nutrients, suspended solids, organic matter, and metals and contribute to the improvement of the receiving waters in Lake Monroe and downstream in the St. Johns River. The construction of the Midway Regional Stormwater Facility will be completed by Seminole County and consists of a 22-acre regional stormwater facility consisting of two to four wet detention ponds to reduce pollutant loading to Lake Monroe and reduce area flooding.

Lake Jesup

Lake Jesup Interagency Strategy Agreement: In a press release on March 3, 2008, it was announced that FDEP, Florida Fish and Wildlife Conservation Commission (FFWCC), and

the SJRWMD entered into an interagency agreement that focuses on the restoration of Lake Jesup. The plan includes clear goals, action steps, and a timetable to reduce the excessive external nutrient loading and in-lake nutrient concentrations.

Pay for Performance Initiative: SJRWMD has initiated a project that involves AquaFiber Technologies where a surface water treatment project is to be built to treat Lake Jesup surface water. Upon verification, the District will pay the company by the pound of total phosphorus removed in the water treatment project. Project cost is based on a pre-negotiated price for removing nutrients from the watershed. The title, “Pay for Performance”, reflects the method of compensation for measured results.

Howell Creek Master Plan: SJRWMD has coordinated with an outside consultant and eight local governments to complete a regional stormwater master plan for the Howell Creek watershed. Howell Creek is a tributary to Lake Jesup and has been identified as the greatest pollutant source of the tributaries to this lake. The development of a multi-jurisdictional master plan will improve the effectiveness and efficiency of pollutant load reduction strategies within the watershed.

Solary Canal: The Solary Canal is a stormwater retrofit project located in Seminole County northeast of Orlando draining the city of Oviedo. Lake Jesup has experienced a deterioration of water quality from a number of causes. The water quality project will treat stormwater flowing through the Solary Canal. The best management practice (BMP) consists of a by-pass weir, stormwater treatment pond, and treatment wetlands for the water quality treatment and flood attenuation of the Solary Canal.

Wekiva River

Wekiva TMDLs: TMDLs for the Wekiva River, Rock Springs Run, Wekiwa and Rock Springs, and some lakes and river sections of the Little Wekiva watershed have been developed by FDEP and the notice of intention to adopt the TMDL has been filed with no objections. The TMDLs are primarily for nitrates or total nitrogen and total phosphorus. The development of these TMDLs was moved up in schedule as a result of the Wekiva Parkway and Protection Act of 2004. Basin Management Action Plan (BMAP) development will begin this summer.

Elba Way Dredge and Grade Erosion Control Project: A partnership project between SJRWMD and Orange County has just completed the bid process and construction should begin in the next month or so. This project represents the final project in Orange County that was identified in the Little Wekiva Erosion Control Master Plan, with one project also

remaining in Seminole County. These projects finalize this ten-year erosion control program in the urban portion of the Little Wekiva River.

Sweetwater Cove Tributary to the Wekiva River: This project is being completed by Seminole County as a partnership project with the SJRWMD. The project is beginning Phase III of a three-phase project and involves the expansion of the existing undersized stormwater treatment storage area to increase the pollutant removal potential. This stormwater treatment lake system discharges directly to the Wekiva River.

Econlockhatchee River

East Orlando Canal: Orange County is completing the preliminary design and feasibility analysis of a stormwater retrofit project in the Little Econlockhatchee River watershed that drains to the East Orlando Canal. The stormwater retrofit will also serve as an alternative water source to be used as cooling water at the Curtis Stanton Energy Plant.

Lower St. Johns River Basin

Lower St Johns Technical Advisory Committee (TAC): In the last quarter the TAC's activities included: a presentation entitled "*A Decadal Review of SAV Status and Stressors in the LSJRB*" – Jennifer Sagan, BCI; review of "*draft LSJRB SWIM Plan*"; legislative funding update; discussion of EPA's Water Quality Exchange System; and technical updates and announcements: St. Johns River Alliance, Fisheries Data, Ocean Sensors, reports from the Middle and Upper St. Johns River basins, Fecal Coliform TMDL (Jacksonville), LSJRB Mainstem TMDL; and the next TAC meeting is scheduled for June 18, 2008.

Mainstem Nutrient TMDL: The TMDL was adopted by EPA in January 2008 and is scheduled for FDEP rule adoption in May/June 2008, since no challenges were received and the draft Basin Management Action Plan (BMAP) has been prepared and will be discussed at the next TMDL Executive Committee on June 4. The BMAP provides the list of projects that local governments and private entities will meet on the adopted nutrient reductions called for by the TMDL. The District has been instrumental in the development of the TMDL, the BMAP, and is working with communities to identify and implement the most efficient and cost effective projects. Staff are working with Putnam and St. Johns counties regarding their possible operation and maintenance of SJRWMD agricultural regional stormwater treatment facilities in exchange for a portion of the nutrient removal value to assist them in meeting their TMDL allocations. Additionally, the SJRWMD has offered to communities in the freshwater reach the ability to partner to reduce nutrients through its "algal initiative" projects.

Reuse and Treatment projects: In 2006, the District initiated its \$150 million reuse commitment as part of the *River Accord*. Near-term projects totaling \$43 million from the SJRWMD and State and \$61 million from communities will reduce 1.6 million pounds of nitrogen into the river and will divert 31 MGD of wastewater to beneficial reuse. These projects alone almost meet the required TMDL reductions.

- JEA Reuse and Treatment - \$31.8 million (design and construction)
- Clay County Utility Authority (CCUA) Reuse - \$24.6 million (design and construction)
- Jacksonville Beach Treatment - \$12 million (design, construction planned for early 2009)
- City of Palatka Reuse - \$6.3 million (contract execution, May 2008)
- NAS Jacksonville Reuse - \$2 million (contract execution, Summer 2008)
- City of Atlantic Beach Reuse - \$2 million (contract execution, Summer 2008)
- Town of Orange Park and City of Green Cove Springs Reuse (projects are being constructed solely with local funds to maximize nutrient reduction credits to help meet their nonpoint source reduction requirements)

Long-term regional reuse modeling: Effort is proceeding cooperatively with SJRWMD, JEA, CCUA and St. Johns County on the east and west sides of the river. CCUA and the SJRWMD are drafting the first reuse project contract resulting from the long-term modeling prepared on the west side of the river.

Jacksonville Bacteria TMDL and Tributary Remediation: A \$14.72 million (\$12.72 million in state funds, \$2 million in SJRWMD funds) contract with the City of Jacksonville has been fully executed. This contract is primarily dedicated to convert septic systems to sewer and secondarily to provide funds for bacteria TMDL assessment and public awareness.

Surface Water Improvement and Management (SWIM) Plan Update: During 2007 and 2008, the SJRWMD-led effort to revise the LSJRB SWIM Plan has resulted in a draft plan that has been reviewed by the LSJ Technical Advisory Committee, was presented to the SJRWMD Governing Board's Projects and Lands Committee in May 2008, and is currently under a 45-day agency and local government review period ending June 30. The plan is available for review at: <http://www.sjrwmd.com/lowerstjohnsriver/index.html>. After agency review, the SWIM plan will be presented to the SJRWMD Governing Board for acceptance in August 2008.

Surface Water Withdrawal Cumulative Impact Assessment: This two-year work effort is proceeding well. Experts in the various fields of study have been retained, and work is on schedule.

Tri-County Agriculture Area (TCAA) Best Management Practices (BMP) Development and Implementation: SJRWMD and University of Florida-Institute of Food and Agricultural Sciences (UF-IFAS) have continued BMP research to evaluate alternative irrigation methods and nutrient management strategies to help meet the TMDL. Two SJRWMD BMP cost-share contracts with local TCAA growers have been executed to implement drip/plasticulture irrigation with control release fertilizer and precision-applied fertilization of control release fertilizer.

Deep Creek SW (Masters) Regional Stormwater Treatment Facility: This new project in the TCAA, similar in scope to the Deep Creek West and Edgefield projects, is being undertaken by the SJRWMD. Modeling and conceptual design will be completed this summer. Design will start in October 2008 and currently construction funds have not been identified.

Algal Initiative/Nutrient Discharge Reduction: Assessment work is continuing to evaluate priorities and recommend solutions to reduce phosphorus loading in the TCAA.

Sediment Management: The Cedar River Outfall Regional Stormwater Treatment Facility, a cooperative project led by the City of Jacksonville, was completed in DATE. Pre-construction sampling was conducted, and monitoring is continuing. This facility is a contaminant source prevention project aimed to reduce the loading of industrial nonpoint chemicals from entering the Cedar-Ortega river basin. Additionally, SJRWMD staff completed remediation contaminant sampling at Deer Creek.

Water Resource Management: SJRWMD staff have completed its annual submersed aquatic vegetation (SAV) Hyperspectral image collection and will be processed to map the distribution of SAV in the lower basin. In cooperation with the University of Florida, technical staff have begun intensive monitoring of Lake George and are conducting intensive submerged aquatic vegetation monitoring in conjunction with real time USGS water quality monitoring to support the alternative water supply study.

Use of FY 08-09 Legislative Funding: Recommendations are being prepared by SJRWMD staff on the best use of the \$3.7 million and \$1.5 million appropriations from this year's session.

Lower Basin “It’s Your River” Public Awareness Campaign: The SJRWMD launched the 2008 “It’s Your River” multimedia campaign in April to heighten awareness about river health issues, to educate the public on how human behaviors impact the river, and to motivate positive behavioral changes. The campaign, now in its second year, includes television and newspaper ads, radio sponsorships, billboards and a brochure called “The St. Johns River Owner’s Guide.” It also features a campaign Web site, www.floridaswater.com. The pre-campaign research conducted before the first year of the campaign (2007) showed a lack of awareness, even indifference, about pollution sources and individuals’ personal contributions to the river’s health woes. Research conducted after the 2007 campaign showed that there was a statistically significant improvement in knowledge levels about the river’s health and also in the number of people “very concerned” about the river’s condition. Also, people have begun to think differently about the river. Prior to the campaign, people thought primarily about cleaning trash out of the river. After the campaign’s first year, people had begun to think about and become concerned about the river’s health. According to the research, people began understand that the river is not as healthy as it should be and to think more about their own personal responsibility to protect the river.