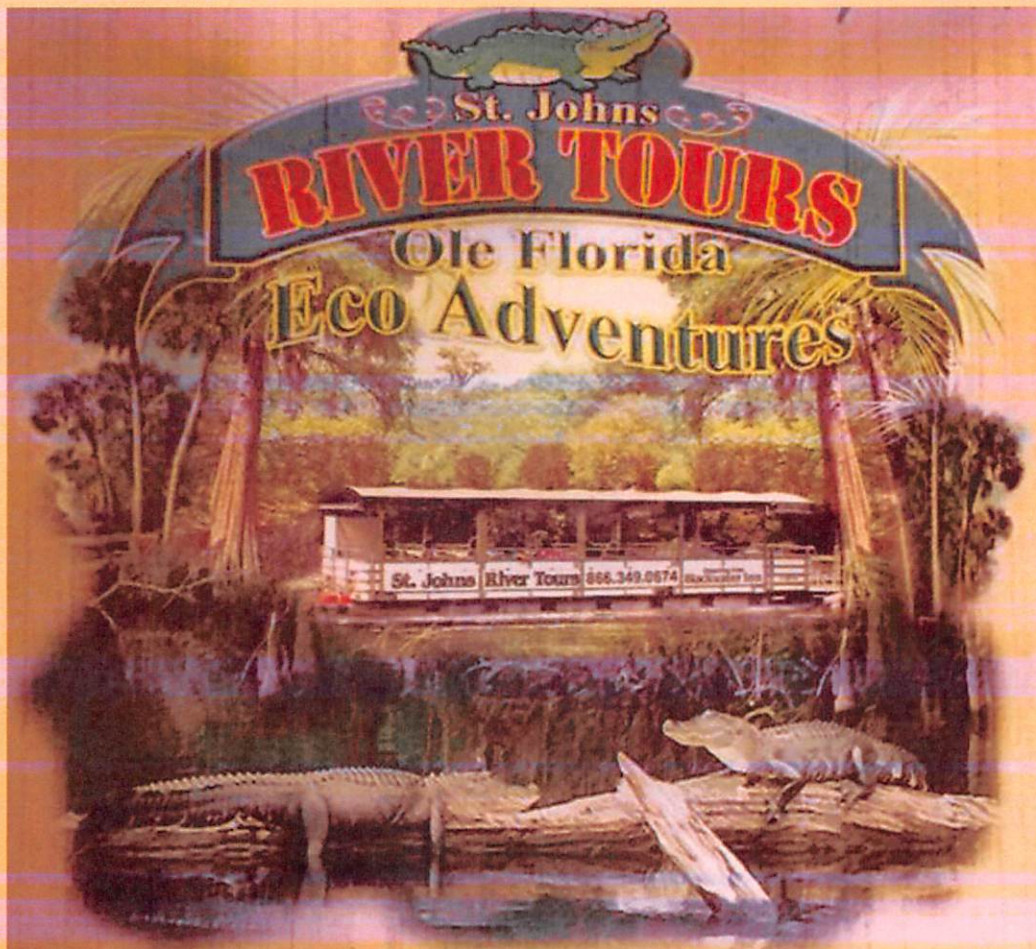


St. Johns River Accord Annual Report

September 9, 2016



RIVER ACCORD
A PARTNERSHIP FOR THE ST. JOHNS





Mercury and shellfish study and river monitoring photos provided by Betsy Deuerling. Text on p3.



The River Accord

The River Accord is a Multi-Agency Partnership to Restore the Health of the Lower St. Johns River via a 10-year, \$700 million initiative to improve water quality, and includes the St. Johns River Water Management District (SJRWMD), Florida Department of Environmental Protection (FDEP), Water and Sewer Expansion Authority—dissolved and now succeeded by JEA— and the City of Jacksonville (COJ). The Florida Department of Health in Duval County (DOH-Duval) provides regulatory assistance rather than capital improvement projects.

Based on decades of research about river restoration programs, the Accord committed to reduce the amount of nitrogen discharged into the river by:

Phase out older technology wastewater treatment plants;

- Improve other wastewater treatment plants and build expand re-use of treated wastewater for irrigation of lawns, parks, and golf courses;
- Eliminate failing septic tanks;
- Capture and treat stormwater before it enters the river.

In addition to specific efforts to reduce nitrogen loading into the river, the River Accord has four general areas of interest (AOI):

1. Program Accountability
2. Improving Water Quality
3. Tracking the Sedimentation
4. Improving Public Access.

This is the 9th summary of the Accord accomplishments.

AOI #1: PROGRAM ACCOUNTABILITY

State of the River Report

The Basin Management Action Plan Executive Steering Committee meets to serve as The River Accord steering committee. An independent State of the River Report by the University of North Florida and Jacksonville University describes the health of the river's biological and chemical ecosystem.

Water Quality Special Studies

Shellfish Harvesting Area Studies Four years ago, the City Environmental Quality Division (EQD) wrote a scope of work for a shellfish study that would demonstrate sufficient water quality improvement for the State to consider reopening the harvesting areas closed the past two decades. In the absence of funds, EQD undertook an in-house two year water quality study. The project is now complete and results have been presented to several groups. Water quality appears to be much improved, although further

data analysis will be conducted comparing rainfall and other adverse pollution events. Discussion with DACS about reopening the beds has occurred, but the overall health and viability of the oyster beds is of concern. Other research entities are also involved in mapping existing beds, restoration of oyster reefs, and other aspects of oyster health.

Mercury Study

Jacksonville University and EQD developed a scope for a comprehensive four year assessment of mercury sources, environmental fate, and ecological and human risk from mercury in the St. Johns and certain tributaries. The goal of the study is to determine whether citizens of Duval County have a greater risk of exposure to mercury than the rest of the State. The study is being funded by the Environmental Protection Board (EPB). This year has involved equipment trials and certification, development of SOPs for sampling and analysis, site selection, and initial sampling and analysis for water and sediment.

Routine Monitoring

During the past year, routine St. Johns River monitoring has continued monthly at ten established sites.

AOI #2 IMPROVING WATER QUALITY

Wastewater Upgrades

To date, the SJRWMD has contributed \$51 million toward wastewater improvements and nitrogen reductions at lower basin utilities.

The District and the FDEP continue to support the ACCORD through the District's Cost Share Program. Through this competitive program the District has funded a total of 10 projects for FY15, FY16 & FY17 for JEA to increase use of reclaimed water for irrigation and reduce the amount of treated wastewater discharged to the St. Johns River. The total District contribution is \$3,673,705. The total State contribution is \$2,017,600 and the total Recipient portion is \$11,558,195. Total estimated Construction cost is \$17,249,500. The estimate of the total amount of reduction of discharge to the river is 8.8 MGD.

Clay County Utility Authority (CCUA): At the end of 2015, CCUA completed construction of the Mid-Clay Reclaimed Water Land Application and Recovery System (LARS). With cost-share contributions from the SJRWMD totaling approximately \$1.13 million, this \$2.43 million facility is permitted to receive up to 2.08 MGD of treated wastewater for land application onto rapid infiltration basins (RIBs) that would otherwise be

discharged into the Lower St. Johns surface waters.

In addition to the RIBs, this project included the construction of a horizontal well capable of withdrawing 1 MGD of ground water at the location of the RIBs, and returning it to the reclaimed distribution system. Together, the RIBs and the horizontal well allow CCUA to reduce or eliminate surface water discharge during periods of low reclaim demand, and withdraw and use the treated water stored in the ground during periods of high reclaim demand.



In the first half of 2016, CCUA applied approximately 152 million gallons of treated wastewater onto the RIBs. At the average nutrient concentrations measured in the treated wastewater (reclaimed water) effluent during the same period, (approximately 2.8 ppm and 0.6 ppm for Nitrogen and Phosphorus, respectively) this resulted in a nutrient savings to the Lower St. Johns of approximately 3,553 lb. N and 801 lb. P.

As CCUA continues to expand its reclaimed water system with the construction of transmission/distribution mains, reclaimed water storage tanks, and pumping stations, the nutrient loading to the Lower St. Johns and its tributaries from area consumers will continue to diminish.

U.S. Navy: The U.S. Navy completed the 35% Design Review for a new, advanced wastewater treatment



plant at NS Mayport to meet the Total Maximum Daily Load (TMDL) requirement

Putnam County: Putnam County completed the Hiawatha Wastewater Treatment Facility (WWTF) phase-out and brought the new East Palatka WWTF on-line.

JEA: In 2013, JEA fulfilled its last remaining commitments for the River Accord in regards to wastewater improvement projects. These projects also fulfilled JEA's nutrient reduction obligations for the LSJR Main Stem TMDL and Basin Management Action Plan (BMAP). By upgrading regional treatment plants, phasing out older technology plants, and expanding the utility's reclaimed water system, JEA has achieved a reduction of over 750,000 kg./yr. of nitrogen entering the St. Johns River.

Wastewater Reuse

NAS Jacksonville \$4.2 million project will remove all discharge from the river and apply it to reuse sites on the military base, eliminating 20,196kg/yr. of total nitrogen loading. NAS Jacksonville is aiming to reuse 100 percent of its wastewater thereby eliminating the need to withdraw approximately 37 million gallons per year of potable water from the Florida aquifer and removing 315 million gallons annually of treated wastewater from the St. Johns River. The first phase of the NAS Jacksonville reuse system expansion, completed in July 2013, provides irrigation to the NAS golf course.

The second phase was completed on December 1, 2015. This phase expanded the wastewater reuse system at NAS Jacksonville by constructing an 8-inch diameter wastewater reuse pipeline approximately 10,000 feet to further land-apply treated wastewater treatment plant (WWTP) effluent at a 60-acre sprayfield area. This area of the installation is known as the "Antenna Farm."

JEA has completed 227 miles of reclaimed pipe. The reuse infrastructure improvements completed to date have left JEA well situated to satisfy the increase in reuse demand from revived development in the northern St.



Johns County area. JEA added approximately 1500 new reuse customers in the last year alone, and currently has over 7200 customers. JEA now has the infrastructure in place to support up to 33 mgd of reclaimed water demand. JEA completed new reclaimed water transmission lines to Nocatee Oaks Phase 4 and increased the reclaimed water service capacity at their Arlington East facility by two million gallons per day.

FDEP recognized the current performance and future potential of JEA's South Grid reuse system with the awarding of the 2015 David W York Award, the State's premier reuse system award, to JEA's South Reuse Grid.

Phasing Out Septic Tanks in High Failure Areas & In Close Proximity to Waterbodies

In the past, the Better Jax Plan undertook phase-out of over 5,000 septic tanks near impaired WBIDs and in six failure areas. In 2008, using a grant of ~\$12 million from the State, COJ/WSEA undertook phase-out of over 600 septic tanks in failure areas of Lincoln Villas Estates and Oakwood Villas. Lincoln Villas Estates Phases 1&2 included the construction of sewer main infrastructure and laterals from street to house in both areas. The voluntary connection rate of non-vacant parcels in Lincoln Villas is currently at 89%.

Tributary septic tank phase-out is a part of the LSJ BMAP to reduce nitrogen in the mainstem and tribs. Septic tanks to be phased out in the first phase of this revised program are Lateral Only Connections (LOCs). These are tanks on parcels that have existing sewer infrastructure and either have a sewer lateral in place in the right of way to the property or have the necessary infrastructure to place a lateral to the property line. Tanks for the LOC Program must also provide economical nutrient reduction benefit to the City by being located in close proximity to a waterbody.



The most optimal and cost effective strategy is "Lateral Only Connection" where existing sewer lines can phase out septic tanks. The LOC program is a lower cost option for nitrogen

reduction than traditional stormwater retrofit projects and also addresses the loading of fecal coliform to tributaries by removing failing septic tanks. The LOC Program evaluated thousands of existing septic tanks in relation to sewer infrastructure and waterbodies. Under a Joint Project Agreement with JEA the Stormwater Utility LOC Program sent letters to over 540 parcel owners that met the necessary criteria for inclusion in the program. Through June 2016 over 240 parcel owners had committed to have their septic tanks phased out under the LOC Program resulting in a 44% success rate.

As reported in the 2015 River Accord Status Report, loading reductions are calculated from an FSU model and were to be reported in the 2016 River Accord Status Report. The City of Jacksonville submitted their 2015 Mid-term LSJR BMAP report last July that included 118 septic tanks phased out under the LOC Program which resulted in a .50MT/yr. nitrogen reduction. Since July 2015 over 120 additional parcel owners have signed up for the LOC Program and these septic tanks have been or will be phased-out by the end of 2016. Once construction is complete the nutrient reduction loading calculations for these parcels will be determined and reported.

The City and JEA are developing a revised septic tank phase out program for larger groups of septic tanks based on multiple factors, such as DCHD Failure Analysis, proximity to waterbody, age of septic systems and Impaired Tributary. This new program is expected to roll-out in the Fall of 2016 to continue to support the City commitment to their BMAP obligations.

Florida Department of Health in Duval County (DOH-Duval) Septic Tank Enforcement

In 2015, DOH-Duval provided monthly progress reports to FDEP which indicate a total of 1,632 sites were provided septic tank-related educational materials and consisted of a project notification letter, "A Homeowner's Guide to Septic Systems" EPA Pamphlet 832-B-02-006, and "Not in My Septic System" EPA refrigerator magnets. Where residents were not available at time of inspection, door hangers were used to leave the materials for them.

Each site was investigated for sanitary nuisance violations and it was discovered that approximately 32 of the properties inspected were already connected to a centralized sewerage system and were forwarded to JEA for further review. It was also determined that approximately six (6) of the parcels were vacant property and 65 property owners refused access to inspectors.

Eleven property owners received official notices due to violations discovered during the project period.

Violations included a variety of sanitary nuisance conditions such as direct laundry discharge and sewage on the ground surface, unsealed and broken septic tank lids, damaged and eroding drainfields, missing or broken cleanout caps, and malfunctioning high-level water alarms. Enforcement continued until all sanitary nuisances were corrected.



Photo provided by Scott Turner, FH-DC

The outreach and education provided as part of this project increased public awareness of the many nutrient (i.e. TN and TP) and fecal coliform sources and their impacts on water quality. The effects of such awareness is anticipated to increase the number of homeowners having their septic systems pumped out and inspected on a regular basis, more efficient water usage, a decrease in hazardous chemicals being discarded into septic systems, and better maintenance of septic systems in general. It is expected that these effects will be observed long after the end of this project, which should aid in further reductions of fecal coliform bacteria from septic systems.

Nonpoint Source Successes

- There have been many successes in Accord implementation and pollutant reduction during the year:
- **Clay County**, the St. Johns River Riverkeeper (Riverkeeper) assisted Ridgeview High School's Leadership Academy with the implementation of a rain barrel program in Clay County schools. Through the Leadership Academy's partnership with Chick-fil-A, and the added help from Coca Cola to provide the barrels, students painted assembled, and distributed three hundred rain barrels to all Clay County schools. To continue the excitement and the students' efforts, Chick-fil-A will provide the Leadership Academy \$12,000 over the next three years to implement more projects.
- **Clay County** constructed a 0.60-acre storage pond to alleviate flooding and provide treatment of stormwater runoff in the Bear Run subdivision. The county also paved two dirt roads for a total of two miles. In addition, the established water quality trading mechanism with CCUA continued in 2015 (an interlocal agreement was executed in September 2009).

- **City of Jacksonville** completed four stormwater projects that improve drainage through sediment removal, erosion control, and outfall improvement. The city also completed two water quality credit trades with JEA and the Florida Department of Transportation (FDOT) for a total of 40,910 kilograms per year of nitrogen reductions.
- **Putnam County** continued its public education and outreach efforts.
- **St. Johns County** completed construction activities at two large regional stormwater treatment (RST) projects. Completed in August 2015, the first phase of the Masters Tract RST consisted of a pump station, pond and outfall. The second phase comprised of treatment wetlands and Canal 4 improvements is currently under construction and is scheduled for completion by August 2016. The county completed improvements to the Deep Creek West RST, which is currently operational. The county continued collaborating with SJRWMD to identify regional projects, evaluate their effectiveness, and assist with grant funding. These regional projects help the county meet its Algal Initiative load reduction requirements.



Edgefield RST photo c/o Pam Livingston Way

- **MS4:** Two municipal separate storm sewer system (MS4) projects were completed in the marine reach for a TN reduction of 4,920 kg/yr. One nonpoint source (non-MS4) project was completed in the freshwater reach for a TN reduction of 150 kg/yr. and TP reduction of 49.8 kg/yr.

Agricultural Projects

(BMP) Program

In 2015, the Office of Agricultural Water Policy (OAWP) FDACS adopted a revised vegetable and agronomic crop manual that includes specific nutrient and irrigation management BMPs for plastic mulch, bare ground, sugar cane, hay/silage, and greenhouse production sys-

tems. In early 2016, the FDACS adopted a dairy manual that targets dairies that do not have FDEP-issued NPDES permits. A poultry manual is also under development, and adoption is anticipated by the end of 2016. To date, the FDACS has BMP manuals for cow/calf, citrus, vegetable and agronomic crops, nurseries, equine, sod, dairy, and specialty fruit and nut operations. The FDACS BMP manuals are located here:

<http://www.freshfromflorida.com/Divisions-Offices/Agricultural-Water-Policy/Enroll-in-BMPs/BMP-Rules-Manuals-and-Other-Documents>.

Once a BMP manual is adopted, the FDACS works with eligible producers to enroll them in the FDACS BMP Program. During the enrollment process, FDACS field staff and/or technicians discuss the applicable BMP manual with the producer and complete a notice of intent (NOI) with selected practices that are either implemented or will be implemented on the property. For more information on the FDACS BMP Program and enrollment in the program, please visit

<http://www.freshfromflorida.com/Divisions-Offices/Agricultural-Water-Policy/Enroll-in-BMPs>.

As of June 30, 2016, the OAWP has enrolled 108,615 acres in the FDACS-BMP Program (Figure 1), and according to the 2004 St. Johns River Water Management District (SJRWMD) land use with OAWP adjustments there are 108,615 acres of agricultural land (Table 1). This enrollment equates to 97.6% enrollment, and the OAWP will continue to work towards enrollment of all eligible agricultural producers within the Lower St. Johns River Main Stem Basin Management Action Plan (BMAP) area.

History of FDACS Implementation Assurance (IA) Program

The OAWP first began formally reviewing BMP implementation in 2005 in the Suwannee River Basin as part of the multi-agency/local stakeholder Suwannee River Partnership. In 2007, the OAWP initiated an IA Program in the Lake Okeechobee Watershed. In early 2014, the OAWP began to streamline the IA Program to ensure consistency statewide and across commodities and BMP manuals. In late 2014, the OAWP commenced efforts to revise and restructure its current IA Program.

IA Program Prior to Implementation of 2016 Legislation

The IA Program to date has included two key components—mail-out surveys and site visits. Site visits are conducted by field staff and technicians. For the visits, field staff and technicians use a standard form that was developed in 2014. This site-visit form focuses on nutrient-management, irrigation-management, and water-

resource protection BMPs that are common to all of the adopted BMP manuals. The paper forms are submitted to OAWP staff and compiled into a Microsoft Excel spreadsheet recording, for example, the number of documented visits, types of BMPs implemented, and areas for improvement.

Mail-out surveys, the second component, were developed by OAWP staff in conjunction with commodity experts. Enrolled producers were mailed these surveys and asked to fill them out and to return them to OAWP staff. Surveys were completed for nine different BMP manuals, including ridge citrus, Indian River citrus, Peace River/Manasota citrus, Gulf citrus, vegetable and agronomic crops, container nursery, sod, cow/calf, and specialty fruit and nut. These survey reports typically provided information on the percentage of BMP implementation for irrigation-management and nutrient-management BMPs. The use of surveys has been suspended pending re-development of the IA Program.

IA Program Enhancement Pursuant to 2016 Legislation

Additional emphasis was given to implementation assurance in 2016 legislation, particularly Chapter 2016-1, Laws of Florida. Among its provisions, this law requires enhancement and formalization of OAWP implementation assurance policies and procedures through rule-making. Rulemaking will be initiated prior to January 1, 2017. Once rulemaking is completed, the FDACS will implement the enhanced IA Program and more detailed reporting, as prescribed by the legislation, on site visits and surveys will be provided on an annual basis.

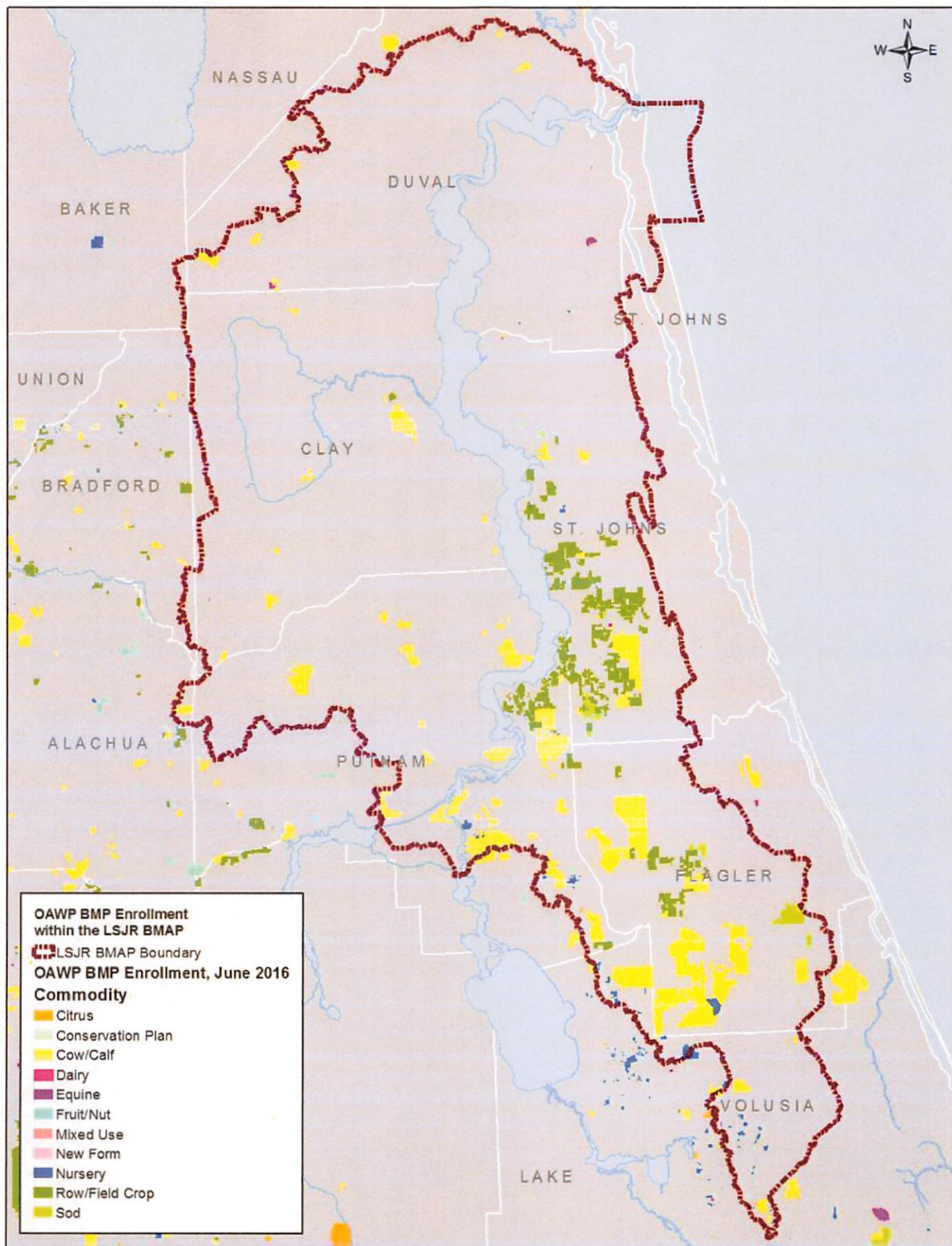
The enhanced IA Program, as a component of the FDACS BMP Program, will be designed to:

- To provide accurate and timely information on the status of BMP enrollments;
- To provide accurate and timely information on the extent of BMP implementation;
- To provide the information from which reports on BMP enrollment and implementation can be made to BMAP stakeholders and to the annual report required by Chapter 2016-1, Section 34, Laws of Florida
- To inform educational, research, and technical assistance efforts targeted to strengthen BMP implementation and effectiveness; and
- To guide review and potential revision of BMP manuals.

Tri-County Agricultural Area Water Management Partnership (TCAA-WMP)

The objective of the TCAA-WMP is to contribute to the improved health of the Lower St. Johns River through on-farm and regional water management projects and

Enrolled Acreage FDACS-BMP Program in the Lower St. Johns River Main Stem BMAP Basin as of June 30, 2016



Agricultural Acres Enrolled in BMPs in the Lower St. Johns River Main Stem BMAP Basin as of June 30, 2016

2004 SJRWMD LAND USE	004 ACRES	FDACS-ADJUSTED ACRES FOR ENROLLMENT	RELATED FDACS BMP PROGRAMS	ACREAGE ENROLLED¹	RELATED NOTICES OF INTENT	RE-MAINING ACREAGE
Pasture	55,457	55,547	Cow/Calf, Forage (Hay)	70,967	80	N/A
Row/Field/Mixed Crops	42,546	42,546	Vegetable/Agronomic Crops	31,625	67	10,921
Fallow Cropland (out of production)	1,446	N/A	N/A	N/A	N/A	N/A
Horse Farm	3,145	3,145	Equine	259	9	2,886
Citrus	375	375	Ridge Citrus, Statewide Citrus	102	3	273
Abandoned Citrus	30	N/A	No enrollment needed	N/A	N/A	N/A
Tree Crops	298	298	Specialty Fruit and Nut	113	6	185
Nurseries and Vineyards	56	56	Specialty Fruit and Nut, Statewide Nurseries	0	N/A	56
Tree Nurseries, Ornamentals, Shade Ferns, Hammock Ferns	2,869	2,869	Statewide Nurseries, Container Nursery	2,553	31	316
Sod Farms	4,678	4,678	Statewide Sod	2,996	8	1,682
Specialty Farms	26	26	Conservation Plan Rule	0	N/A	26
Dairies	1,070	1,070	Dairy Manual	0	N/A	1,070
Cattle Feeding	475	475	Conservation Plan Rule	0	N/A	475
Poultry Feeding	196	196	Conservation Plan Rule	0	N/A	196
Other Open Lands – Rural	854	N/A	No enrollment needed	N/A	N/A	N/A
Totals	113,521	111,281	N/A	108,615	204	18,086

practices that reduce the movement of nutrients to the river, improve water conservation, and result in more efficient farm management while maintaining the long-term viability of agriculture in the TCAA. The primary resource concern is the movement of phosphorus from farmlands into the Lower St. Johns River and its tributaries; however, nitrogen movement is also a concern.

The TCAA-WMP consists of numerous partners including the TCAA growers, SJRWMD, FDACS, Florida Department of Environmental Protection (FDEP), U.S. Department of Agriculture Natural Resources Conservation Service (NRCS), University of Florida Institute of Food and Agricultural Sciences, St. Johns County, Floridan Resource Conservation and Development Council, Florida Farm Bureau, and Florida Fruit and Vegetable Association.

In fiscal year 2015–2016, FDEP, SJRWMD, FDACS, and NRCS spent \$3,552,956.44 on 11 irrigation drain tile projects, three overhead linear irrigation systems, and one overhead center pivot.

Irrigation

Since March 2009, SJRWMD limits irrigation to 2 days/week during daylight savings time and one day during Eastern Standard Time. COJ also enforces watering restrictions in Duval County. For 2015, EQD received 95 complaint issues.

- 51 of the 95 complaints were inspected.
- 44 of the 95 complaints had educational/complaint letters mailed out.
- 9 violations were observed out of the 95 complaint issues that resulted in a warning tickets.
- 2 violations were observed out of the 95 complaint issues that resulted in a \$50 tickets (second violation).
- Nine (9) addresses of the 95 issues made up 18 repeat inspections.
- Two (2) of the inspections resulted in Water to Air Heat Pump verifications that are exempt.

In the photo at top of page 10, a vintage PUD is watering on a day not authorized and in violation of the criteria



Photo by John Flowe, EQD

“minimum amount necessary for efficient utilization” per Ord. 2008-30. They should know better.

Tributary BMAPs in Duval County

To address bacteria contamination issues in multiple tributaries, the Lower St. Johns Tributaries Basin Management Action Plan (BMAP) I was adopted by FDEP in December 2009. BMAP II was adopted in September 2010. Combined, these BMAPs address programmatic and project plans for 25 water bodies.

The City of Jacksonville and FDEP are undertaking an intensive 2-month survey of Fishing Creek and Big Fishweir Creek for fecal coliform and the sucralose, acetaminophen and quantitative polymerase chain reaction (qPCR) marker HF-183 to verify human sources of bacterial contamination. Big Fishweir was part of the 2014 microbial tracking by FDEP. Fishing Creek is an add-in. Both WBIDs contain former septic tank failure areas which have been phased out, but coliform remains in the water sampled. The TAT will assist Department of Business and Professional Regulation or Florida Department of Agriculture and Consumer Services by reporting observations of locations in need of clean up and support.

A separate but geographically overlapping survey will include looking for grass clippings in storm systems as coliform breeding grounds.

In response to the Tributary Assessment Team (TAT) work last year, COJ has committed to conducting community based cleanups on 10 tribs. About half were completed with the SJR Cleanup and celebration in March 2016. Two sites were added and captained by EQD.

In August Miller Creek was cleaned up to coincide with the Mayor's blight cleanup of Spring Park. EQD was joined by residents/members of the Miller Creek Navigation Special Tax District.

JEA continues to assist EQD by using JEA TV inspection equipment to assess stormwater infrastructure.



*Above: Miller Creek.
Photo by Barry Cotter*



*Left: Mayfair trash along
Miller Creek. Photo by
Louis Joseph*

*Below : Miller Creek
cleanup dumpster. Photo
by Sharon Johnson*



*Bottom, a dozen of the 35
volunteers at Miller
Creek. Photo by Sharon
Johnson*



Recently the joint effort deployed on two areas of concern (Goodby's Creek and Hogan's Creek) to pin down unidentified sources of fecal contamination in the stormwater system.

Other BMAP Progress

The seventh annual LSJR Main Stem BMAP progress report encompassed the period of January 1, 2015 through December 31, 2015 addressing nutrient impairments in the main stem of the river. During this time

- City of Jacksonville completed two water quality credit trades with JEA and the Florida Department of Transportation (FDOT) for a total of 40,910 kilograms per year of nitrogen reductions. The city also continued septic tank phase outs and stormwater improvement projects.
- Camp Blanding regraded over 38 miles of roads to achieve water quality improvements.
- The United States (U.S.) Naval Air Station Jacksonville completed the second phase of its reuse project that redirects wastewater discharges away from the river.
- U.S. Naval Station Mayport began design of its new wastewater facility.
- St. Johns County completed Phase I of the Masters Tract Regional Stormwater Treatment (RST) system and substantially completed improvements to the Deep Creek West RST.
- Putnam County completed the Hiawatha Wastewater Treatment Facility (WWTF) phase-out and brought the new East Palatka WWTF on-line.
- Florida Department of Agriculture and Consumer Services (FDACS) continued to enroll producers in best management practices (BMPs) in the freshwater reach, increasing BMP enrollment by 16,911.1 acres.
- JEA completed new reclaimed water transmission lines to Nocatee Oaks Phase 4 and increased the reclaimed water service capacity at their Arlington East facility by two million gallons per day.
- On-going activities will continue by many entities including illicit discharge elimination programs, public education and outreach, street sweeping, and local ordinances to control nutrient sources.

Nutrient Status of the River Reaches

Lower St. Johns River Main Stem BMAP Excerpts from the 2015 Annual Progress Report, Florida Department of Environmental Protection

Progress in meeting TMDLs in various reaches, is presented in the graphs at right, where:

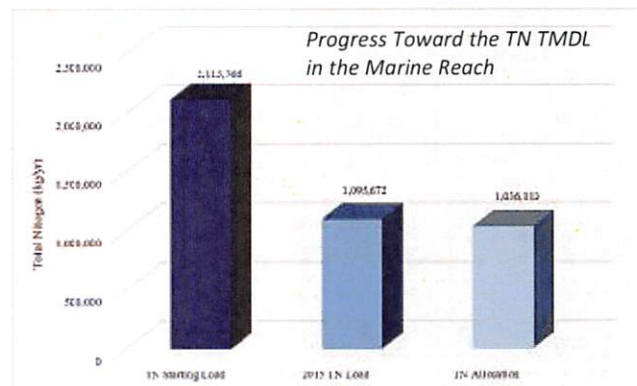
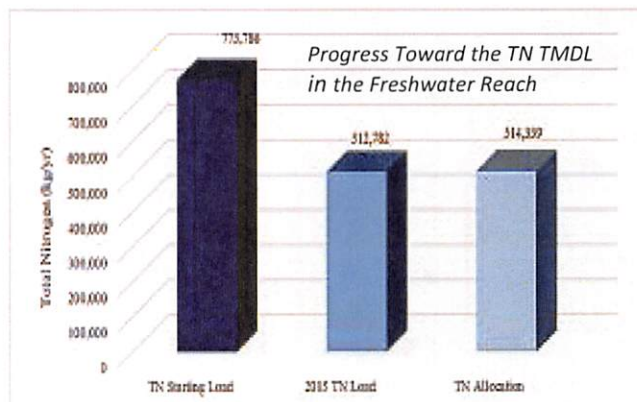
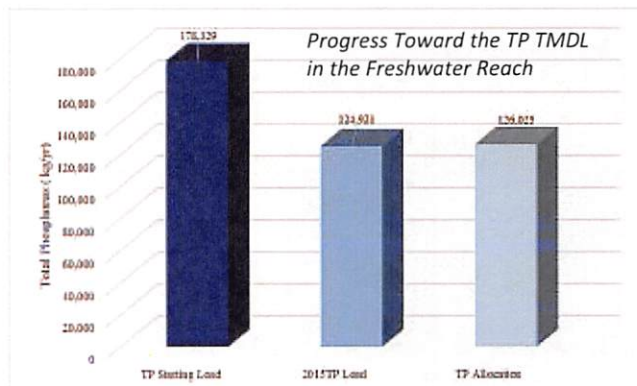
TMDL=total maximum daily load

TN=total nitrogen

TP=total phosphorus

To learn more about the BMAPs and review the annual updates, please visit the Florida Department of Environmental Protection's webpage:

<http://www.dep.state.fl.us/water/watersheds/bmap.htm>



Wastewater Treatment

The Wastewater Treatment Facilities (WWTFs) and MS4s in the **freshwater reach** have achieved their portion of the TN and total phosphorous (TP) required reductions.

Also, WWTFs in the **marine reach** have achieved their portion of the TN required reductions.

A summary of the reductions are reflected below:

- WWTF progress toward the TP freshwater TMDL has achieved reductions of 95,094 lbs./yr. TP.
- WWTF progress toward the TN freshwater TMDL has achieved reductions of 372,779 lbs./yr. TN.
- WWTF progress toward the TN marine TMDL has achieved reductions of 2,083,787 lbs./yr. TN.

- MS4 progress toward the TP freshwater TMDL has achieved reductions of 538 lbs./yr. TP.
- MS4 progress toward the TN freshwater TMDL has achieved reductions of 2,306 lbs./yr. TN.
- MS4 progress toward the TN marine TMDL has achieved reductions of 152,408 lbs./yr. TN.
- Additional reductions have also been made by stormwater sources outside MS4 areas in both the marine and freshwater sections, as well as by agricultural sources.

AOI #3 TRACKING SEDIMENTATION

COJ Stormwater Utility Includes Assets Below and Projects in Table at Right

- 670 sq. miles
- 56,300 catch basins/inlets
- 11,582 manholes
- 2200 control structures
- 1,456 miles of pipe
- 297 stormwater ponds
- 353 major outfalls
- 1212 miles of ditches
- 10 pump stations
- \$44.8M annual expenditures



Stormwater Projects Completed	
Melba/Green Street	LSJR Trout River
Smith Broward Pond	LSJR Trout River
Woodland Acres/Oakwood Villa Area Drainage Ph. I	Arlington River
Hugh Edwards Rd Drainage	Ortega River
Pine Forest/Larsen Acres	LSJR Trout River
Upper Deer Creek Phase 3	LSJR Trout River
Venetia Terrace Drainage	Ortega River
McCoy's Creek Pond C	LSJR Trout River
Paul Avenue Outfall	LSJR Trout River
Riverview Area Drainage	Cedar River
Miruelo Circle	LSJR Trout River
Stormwater Projects Completed This Reporting Period	
Air Liquide Pond Retrofit	LSJR Trout River
Hamilton Jersey Outfall	LSJR Trout River
Country Creek Area Drainage Improvements	Ortega River
Avenue "B"/Zinia Outfall	Trout River
Bunche Rd. Drainage	Ortega River
Mandarin Area Drainage (Grand Cirque)	LSJR Upstream of Trout River
NAS Reuse (Phases 1 and 2)	LSJR
Newtown Drainage Trunk Line (Myrtle & Beaver) Ph-1	LSJR Trout River
Magnolia Street Reconstruction	LSJR
Stormwater Projects Under Construction	
City-Wide Drainage Rehab	LSJR - Countywide
Crystal Springs Area	Ortega River (Commencing)
Noroad/Lambing Drainage	Ortega River (Commencing)
Chaffee Road	Ortega River
Valens Drive (Low Impact Development Demonstration)	Little Pottsburg/Arlington River
Stormwater Projects In Design	
Old Plank Road	McGirts Creek
Lower Eastside Phase III	LSJR



Above plus left and right: Magnolia Street Reconstruction photos courtesy of Robert Kermitz, ETM





Left: Magnolia Street Reconstruction photo courtesy of Robert Kermitz, ETM



Right: Stormwater pond courtesy of Robert Kermitz, ETM

Erosion and Sediment Enforcement

SJRWMD and COJ both inspect complaints of erosion and sedimentation from construction sites. From 937 inspections, EQD issued 45 notices to correct violations at 22 sites (55% increase over previous year), with five moving to formal enforcement cases last year in Duval County. The year also involved intensive investigations along the course of the I-295 widening through Mandarin, resulting in tremendous improvements in control techniques.



I-295 photos courtesy of Leon Joiner, EQD



Above: Empire Avenue c/o Jayne Parker, EQD



Above: Flynn Rd, c/o Jayne Parker, EQD

AOI #4 IMPROVING PUBLIC ACCESS

The River Accord, along with its Preservation Project partners, continues working to improve public access to the St. Johns River and its tributaries. Below is a map showing current public access areas with the past year's improvements described in the text which follows. More information is available at www.JaxParks.com.

Blue Cypress/Arlington Lions Club Park Boardwalk Extension

In August 2016, the boardwalk extension project was completed which extended the raised shoreline walkway approximately 800 feet connecting Blue Cypress Regional Park to the boat ramp at Arlington Lions Club Park



Boardwalk extension between Blue Cypress Park and Arlington Lions Club Park. Photo courtesy of Brian Burket.

Michael B. Scanlan Mayport Boat Ramp

Received a FIND grant award for adding an additional launch lane at this heavily used boat ramp. Construction is anticipated in late 2016/early 2017.

Northshore Park

Design is complete for development of an accessible kayak launch at this park along the Trout River. A FIND grant application was submitted for construction which is anticipated in 2017.

Arlington River

Received a FIND grant award for dredging the Arlington River from the St. Johns River to the Cesery Blvd. Bridge. Construction should begin in winter 2016.

Jim King Park and Boat Ramp at Sisters Creek

Installation of new lights in the parking lot at this popular boat ramp on the Intracoastal Waterway is underway and expected be completed by October 2016. Received a FIND grant award for relocating the floating docks at the boat ramp into deeper water. Construction is anticipated in

late 2016/early 2017.

Half Moon Island Preserve

Design is nearing completion for development of a new boat ramp, fishing pier and picnic facilities at this undeveloped park property near intersection of Main Street North and the Nassau River. A FIND grant application was submitted for the first phase of construction which should proceed in 2017.

Charles Reese Memorial Park

Design is complete for development of a fishing pier and kayak launch at this park along the Ribault River. A FIND grant application was submitted for construction which is anticipated in 2017.

County Dock Boat Ramp

Received a FIND grant award for replacing the boat ramp, enhancing the parking area and removing approximately 100 old, submerged pilings that pose a navigational hazard for those using this ramp. Construction should begin in late 2016.

Exchange Club Island Park

A half-mile nature trail and scattered picnic tables were added to the island thanks to Groundwork-Jacksonville's Green Team volunteer help and an Eagle Scout. Construction of the floating dock near the southeast corner of the island is expected to begin in fall 2016. And, a FIND grant application was submitted to help fund construction of two small picnic shelters which are anticipated for installation in 2017.



Clearing of new nature trail on Exchange Club Island. Photo courtesy of Alyssa Bourgoyne.

Metro Park Marina

Received a FIND grant award to design the replacement of the fixed wooden docks with floating, concrete docks. Design work to begin later this year.

Joe Carlucci Boat Ramp

Received a FIND grant award to design longer boat access docks to aide launching during busy times. De-

sign work to begin later this year.

Mike McCue Boat Ramp Lighting

Installation of new lights in the parking lot at this popular boat ramp on the Intracoastal Waterway was completed.



*New lights at Mike McCue Park and Boat Ramp.
Photo courtesy of Brian Burket.*

Wayne B. Stevens Boat Ramp

Received a FIND grant award for replacing the floating docks and gangways with new structures. Replacement should take place in fall 2016.

Tillie K. Fowler Regional Park

Received a FIND grant award to design a kayak launch and parking lot with a new park entrance from Timuquana Road to give paddlers access to the scenic Ortega River. Design work to begin later this year.

2016 Greater Jacksonville Kingfish Tournament (July 18-23)

Successfully completed the 36th year of the Greater Jacksonville Kingfish Tournament, the largest of its kind in the country. The General Tournament featured 244 competing boats. Youth participation included 172 Junior Anglers and an additional 48 children were introduced to fishing in partnership with the JaxParks Summer Camp program. And, the "Down at the Dock Fishing Derby" in partnership with the Down Syndrome Association of Jacksonville, Inc. involved 46 participants.



Kingfish photos courtesy of Betsy Deuerling.

Duval County Maritime Management Plan

- The City of Jacksonville with funding support from the Florida Inland Navigation District is creating a Maritime Management Plan for Duval County. A team from the Northeast Florida Regional Council, University of North Florida and Jacksonville University has been hired to gather information about maritime facilities and the needs and desires of the community, so that we have a plan to guide us as we maintain water access facilities, plan for unmet needs and ensure that the important role that water access plays in our economy and our quality of life remains strong for the long term.
- Public input is important as we prepare for a vibrant future for our waterways and our community. Take the survey, learn more about the plan and upcoming meetings at www.JAXBOATPLAN.COM.

County Water Access Map

Parks, Recreation, and Community Services has developed a map of locations for access to water in Duval County. Thumbnail below. The map can be accessed at: <http://www.coj.net/departments/parks-and-recreation/recreation-and-community-programming/docs/waterfront/brochure2012.aspx>



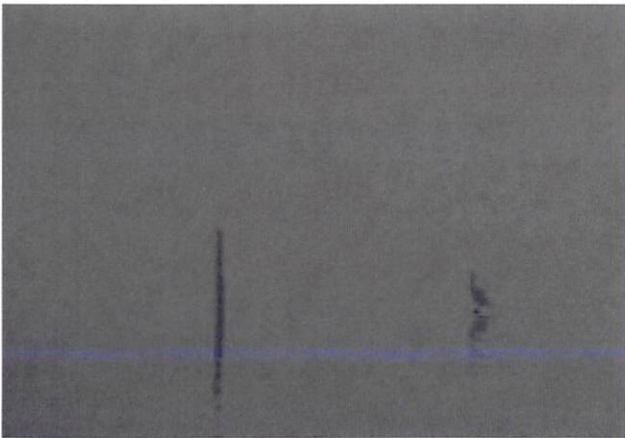
Also, the Greater Jacksonville Paddling Guide is available online.



St. Johns River Cleanup and Celebration, March 19, 2016. EQD and Navy at Curtis B. Johnson Park and Wayne Stevens Park (below). Overall Duval County event = 781 volunteers, 1910 bags and 7.5 tons of trash.



Photos top left and right by John Flowe



Fog at County Dock, by John Flowe



Sunset at County Dock , by John Flowe.

A link to this report will be posted in downloadable *.pdf (Acrobat) format at <http://www.coj.net/departments/regulatory-compliance/environmental-quality/environmental-resources/local-government-resources.aspx>

Contributions by:

Brian Burket, COJ Parks & Recreation Dept.

John Pappas, COJ Stormwater Utility

Teresa Kilbourn, COJ EQD

Scott Dombrosky, NavSta Mayport

Amy Tracy, England-Thims and Miller (ETM)

Cathleen Foerster, AICP, Wildwood Consulting

Katie Hallas, FL Dept. Ag. & Consumer Services
Off. of Agricultural Water Policy

Pam Livingston, SJRWMD

Duane Kent, COJ Public Works

Charles Sohm, Clay County Utility Authority

David Hahn, COJ Public Works

Teresa Monson, SJRWMD

Scott Turner, FL DOH-Duval

Errol Bos, ETM

Robert Kermitz, ETM

John Flowe, COJ EQD

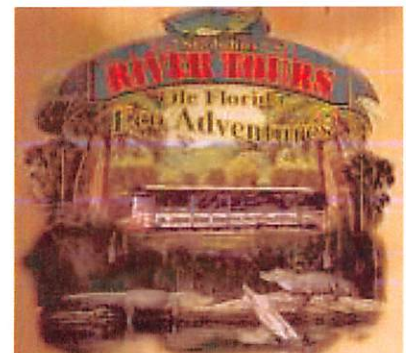
Ed Cordova, JEA

Anita Nash, FDEP

Derek Busby, SJRWMD

Betsy Deuerling, COJ EQD

Jayne Parker, COJ EQD



Cover photo courtesy of Captain Ernie at St. Johns River Tours