THE RIVER ACCORD

ANNUAL REPORT 2010

Dear Friends of the St. Johns River:

The St. Johns River embodies Jacksonville. It is our greatest treasure and through *The River Accord*, a group of vested agencies have gathered to clean, protect and preserve the health and beauty of this life-giving resource. This $700 million initiative is in the third year of a 10-year mission to restore the Lower St. Johns River Basin.

This year, *The River Accord* has made great progress in addressing important river issues:

• New stormwater projects were initiated in the Country Creek area, Hamilton St./Jersey St. area and Miruelo Circle area with three new projects in the McCoy's Creek area. The projects are paid, in part, by the dedicated funding that comes from the Stormwater Maintenance Fee and from legislative funds. These projects will ultimately improve the management of stormwater and contribute to the overall betterment of water quality.

• The implementation of the City of Jacksonville's Fertilizer Ordinance began in earnest in 2009. The ordinance was three years in the making and, in its first year, collaboration between city agencies and local businesses created a core of educated professionals dedicated to the reduction of nitrogen loading into our river and tributaries.

• Homeowners and businesses are adapting their landscaping plans to comply with the Landscape Irrigation Ordinance that specifies irrigation on certain days and during designated time periods while making accommodations for new landscaping and irrigation system installation. The St. Johns River Water Management District (SJRWMD) and JEA's water conservation awareness campaigns effectively demonstrated that using less water on our lawns is not only good for the environment, it promotes drought resistant root systems and saves money for homeowners.

• JEA, in partnership with SJRWMD, is phasing out older, less effective wastewater treatment plants and routing wastewater to regional plants that are being upgraded. The JEA completed upgrades on an additional two regional treatment facilities and an upgrade on a third facility is under construction.

• In December 2009, the Secretary of the Department of Environmental Protection (DEP) adopted the Lower St. Johns River Tributaries Basin Management Action Plan (BMAP), which was developed in partnership with local stakeholders. BMAP implementation will reduce fecal coliform bacteria levels in 10 tributaries. In addition, another 15 tributaries will be improved by the implementation of a second BMAP scheduled to be adopted by DEP in fall 2010. In January 2010, DEP prepared the first annual report for the Lower St. Johns River Nutrient BMAP. The Nutrient BMAP projects that have been completed by stakeholders through October 2009 have resulted in an estimated reduction of 134,288 kilograms/year (kg/yr) of total nitrogen (TN) and 37,403 kg/yr of total phosphorus (TP) in the freshwater section of the river, and 545,798 kg/yr of TN in the marine section.

• In addition, *The River Accord* goal of phasing-out septic tanks is well on its way. The Water Sewer Expansion Authority (WSEA) has provided approximately 350 sewer connections to properties on a voluntary basis. Current projects include funding sewer extensions to 515 septic systems in Oakwood Villa Estates Phase 2, 85 properties in Lincoln Villa Phase 1 and an additional 197 properties in Lincoln Villa Phase 2.

In just its fourth year, *The River Accord* is making a difference and momentum continues to build.

In the upcoming year, water conservation will continue to be a great priority for all of the partners. Education and enforcement of irrigation and fertilizer ordinances helps communicate our message that water conservation is important to overall river health. In addition, an emphasis on sustainable landscaping that uses drought-tolerant plants and techniques will put less of a burden on our aquifer and further involve residents in our efforts to conserve. Several local governments such as Clay County, St. Johns County, Neptune Beach and Palatka have adopted landscape irrigation ordinances over the past year. While changing our watering habits may take some getting used to, conserving our existing drinking water sources can help reduce the need for costly alternative water supply projects that could be needed to meet future water supply demands. With both the irrigation and fertilizer ordinances in place, enforcement will become a greater priority in 2011.

The St. Johns River is a gift. Through the efforts of *The River Accord*, it is one that future generations will be able to enjoy.

OVERVIEW:

What is the River Accord?

The St. Johns River is Jacksonville's lifeline in many ways. It defines our history, our culture, our economy, our character, and ultimately, our future.

Back in 2006, when the original River Accord Partners agreed to work together to improve the health of the St. Johns River, we all faced a crisis: a harmful algal bloom that was extensive, choking parts of the river and prompting the state health department to issue warnings that the river was unhealthy for humans.

In short, the St. Johns River needed help and on July 27, 2006, The River Accord was formed with partners including the City of Jacksonville, the St. Johns River Water Management District (SJRWMD), JEA, the Water Sewer Expansion Authority (WSEA) and the Florida Department of Environmental Protection (FDEP).

July 27, 2006: Mayor John Peyton, Fred Odom (WSEA), Greg Strong (FDEP) and Kirby Green (SJRWMD) sign The River Accord.

Mayor John Peyton and other key partners agreed to invest in the river's future through ***The River Accord: A Partnership for the St. Johns***, a 10-year, $700 million initiative to begin restoring the health of the Lower St. Johns River Basin.

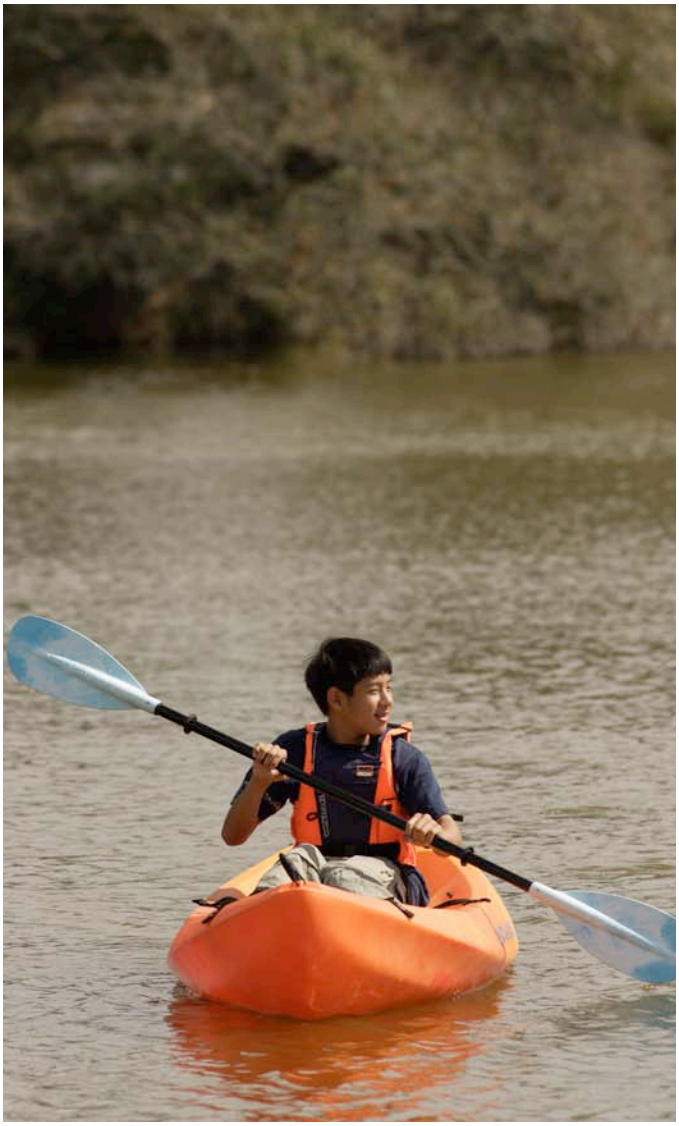
Based on decades of research in river restoration programs, the *Accord* committed to reduce the amount of nitrogen discharged into the river by:

- Phasing out older technology wastewater treatment plants
- Improving other wastewater treatment plants and building pipelines necessary to reuse treated wastewater for irrigation of lawns, parks, and golf courses
- Eliminating failing septic tanks
- Capturing and treating stormwater *before* it enters the river.

The investments by the *Accord* partners are the largest to date in the lower St. Johns River's history. It includes a citywide no-net-gain goal for septic tanks, an expansive program to improve access to the river, an annual state of the river report and a research program to examine why the river's tributaries are filling in with silt.

In addition to specific efforts to reduce nitrogen discharges into the river, *The River Accord* has four general areas of interest:

- Program accountability
- Improving water quality
- Tracking the river's sedimentation



The River Accord Today

2010

One of the key requirements of *The River Accord* is program accountability. To that end, *The River Accord* partners collectively produce an annual *River Accord* report, detailing activity that affects the overall health of the St. Johns River and tracks the progress of specific items outlined in the 2007 *River Accord* Memorandum of Understanding.

PROGRAM ACCOUNTABILITY

To ensure the initiative meets its goals, *The River Accord* features a steering committee composed of representatives from partnering agencies. They meet quarterly and produce written annual reports that are delivered to the Mayor of Jacksonville, Jacksonville City Council, executives at DEP and the governing boards of the JEA, SJRWMD and WSEA.

RIVER ACCORD ANNUAL STATUS REPORT

This 2010 annual *River Accord* report herein was created to address the accountability mandate for the past year.

STATE OF THE RIVER REPORT

A team of faculty members from the University of North Florida and Jacksonville University will publish an annual State of the River Report to provide an independent evaluation of the health and restoration progress of the Lower St. Johns River Basin. The State of the River Report will be written for river stakeholders and an abbreviated version and website will be made available for the public.

The report will be released during the July 16th, 2010, EPB/UNF Environmental Symposium at UNF.

After July 16th, 2010, the full text may be viewed at www.sjrreport.com.

ST. JOHNS RIVER IMPROVEMENT

One factor that has led to the river's harmful algal blooms is the level of nutrients entering the river has simply surpassed the St. Johns' ability to naturally process them. While there are many sources of these nutrients, a major source comes directly from residential lawns – fertilizers.

Even though a large amount of fertilizer application occurs on public and commercial properties such as parks and golf courses, excess or improper application of fertilizers by residential users or professional lawn services introduces a significant amount of nutrients into the river.

Nitrogen enters the river in the following ways:

- The over application of fertilizer
- Application of fertilizer during rainfall; and
- Over-irrigation resulting in runoff

IMPROVING WATER QUALITY: CITY OF JACKSONVILLE

Water quality has been degraded in many of the tributaries within the Lower St. Johns River Basin, as well as in considerable portions of the river itself. Agricultural and urban runoff have been identified as significant sources of nutrient, bacterial, and toxic contaminant pollution. The recurrence of annual algal blooms serves as a reminder that much remains to be done.

Wastewater has also been identified as a significant source of pollution from both domestic and industrial sources. Several major wastewater sources have been improving their treatment levels to reduce the impacts to the river and its tributaries. These efforts included the elimination of many small wastewater package plants that had low levels of treatment and redirecting that wastewater to larger regional plants with better treatment.

The goal of these changes was to improve the quality of wastewater effluent discharged to both tributaries and the mainstem of the river and to reduce overall pollutant loads.

Addressing wastewater discharges has been a major focus of the *River Accord* partners as well as the development of more stringent pollutant loading standards and regulations and addressing non-point pollution sources such as urban and agricultural stormwater pollution.

Water quality targets called Total Maximum Daily Loads (TMDLs) for the mainstem of the river were adopted in June of 2008 by DEP. A plan detailing how local governments, industry and utilities will meet those targets, called the Basin Management Action plan (BMAP), was adopted in October of the same year. DEP also develops an annual progress report on implementation of the specific actions detailed in the BMAP.

According to the 2009 progress report, three wastewater projects in the freshwater section of the river were completed with a total reduction of 7,592 pounds per year of Total Phosphorous (TP) and 57,299 pounds per year of Total Nitrogen (TN). No wastewater projects were completed in the marine section this past year, although many projects are under construction. Over the last year, nine local government stormwater projects were completed in the freshwater section for a total reduction of 2,109.2 pounds per year of TP and 4,124.3 pounds per year of TN. An additional 13 local government stormwater projects were completed in the marine section for a reduction of 10,292 pounds per year of TN.

Fertilizer Ordinance

Ordinance 2008-28-E established fertilizer and best management practices (BMPs) in the City of Jacksonville code. It requires commercial fertilizer applicators to be trained in the State BMPs and bulk storage facility operators to have a spill prevention plan.

In order to accomplish the intended goals and objectives of the ordinance, the Environmental and Compliance Department (ECD) has created an educational campaign to inform the residents about the value of natural water resources, and to educate them about ways to effectively apply fertilizer on home lawns.

A major purpose of the City of Jacksonville's educational campaign was public and business partnering to increase ordinance compliance. The City conducts irrigation and fertilizer educational outreach at town meetings, homeowner association meetings, businesses, civic organizations, and the Florida Pest Management Association meetings. To date, over 40,000 irrigation and fertilizer brochures have been printed and approximately 35,300 have been distributed at these events.

The City is partnering with the local "greenhouse" retailers to help communicate the importance of proper irrigation and fertilizer use to their customers. Two of the larger local greenhouse retailers, The Home Depot Inc. and Wal-Mart now display irrigation and fertilizer posters that emphasis irrigation and fertilizer BMPs in their stores. Efforts to encourage

other stores to have similar programs are continuing. During this past year while a transition to include ticket writing enforcement activities is underway, education is still the major component

Irrigation Ordinance

Data suggests that 50 percent of Northeast Florida's groundwater is being used for irrigation purposes. This over-watering contributes to water waste and compromises overall water quality.

In light of this fact, city government realized the need to enact landscape irrigation requirements that will reduce the impact to the Floridan aquifer – our drinking water supply – and eliminate excess runoff of nutrients into the river.

The landscape irrigation requirements provide for residential and non-residential properties to irrigate on scheduled days.

Since ordinance enactment, there have been 672 issues reported to the City. There were 65 observed violations and 732 investigations.

The fertilizer and irrigation public outreach includes comprehensive distribution of 49,953 brochures

For a copy of the brochure, please visit
www.coj.net and search for “fertilizer” or “irrigation”.

IMPROVING WATER QUALITY: ST. JOHNS RIVER WATER MANAGEMENT DISTRICT

Watering restrictions have been in place since 1991 in the 18 counties of SJRWMD. In March 2009, SJRWMD tightened its landscape irrigation rule. The new restrictions specify the days of the week for landscape irrigation throughout SJRWMD’s 18 counties, which includes Duval County. Under the new restrictions, landscape irrigation is limited to two days a week during daylight saving time and one day a week during Eastern Standard Time.

In addition to limiting residential irrigation use, the irrigation of golf courses, nursery plants, agricultural crops, cemeteries, and recreational areas are regulated by SJRWMD through consumptive use permits.

Details are available online at
floridaswater.com/wateringrestrictions.

Reducing Nitrogen Impacts

Wastewater Treatment Plant Upgrades and Reuse Expansion

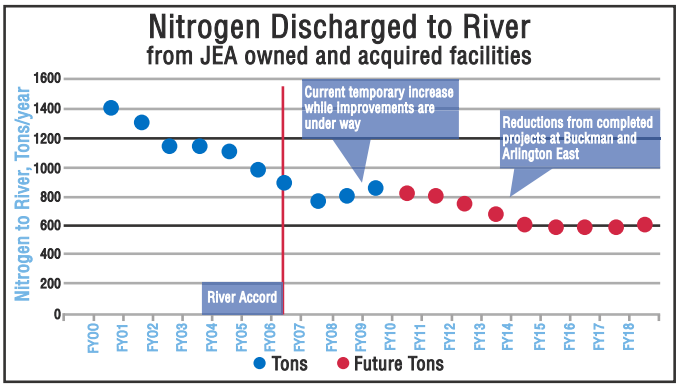
JEA has voluntarily reduced the amount of nitrogen it discharges into the St. Johns River via treated wastewater by nearly 50 percent since 2000 and treatment facility projects are expected to continue. Additional reductions are slated under collaborative agreements between SJRWMD and a number of regional wastewater utilities in conjunction with JEA.

That initiative reduced the discharge of nitrogen from 1,400 tons per year to 900 tons per year in 2006.

The River Accord agreement signed in 2006 is an extension of that initiative and is further reducing nitrogen discharged into the river.

Since the start of *The River Accord*, a number of improvement projects have been completed or are currently in the design and construction phase.

When these projects are completed, JEA estimates they will result in a further reduction of 300 tons of nitrogen per year by 2013 as shown below. These projects are described below.



JEA’s commitment to achieving the goals of *The River Accord* will be accomplished through three major efforts:

- Upgrading five regional treatment plants to advanced nutrient removal;
- Phasing out older technology treatment plants; and
- Increasing reclaimed water use.

The following is a brief update on these three efforts:

Upgrading JEA’s five regional treatment plants to advanced nutrient removal:

Improvement projects have already been completed at two regional treatment facilities, Mandarin and Southwest. In the last 12 months, JEA has reached substantial completion on a $26 million improvement project at a third regional treatment facility, Arlington East.

The Arlington East improvements will result in a reduction of over 100 tons per year of nitrogen.

Design is currently underway for an upgrade project for a fourth regional treatment facility, Buckman, which when completed in 2012 will result in a reduction of almost 100 tons per year.

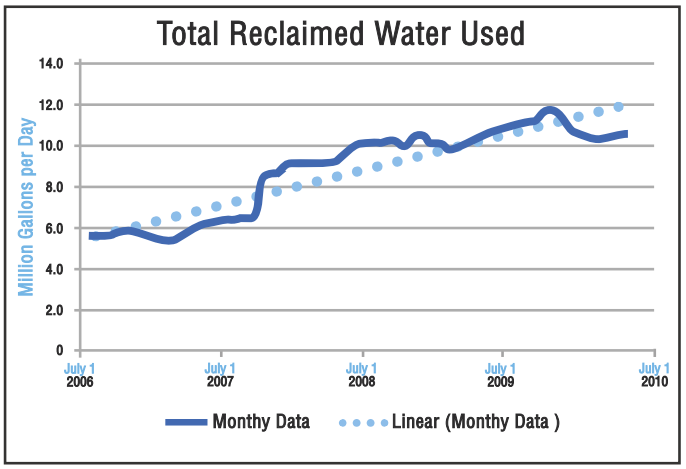
Phasing out six older technology plants:

Two older technology plants have already been phased out. Construction is ongoing for the phase out of a third plant, Beacon Hills, which should be completed before the end of 2010.

Increasing reclaimed water use:

JEA has completed approximately 118 miles of reclaimed water lines.

The graphic below shows the increase in reclaimed water use since the signing of *The River Accord*. JEA and its *River Accord* partners remain committed to the expansion of the reclaimed water system.



PROJECT FUNDING STATUS

SJRWMD and the DEP have approved up to $53.8 million in cost-share funding to upgrade wastewater and reclaimed water treatment systems and extend reclaimed water delivery systems.

Cost-share agreements (where SJRWMD and state typically provide up to 50% of total project funds) have been executed with Clay County Utility Authority, JEA, Neptune Beach, Jacksonville Beach and the City of Palatka.

A 100% cost-share agreement with the City of Jacksonville has also been executed to remove septic systems in areas where failing septic tanks threaten water quality of the St. Johns River and its tributaries.

Additional reuse and treatment projects are being pursued between the SJRWMD and Atlantic Beach, St. Johns County, Naval Air Station Jacksonville and the town of Orange Park.

By 2014, all projects are estimated to create enough treatment and reuse capacity to reduce nitrogen entering the river by up to 1.6 million pounds per year and increase the use of reclaimed water by up to 32 million gallons a day (mgd).

The long-range plan is to divert at least an additional 51.5 mgd of wastewater to beneficial reuse (82.5 mgd total representing 64% of projected flow in 2025) through multi-party, regional projects employing the balance of SJRWMD's cost-share ad valorem funds and/or state funds, as available.

TRIBUTARY IMPROVEMENT

Tributary Total Maximum Daily Loads

Total Maximum Daily Loads (TMDLs) are water quality targets for specific pollutants (such as fecal coliform or nutrients) that are established for impaired water bodies that do not meet their designated uses based on Florida water quality standards. During Cycle 1 of the FDEP watershed management cycle to assess water quality impairments in the Lower St. Johns River Basin, FDEP identified 55 tributaries that have verified fecal coliform impairments. During Cycle 2, an additional 20 tributaries were identified as impaired for fecal coliform. Therefore, there are a total of 75 fecal coliform impaired tributaries in the basin.

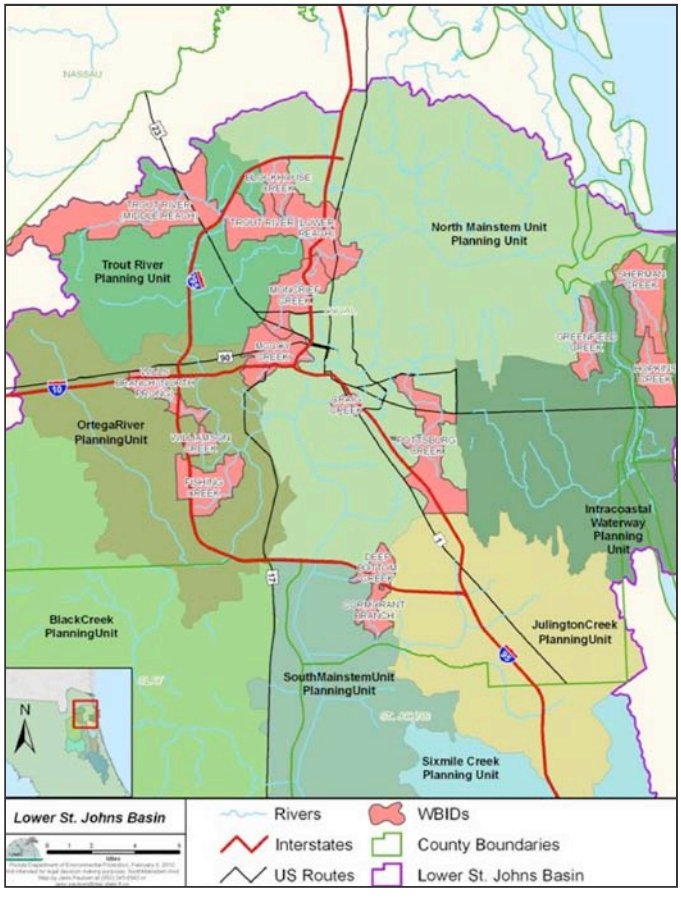


FIGURE 1: LSJR TRIBUTARIES INCLUDED IN BMAP II

From 2006 through 2009, FDEP adopted TMDLs for the following water bodies

- Miramar Creek
- Butcher Pen Creek
- Hogan Creek
- Goodbys Creek
- Miller Creek
- Big Fishweir Creek
- Newcastle Creek
- Deer Creek
- Terrapin Creek
- Open Creek
- Big Davis Creek
- Moncrief Creek
- Wills Branch
- Williamson Creek
- Cedar River
- Ribault River
- McCoy Creek
- Durbin Creek
- Deep Bottom Creek
- Blockhouse Creek
- Trout River

Lower St Johns River Tributaries Basin Management Action Plan (BMAP)

The first Basin Management Action Plan (BMAP) for the Lower St. Johns River tributaries addresses 10 tributaries impaired for fecal coliform. These initial 10 tributaries were identified as the worst-case waterbody identification (WBID) numbers, based on a ranking method establishing the severity of bacterial contamination. These tributaries are:

- Newcastle Creek
- Hogan Creek
- Butcher Pen Creek
- Miller Creek
- Miramar Creek
- Big Fishweir Creek
- Deer Creek
- Terrapin Creek
- Goodbys Creek
- Open Creek

The BMAP was adopted by the DEP Secretary in December 2009. The projects and activities outlined in the BMAP are sufficient to address all of the identified sources and, with full implementation of the BMAP, the 10 WBIDs are expected to meet the TMDL requirements. Additional assessment efforts and studies are planned and will help to identify and address any additional sources that occur in these tributaries.

The final BMAP is available at:
www.dep.state.fl.us/water/watersheds/bmap.htm

In addition, a second BMAP has been prepared for an additional 15 tributaries in the Lower St. Johns River Basin. The waterbodies included in this second BMAP are:

- Craig Creek
- Williamson Creek
- Deep Bottom Creek
- Blockhouse Creek
- Cormorant Branch
- Sherman Creek
- Pottsburg Creek
- Upper Trout River
- McCoy Creek
- Fishing Creek
- Moncrief Creek
- Hopkins Creek
- Wills Branch
- Greenfield Creek
- Lower Trout River

This second BMAP is scheduled to be adopted by the DEP Secretary in fall 2010.

PHASING OUT SEPTIC TANKS IN AREAS WITH HIGH FAILURE RATES

There are approximately 85,000 septic tanks throughout Duval County. Many of these septic tanks are failing and polluting the St. Johns River and its tributaries. In addition to creating unacceptable public health risks, failing septic tanks can inhibit private investment and economic development. Thirty-seven areas in Duval County have been designated as septic tank failure areas by the Duval County Health Department. These areas account for approximately 21,000 (31 percent) of the City's septic tanks.

SEPTIC TANK ENFORCEMENT PROGRAM

The Duval County Health Department Septic Tank Enforcement Program assures that:

- All new and repaired onsite sewage treatment and disposal systems (OSTDS) adequately handle residential and commercial building plumbing wastewater;

- This wastewater does not create sanitary nuisance conditions; and

- No potential exists for the degradation of surface water or groundwater quality.

This program focuses specifically on OSTDS (better known as septic systems) that are currently or could potentially have an impact on the St. Johns River and its tributaries. Failure areas are shown in green on the map on page 10.

The Septic Tank Enforcement Program implements the Florida Statutes 381 and 386 and Chapter 64E-6 Florida Administrative Code, which governs regulation of OSTDS in Duval County/Jacksonville, Florida.

- The program monitors, reviews, tracks, records and enforces the compliance of state statutes, rules, regulations and local ordinances pertaining to OSTDS in residential and commercial areas directly or indirectly connected to the St. Johns River and its tributaries.

- The program involves site evaluations, inspections, review of engineering plan design, and construction reviews of septic tank/drain field systems, including repairs to existing and abandoned systems. Information related to monitoring, surveillance, management and enforcement activities are updated and recorded on a daily basis.

St. Johns River Water Management District Reclaimed water and wastewater treatment projects Lower St. Johns River Basin

Through a cooperative effort, these near-term projects are expected to begin and/or be completed by the various entities listed within the next four years. The projects are intended to remove nitrogen discharges from the river — helping to improve water quality in the Lower St. Johns River Basin; making reclaimed water available for appropriate uses; and expanding existing potable water supplies for other higher-quality needs.

JEA Reuse — These projects include $32 million to upgrade existing reclaimed water plants, provide reclaimed water for irrigation at golf courses and office parks, and make improvements to infrastructure to accommodate expanded reuse. *Nutrient pollution removed from the river: 556,000 pounds/ year. Discharge eliminated: 21 million gallons per day (mgd)*

JEA Treatment — This $21 million wastewater treatment project will improve the Arlington East wastewater discharge to advanced wastewater treatment standards. *Nutrient pollution removed from the river: 602,000 pounds/year*

City of Atlantic Beach — This $10.5 million project will improve the city's discharge to advanced wastewater treatment standards. 62,000 pounds/ year of nutrients would be removed from the river initially and up to 96,000 pounds/ year at build-out. *Discharge eliminated: 0.30 mgd*

City of Neptune Beach — This $2.4 million project is for improved wastewater treatment and reuse. *Nutrient pollution removed from the river: 17,698 pounds/year initially and 18,433 pounds/year at build-out*

City of Jacksonville Beach — This $22 million project is to improve the city's discharge to advanced wastewater treatment standards. *Nutrient pollution removed from the river: 65,000 pounds/year. Discharge eliminated: 1.1 mgd*

NAS Jacksonville (U.S. Navy) — This $2 million project is to remove all discharges from the river and apply them to reuse sites on base. *Nutrient pollution removed from the river: 28,500 pounds/year. Discharge eliminated: 1.3 mgd*

Town of Orange Park — This $10.3 million project includes upgrades to the existing wastewater treatment plant, which will allow for expanded use of reclaimed water on parklands and commercial lands. *Initial nutrient pollution removed from the river: 37,292 pounds/year and up to 45,792 pounds/year at build-out. Discharge eliminated: 2.2 mgd*

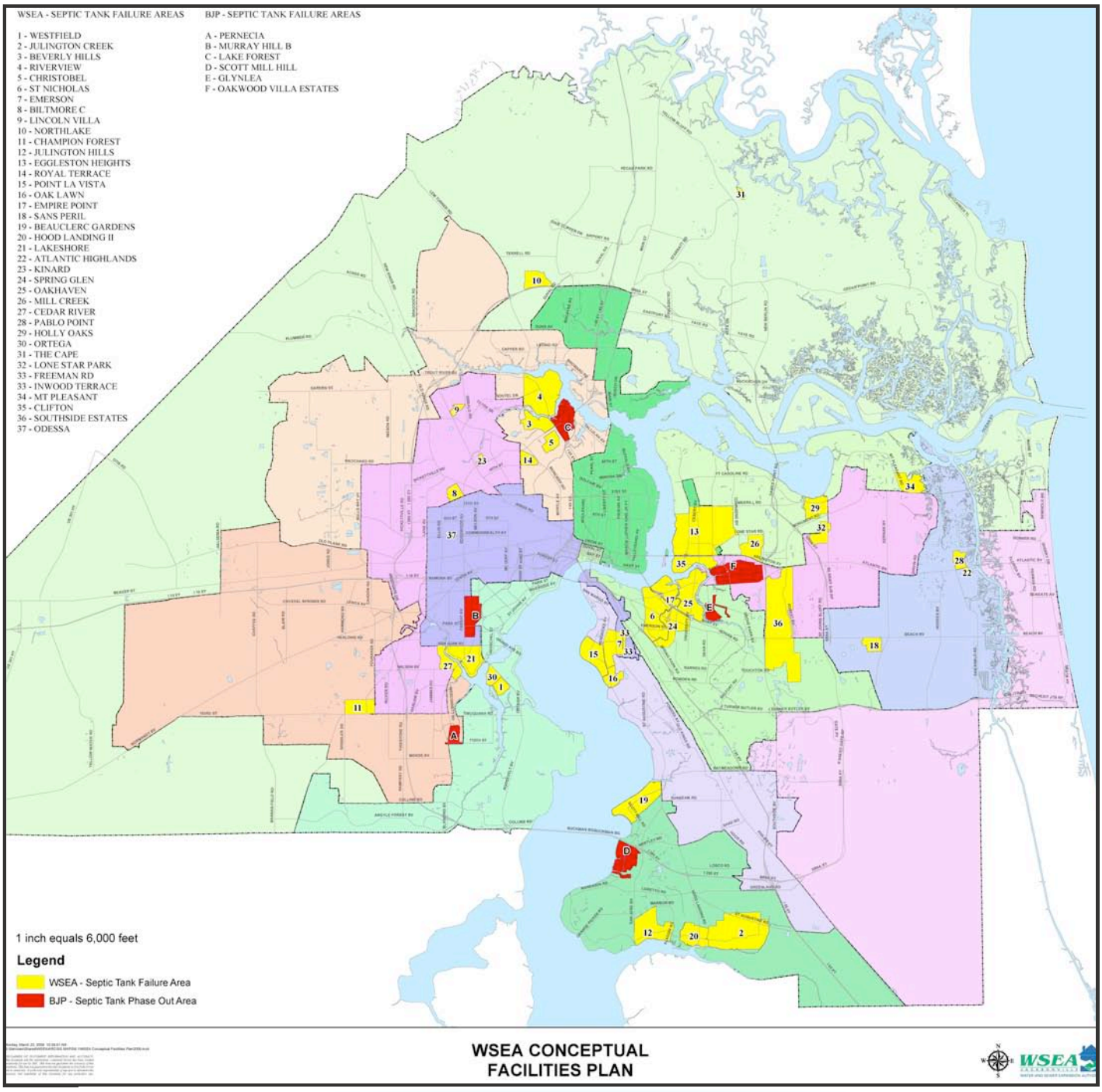
Clay County Utility Authority — This $25 million project will redirect water from the Miller Street wastewater treatment plant and the town of Orange Park to the high-growth area to the west. *Nutrient pollution removed from the river: 34,565 pounds/year and up to 86,795 pounds/year at build-out. Discharge eliminated: 4.2 mgd*

City of Palatka — This $7.7 million project will initially expand reuse to the city's golf course, Ravine State Gardens, ball fields, municipal airport and the St. Johns River Water Management District. The goal is to convert all discharges to reuse. *Initial nutrient pollution removed from the river: 43,450 pounds/year nitrogen and 5,780 pounds/year of phosphorus. At build-out, up to 136,450 pounds/year nitrogen and 18,150 pounds/year phosphorous. Discharge eliminated: 3.0 mgd*

Details are available at
http://floridaswater.com/lowerstjohnsriver/index.html

PROGRAM ACCOMPLISHMENTS TO DATE

- Developed an 8-point criteria and point system for prioritization of 37 septic tank failure areas in Duval County.
- Designated six neighborhoods as creating a "sanitary nuisance" which required all septic systems in each designated area to be phased out and replaced with central sewer services by JEA.
- Performed over 13,000 site investigations and documented areas with suspected failing septic tank and drainfield systems directly or indirectly connected to the St. Johns River and its tributaries.
- Participated in workshops for the development of procedures, priorities, and itineraries to investigate suspected areas with failed septic tank and drainfield systems.
- Prepared over 2,300 administrative and/or legal actions involving OSTDS in violation with Chapter 381 and 386, Florida Statutes and Chapter 64E-6 Florida Administrative Code associated with polluting the St. Johns River and its tributaries.
- Investigated over 2,400 OSTDS related complaints involving malfunctioning OSTDS and the pollution of direct or indirect sewage discharge into the St. Johns River or its tributaries.



• Conducted door-to-door rapid block surveys to identify failed septic tank areas on a routine basis with the potential for direct or indirect discharge into the St. Johns River or its tributaries.

• Issued over 2,300 repair permits and inspected all repair work performed on OSTDS within designated septic tank failure areas to ensure compliance with all Florida Statutes and Florida Administrative Codes.

• Provided educational material and services to homeowners to ensure proper operation and maintenance of septic systems.

WSEA Accomplishments:

The WSEA has provided approximately 350 sewer connections to properties on a voluntary basis. Current projects consist of funding sewer extensions to 515 septic systems located in the Oakwood Villa Estates Phase 2, and an additional 85 properties in Lincoln Villa Phase 1.

Oakwood Villa Estates sewer construction is completed. Lincoln Villa Phase I sewer construction is 90% complete and the water construction is 97% complete, with scheduled completion of all work in August, 2010. Lincoln Villa Phase 2 design work is scheduled to begin November 2010.

SECURED FUNDING TO DATE:

2007/2008

• $2.8 million in grants for the Lincoln Villa Phase I, Septic Tank Phase Out (STPO) project. A $2 million *ad valorem* grant from SJRWMD and a $800,000 Community Issue Budget Request (CIBR) grant.
• $11.2 million CIBR grant for the Lower St. Johns River Basin Initiative (Oakwood Villa Estates STPO project).

2008/2009

• $300,000 CIBR for the Lincoln Villa Phase II STPO project.

• $759,000 Grant for Septic Tank Phase Out.

To date, 2,480 septic tanks have been phased out in the City of Jacksonville.

WATER QUALITY MONITORING SYSTEM

Poor water quality can contribute to a host of challenges including fish kills and algae, both of which can have a harmful effect on the river, its aquatic life and all living creatures.

TRIBUTARY ASSESSMENT

In the Lower St. Johns River, 55 tributaries of the St. Johns River were initially verified as impaired for fecal coliform bacteria. These tributaries are located throughout Duval County and in small portions of Clay and St. Johns counties. As of the 2009 assessment, FDEP has verified a total of 75 tributaries of the Lower St. Johns River as impaired for fecal coliform bacteria and TMDLs must be developed for these waterbodies.

Since 2006, the Tributary Assessment Team (TAT) has been working to monitor and assess these impaired tributaries, and to identify and reduce sources of bacterial contamination. This work by local stakeholders, in conjunction with FDEP, forms the basis for the development of individual TMDLs and BMAPs to restore and protect water quality in the impaired waterbodies. The TAT was recognized in November 2009 with a national Coastal America Spirit Award for their efforts to create a collaborative approach to improving water quality in the Lower St. Johns River Basin.

MAIN STEM ASSESSMENT

When too much nitrogen and phosphorus are introduced into a waterway, increases in their concentrations may trigger algal blooms. Nitrogen and phosphorus themselves occur naturally, but an overabundance can cause significant imbalances in the St. Johns River's ecology, which can cause blooms.

Summer and early fall are the times of year that the St. Johns River typically exhibits its most visible response to water quality problems. Algal blooms on the river can be dramatic and are a result of excess nutrients from fertilizer, wastewater and stormwater runoff, coinciding with lots of sunlight, warm temperatures and a wide, shallow river.

An algal bloom is a rapid increase in the population of algae in an aquatic system. Algae can multiply quickly in waterways with an overabundance of nitrogen and phosphorus, particularly when the water is warm and the weather is calm. This proliferation causes "blooms" of algae that turn the water green, often with floating layers of green scum.

When algal blooms block sunlight from reaching underwater plants, an ecosystem can be impacted. As with most plants, sunlight is vital for the growth of aquatic vegetation, which provides food and a place to live and grow for fish and animals. Blooms can last for months at a time, which can harm a waterway's ecosystem by causing declines in dissolved oxygen, underwater plant growth and fish populations.

In the lower St. Johns River, as algae move downstream from fresh waters into saltier waters, they begin to become stressed and die. Dying algae lower levels of dissolved oxygen in the water, which fish and other aquatic animals breathe. Some fish species with little tolerance for low levels of dissolved oxygen may die. In addition, some algal species can directly lead to fish kills, either by ingestion of algal toxins or by clogging the gills.

MUNICIPAL SEPARATE SEWER SYSTEM (MS4)

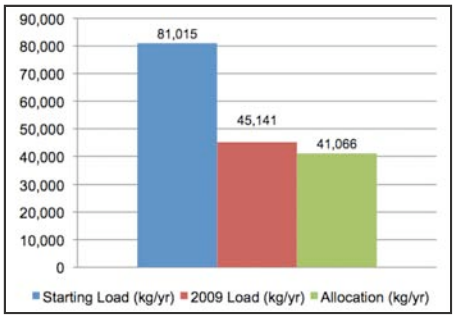


FIGURE 2: WWTF PROGRESS TOWARDS THE TP FRESHWATER TMDL

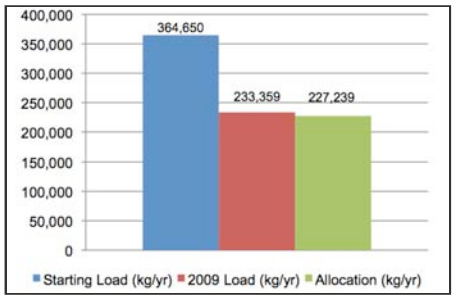


FIGURE 3: WWTF PROGRESS TOWARDS THE TN FRESHWATER TMDL

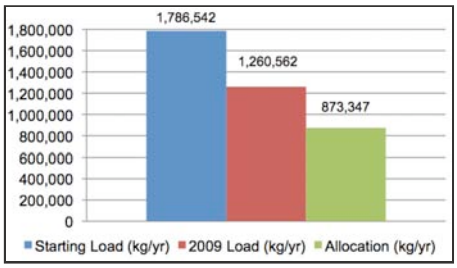


FIGURE 4: WWTF PROGRESS TOWARDS THE TN MARINE TMDL

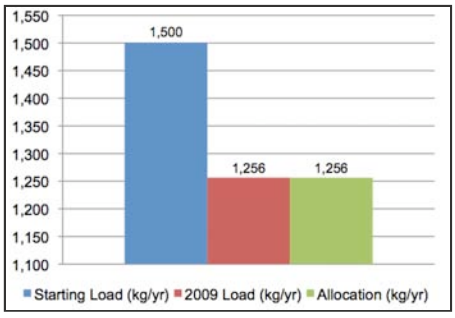


FIGURE 5: MS4 PROGRESS TOWARDS THE TP FRESHWATER TMDL

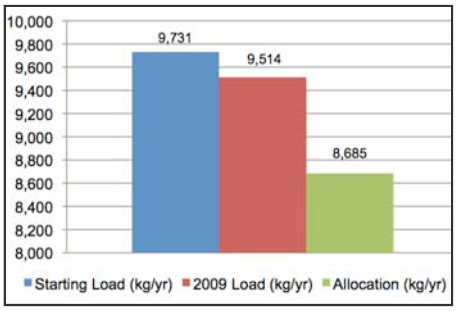


FIGURE 6: MS4 PROGRESS TOWARDS THE TN FRESHWATER TMDL

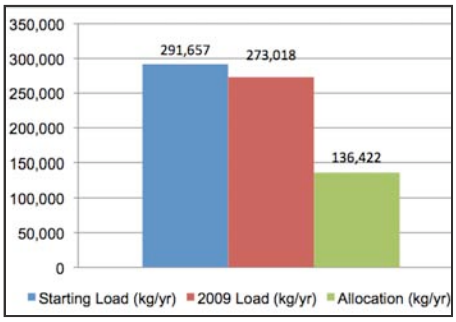


FIGURE 7: MS4 PROGRESS TOWARDS THE TN MARINE TMDL

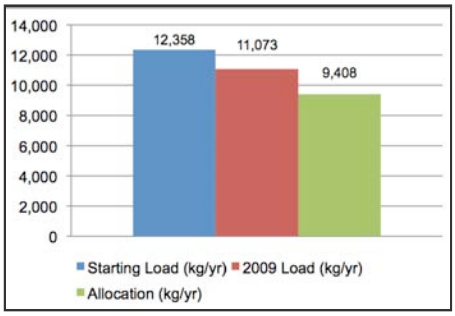


FIGURE 8: NON-MS4 PROGRESS TOWARDS THE TP FRESHWATER TMDL

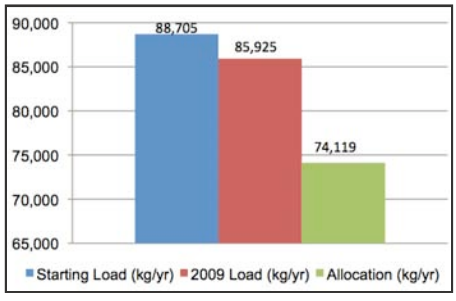


FIGURE 9: NON-MS4 PROGRESS TOWARDS THE TN FRESHWATER TMDL

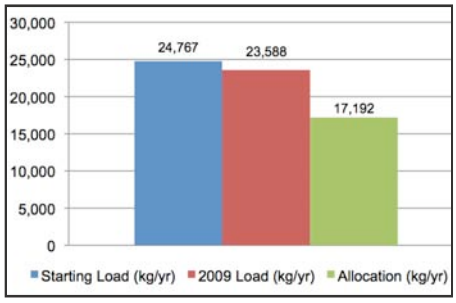


FIGURE 10: NON-MS4 PROGRESS TOWARDS THE TN MARINE TMDL

While the possibility of algal toxins in the environment is a serious concern, the more common problem associated with harmful algal blooms is the impact upon recreational activities and commerce due to the unsightly green scum and accompanying unpleasant odor.

SJRWMD scientists regularly monitor algal growth in the river and routinely collect water and algae samples, particularly during periods when conditions are right for algal proliferation. When an algal bloom is observed and samples are collected, additional tests are conducted to determine if algal toxins are present. SJRWMD staff provide results to other agencies, including the Florida Department of Health (which is responsible for sharing the information with county health units) and FDEP.

Tracking Sedimentation & Stormwater Management

Over the years, humans have used the St. Johns River and its tributaries for the disposal of many different wastes and contaminants. Direct discharges from industrial operations, military installations and wastewater treatment plants introduce contaminants such as toxic metals, pesticides, oil and grease lubricants. Indirect discharges from rainfall runoff wash soil, dust, soot and contaminants from roads, parking lots, agricultural fields, and commercial and residential areas. These contaminants, that are either directly discharged or wash off the land, will attach to suspended particles in the water, and eventually settle on the riverbed.

Contaminants on the riverbed are not easily removed because they degrade very slowly or not at all. The toxicity of these contaminants may threaten sediment-dwelling organisms and vegetative communities, and the aquatic food web that depends on them. Consequently, contaminant-free sediments are critical to maintaining a healthy river. Therefore, sampling the river to understand the distribution and characterization of toxic substances in sediments is

important to developing source control measures and remediation measures such as the dredging of contaminated sediments.

Current contaminant source control measures include the Cedar River regional stormwater treatment system that captures contaminants and prevents them from being carried downstream into the Ortega and St. Johns rivers. Enhancements to wastewater treatment facilities and pulp and paper operations have also contributed to the control of contaminant discharges. Regulations are being developed for mercury under a statewide or regional TMDL. Numerous contaminant remediation projects around the Jacksonville Naval Air Station have been completed. Plans for the remediation of contamination in Big Fishweir Creek have been developed, and implementation will begin when funding becomes available. Remediation in the Tallyrand and Deer Creek areas is anticipated as strategies are developed to manage this contamination.

The river and its tributaries have been filling with silt at an alarming rate during the past two decades, and millions of dollars must regularly be spent to dredge the channel to Jacksonville's seaport. In order to facilitate compliance with existing laws and regulations regarding siltation, the partners will join with the University of North Florida Environmental Center to deploy monitors to track the amount of silt in the water. The monitors will radio the data in real time, allowing officials to better enforce environmental requirements. The City will seek federal funding for the program, which is projected to cost $1.5 million.

The quality of runoff entering the Lower St. Johns River Basin and its tributaries from the City's Municipal Separate Storm Sewer System (MS4) is materially important to the overall health of the St. Johns River and must be improved significantly. Some of the planned projects to improve storm sewer discharges to the Lower St. Johns River are described below.

PROJECT	DRAINAGE BASIN	STATUS	TREATMENT
Air Liquide Pond Retrofit	McCoy Creek	Beginning Design	Wet Detention
Country Creek Area Drainage Improvements		Beginning Design	Wet Detention
Hamilton Jersey Outfall	Big Fishweir Creek	Beginning Design	
Hugh Edwards Road Drainage	Cedar River	Under Construction	Erosion Control
McCoys Creek Pond C	McCoys Creek	Beginning Design	Wet Detention
Melba/Green Street	McCoys Creek	Under Construction	Wet Detention
Mireulo Circle	New Rose Creek	Beginning Design	
Newtown Drainage main trunk-line improvement (Myrtle & Beaver)	McCoys Creek	Design	Flood Control Only
Pine Forest/Larsen Acres	New Rose Creek	Under Construction	Wet Detention
Pinedale Area	Cedar River	Design	Wet Detention
Putnum/Hudnall Area Drainage	Little Pottsburg Creek	Complete	Wet Detention
Riverview Area Drainage (South)	Ribault River	Completed	Flood Control Only
Smith Broward Pond	McCoy Creek	Bidding	Wet Detention
Venetia Terrace Drainage	Ortega River	Preparing to Bid	Continuous Deflective Separation Unit
Woodland Acres/Oakwood Villa Area Drainage Phase I	Strawberry Creek	Under Construction	Wet Detention
Sandalwood Canal	Hogpen Creek	Complete	Erosion Control & Wet Detention
I03rd St Regional Stormwater Facility	McGirts Creek	Complete	Wet Detention

There are currently three full time technicians in Duval County inspecting construction sites and responding to citizen complaints. Contractors found to be outside of required control measures are:

- First, given a verbal warning with a time allowance to correct discrepancies;
- A written *Notice to Correct* will be issued if the site continues to be in violation, and
- the third step is a citation.

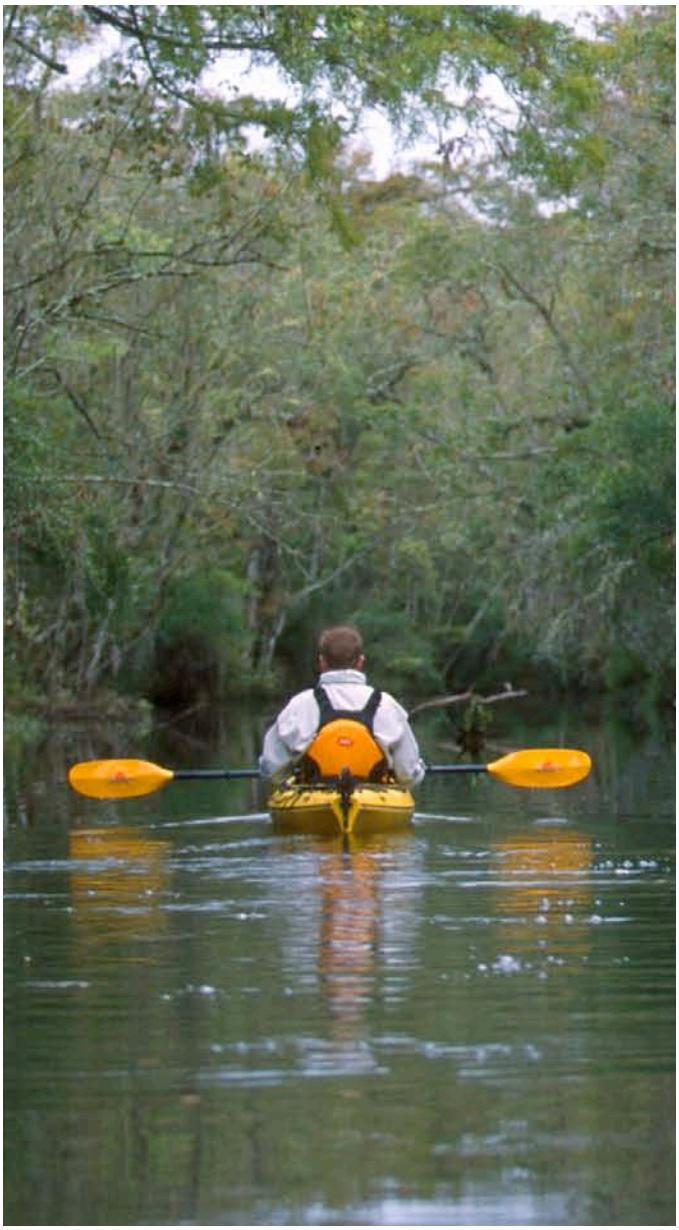
Routine inspections are conducted to ensure compliance and preclude water quality violations. In the past twelve months, the Erosion and Sediment Control (ESC) inspection team has conducted 2,566 routine inspections of construction sites. There have been 16 enforcement cases during the same time period.

IMPROVING ACCESS

Past studies have shown that there are inadequate opportunities for residents to enjoy the river and its tributaries in Jacksonville.

To address these needs, *The River Accord*, along with its Preservation Project partners, is working to improve river access. Below is a map of public access areas with updates in the text which follows.

More details are available at
www.JaxParks.com



HUGUENOT MEMORIAL PARK

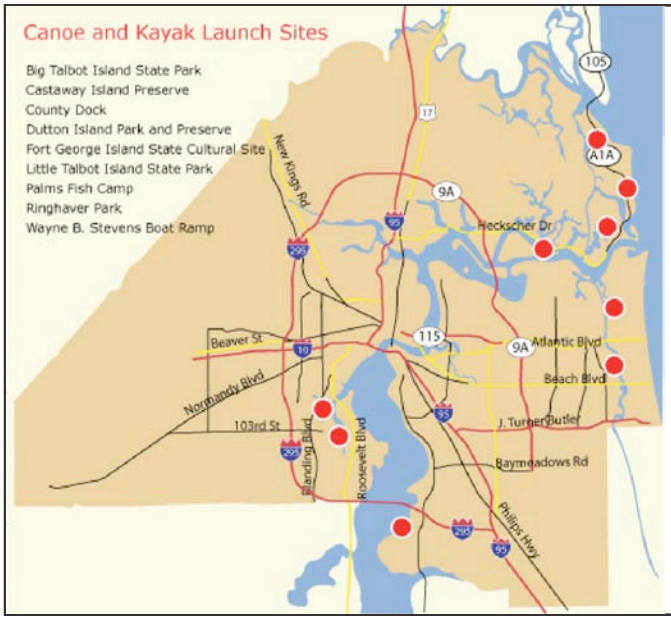
• Design of a 178 space parking area adjacent to the park's picnic shelters at Family Beach is currently underway. Pending issuance of permits and availability of funding, construction may begin in February, 2011.

CEDAR POINT PRESERVE

• Boat ramp construction is complete and open to the public as of August 25, 2009. A new restroom and parking improvements will be adopted by the National Park Service in the summer of 2010.

METROPOLITAN PARK MARINA

• Installation of power pedestal service stations that allow boaters to hook-up to electricity and water at all 76 marina slips has been completed. Improvements to the uplands surrounding the docks were also completed in April, 2010.



NATURE PARKS

1. Arlington Lions Club Park
2. Bethesda Park
3. Blue Cypress Park
4. Camp Tomahawk
5. Castaway Island Preserve
6. Crystal Springs Road Park
7. Kathryn Abbey Hanna Park
8. Huguenot Memorial Park
9. Jacksonville-Baldwin Rail Trail
10. Lonnie Miller Regional Park
11. Mandarin Park
12. Pope Duval Park & Urban Fishing Pond
13. Ortega Stream Valley at Ringhaver Park
14. Treaty Oak
15. Tree Hill Nature Center
16. Tillie K. Fowler Regional Park

Barbara Goodman, Superintendent, National Park Service; Mayor Peyton; Linda King; Nathan Rezeau, Chief of Waterfront Management and Programming, City of Jacksonville; Roslyn Mixon-Phillips, Director of Recreation and Community Services, City of Jacksonville.

REDDIE POINT PRESERVE IN ARLINGTON

• Development of a park drive, signage, trails, picnic areas and parking have been completed as of May 1, 2010

BETZ TIGER POINT PRESERVE

(Adjacent to Pumpkin Hill Creek).

• Phase one amenities to include entrance signage, parking area, walking trail, boardwalk, interpretive signs and a canoe/kayak tie-up is currently under construction. Construction began March 5, 2010 and is expected to be substantially complete by August, 2010

TIMUCUAN MULTI-USE TRAIL

• Create a 15 mile multi-use/multi-partnership trail linking Hanna, Huguenot and the Talbot Islands State Parks all the way up to Amelia Island. Second phase (Big Talbot Island State park segment) design is complete and should go to construction contract bid in fall, 2010.

JIM KING PARK AND BOAT RAMP AT SISTER'S CREEK

Kayak/Canoe Launch and Dump Station

• Boardwalk with a canoe/kayak launch floating dock was completed in February, 2010.

• Design of pump-out station is at 90%; expect to have construction contract out to bid by winter, 2010.

CASTAWAY ISLAND PRESERVE

• Dredge channel to existing canoe/kayak launch was completed in January, 2010.

• Construction of the trail expansion was completed in January, 2010.

RIVER TAXI

• River taxi from to Fort Caroline to Sisters Creek Marina to Kingsley to Alimacani Park: anticipate construction of floating dock and boardwalk to begin by August, 2010.

THOMAS CREEK BOAT RAMP PHASE II

• Construction on restrooms, parking and picnic pavilion is expected to begin by September, 2010.

ALIMACANI BOAT RAMP

• Shoreline Stabilization. Anticipate construction to begin by July, 2010.

HARBORVIEW BOAT RAMP

• Restrooms and floating docks. Docks are complete; design of restroom will be complete by August, 2010. Anticipate construction of restroom to begin by winter, 2010.

JOE CARLUCCI BOAT RAMP

• Increase the available parking. Currently at 100% design; funding for construction has been applied for (FIND grant) and award notification will be September 2010. Design complete, anticipate construction to begin in February, 2011.

MANDARIN BOAT RAMP

• Increase available parking. Design complete; anticipate construction to begin by July, 2010.

MICHAEL SCANLON BOAT RAMP (MAYPORT)

• Replace restroom. Design complete; construction underway and expect completion by August, 2010.

SAL TAYLOR CREEK PRESERVE

• Construct pavilion, restrooms, parking and trails. Currently at 90% design.

TROUT RIVER FISHING PIER

• Fishing pier improvements. Design of the north and south sides of the pier is underway.

KATHRYN ABBEY HANNA PARK

• Campground electric upgrade to 50 amp service. Contract out to bid. Expect construction to begin after Labor Day, 2010.

ARLINGTON RIVER DREDGE

• Dredge 25-foot wide channel to a 5 foot depth from mouth of river to Pottsburg Creek Boat Ramp, and replace channel markers. Design to begin summer, 2010.

The gangway and floating dock at the Jim King Park and Boat Ramp at Sisters Creek Marina

THE RIVER ACCORD

A PARTNERSHIP FOR THE ST. JOHNS

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