

St. Johns River Accord 2014 Annual Progress Report

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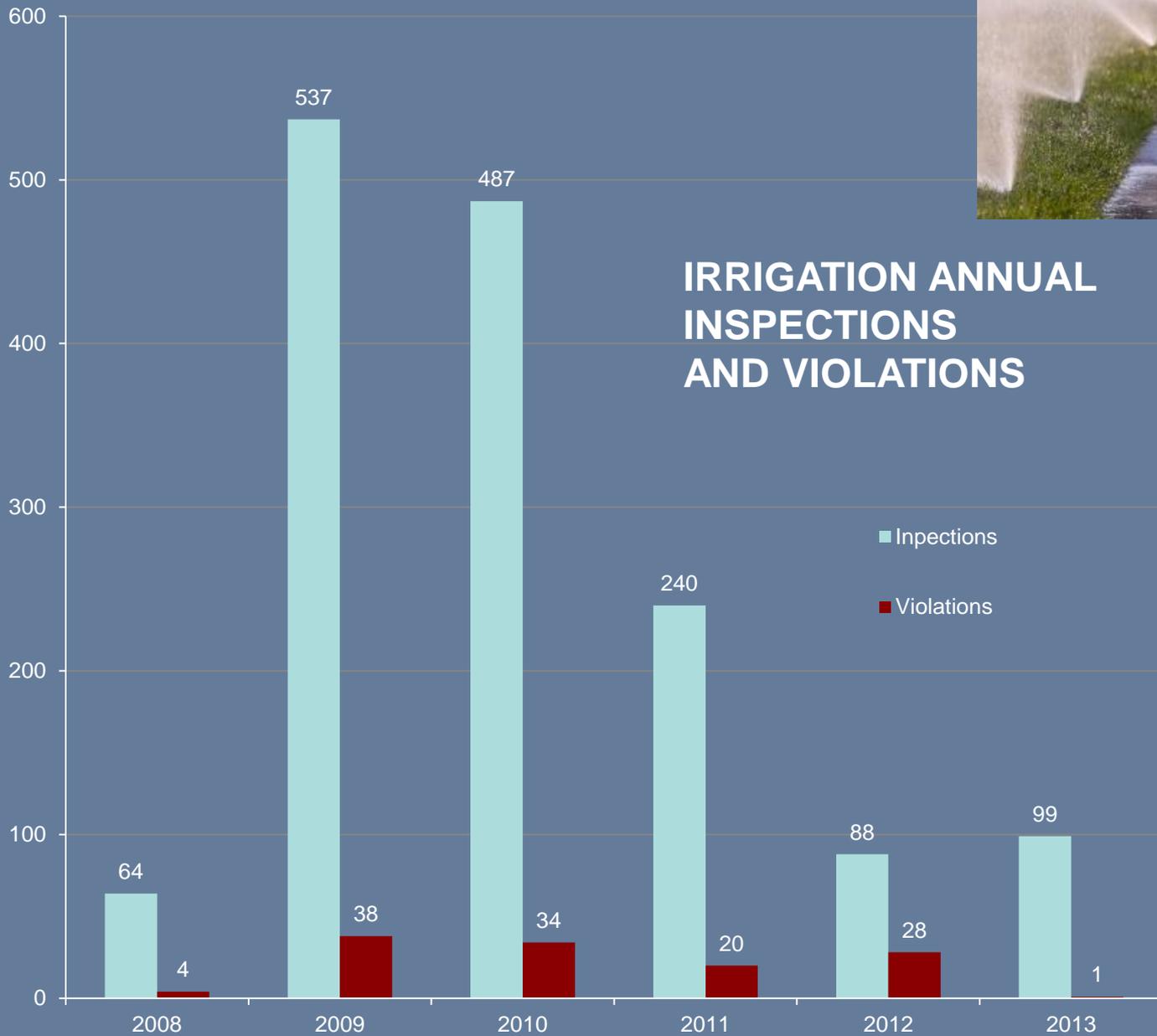
Picture courtesy of Barry Cotter



City of Jacksonville Progress



IRRIGATION ANNUAL INSPECTIONS AND VIOLATIONS





Stormwater Utility :

- 840 square miles
- 53,981 Catch Basins/Inlets
- 11824 Manholes
- 1389 miles of pipe
- 216 City maintained ponds
- 424 major outfalls
- 1193 miles of ditches
- 10 pump stations
- \$ 38.5 million annual budget

Construction Projects - I

Project	Drainage Basin	Status	Treatment
Melba/Green Street	LSJR Trout River	Complete	Flood Control Only
Smith Broward Pond	LSJR Trout River	Complete	Wet Detention
Woodland Acres/Oakwood Villa Area Drainage Phase I	Arlington River	Complete	Wet Detention
Hugh Edwards Road Drainage	Ortega River	Complete	Wet Detention
Pine Forest/Larsen Acres	LSJR Trout River	Complete	Wet Detention
Upper Deer Creek Phase 3	LSJR Trout River	Complete	Wet Detention
Venetia Terrace Drainage	Ortega River	Complete	Erosion Control & Wet Detention
Newtown Drainage main trunk-line improvement (Myrtle & Beaver)	LSJR Trout River	1 st Phase of construction Complete	Wet Detention

Construction Projects - II

Project	Drainage Basin	Status	Treatment
McCoys Creek Pond C	LSJR Trout River	Complete	Wet Detention
Air Liquide Pond Retrofit	LSJR Trout River	Under Construction	Wet Detention
Mireulo Circle	LSJR Trout River	Under Construction	Flood Control Only
Paul Avenue Outfall	LSJR Trout River	Complete	Wet Detention
Hamilton Jersey Outfall	LSJR Trout River	Under Construction	Erosion Control
Pinedale Area	Ortega River	Design in Progress	Flood Control Only
Country Creek Area Drainage Improvements	Ortega River	Under Construction	Wet Detention

Construction Projects - III

Project	Drainage Basin	Status	Treatment
Avenue "B"/Zinia Outfall	Trout River	Design in Progress	Erosion Control Only
Crystal Springs Area	Ortega River	Design in Progress	Wet Detention
Bunche Rd. Drainage	Trout River	Under Construction	Wet Detention
Noroad/Lambing Drainage	Ortega River Basin	Design in Progress	Wet Detention
Old Plank Rd. Drainage	Ortega River Basin	Design in Progress	Wet Detention
Mandarin Area Drainage (Grand Crique)	LSJR Upstream of Trout River	Design in Progress	Wet Detention
County Creek Area	Ortega River	Under Construction	Flood Control Only
Messer Area Drainage	LSJR	Design in Progress	Flood Control Only
Septic Tank Phase-Out Program	LSJR	Phase I - Design Beginning	Water Quality
City-Wide Drainage System Rehabilitation	LSJR - Countywide	Under Construction	Erosion Control & Flood Control

Improving Public Access

JaxParks Water Access Map

- 1 Palmetto Leaves Park, 13799 Old St. Augustine Road
- 2 Hood Landing, 12804 Hood Landing Road
- 3 Mandarin Park, 14780 Mandarin Road
- 4 County Dock, 2403 County Dock Road
- 5 Goodby's Lake, 9021 San Jose Blvd.
- 6 Nathan Krestul Park, 2001 LaVaca Road
- 7 Ringhaver Park, 5198 118th St.
- 8 Wayne B. Stevens, 4555 Ortega Farms Blvd.
- 9 Curtis Lee Johnson Marina Park, 5434 San Juan Ave.
- 10 Seminole Park, 4170 McGirts Blvd.
- 11 Stinson Park, 4050 San Juan Ave.
- 12 Bakersfield Drive, 6814 Bakersfield Drive
- 13 River Oaks Park, 1201 Brookwood Road
- 14 Chelsea Street, east end of Chelsea St.
- 15 St. John's Marina, 901 Museum Circle
- 16 Southbank Riverwalk, Water taxi dock near Chart House
- 17 Bee Street Park, Bee St. and Utah Ave.
- 18 Metro Park Marina, 4110 Gator Bowl Drive
- 19 Catherine Street, north end of Catherine St.
- 20 Martha Ann Drive, 5112 Martha Ann Drive
- 21 Pottsborg Creek/Beach Boulevard, 8540 Beach Blvd.
- 22 Arlington Road, 5103 Arlington Road
- 23 Blue Cypress Park, 4012 University Blvd. N.
- 24 Arlington Lions Club Park, 4322 Richard D. Gatlin Road
- 25 Reddie Point Preserve, 4499 Yachtsman Way
- 26 Lonnie Wurn, 4131 Ferber Road
- 27 North Shore Park, 7901 Pearl St.
- 28 Bert Maxwell, 680 Broward Road
- 29 TK. Stokes, 2120 Riverview Ave.
- 30 Riverview Park, 9620 E. Water St.
- 31 Ribault River Preserve, 2617 Ribault Scenic Drive
- 32 Harborview, 4100 Harbor View Drive
- 33 Charles Reese Memorial Park, 1200 Ken Knight Drive
- 34 Dinsmore, 11001 New Kings Road
- 35 Thomas Creek Preserve, 17198 Ethel Road
- 36 New Berlin, 9002 Frederick St.
- 37 Fulton Road Landing, 5099 Fulton Road
- 38 Palms Fish Camp, 6359 Heckscher Drive
- 39 Joe Carlucci, 8414 Heritage River Road
- 40 Sister's Creek Marina/Jim King Park, 8203 Heckscher Drive
- 41 Cedar Point Preserve, 9023 Cedar Point Road
- 42 Pumpkin Hill Creek Preserve, 13990 Pumpkin Hill Road
- 43 Big Talbot Island State Park, 15500 Heckscher Drive
- 44 Kayak Amelia, 13030 Heckscher Drive
- 45 Fort George Island (Ribault Club), 11241 Fort George Road
- 46 Almacani, 11080 Heckscher Drive
- 47 Haulover Creek, 10980 Heckscher Drive
- 48 Huguenot Memorial Park, 10980 Heckscher Drive
- 49 Mayport (Michael B. Scanlon), 4870 Ocean St.
- 50 Oak Harbor, 2428 Seaway St.
- 51 Dutton Island Preserve, end of Dutton Island Drive
- 52 Castaway Island Preserve, 2921 San Pablo Road S.
- 53 McCue Park and Boat Ramp, 2510 2nd Ave. N.
- 54 Cradle Creek Preserve, 15th St. South & Fairway Lane



● Motorized watercraft	● Non-motorized watercraft
● Motorized and non-motorized	MAP KEY

Ortega River Channel Markers

- Installed 8 new channel markers and replaced 3 buoys.

Trout River Pier

- Major renovation of south end of the Trout River fishing pier is ongoing and should be completed by September 2014.

Michael B. Scanlan Mayport Boat Ramp

- Construction begun on new floating docks at this popular boat ramp.
- To be completed by October 2014.



Ortega River

Arlington River Dredge

- Completed dredge design for Arlington River from St. Johns River to the boat ramp at Beach Blvd.
- Construction to begin in 2015, pending award of FIND grant.

St. Johns River Blueway

- The State officially designated the St. Johns River as a paddling trail or “blueway.”
- Designation will lead to economic development of nature-based tourism for communities along the river.

Exchange Club Island Park

- Completed design of park development:
 - Floating dock
 - Kayak landing
 - Picnic shelters (2)
 - Nature trail
- Construction to begin in 2015, pending award of FIND grant.



Jim King Park and Boat Ramp at Sisters Creek

- Completed design for moving the boater access docks into deeper water and adding more lighting to the parking lot.
- Lighting to be installed later this year.
- Dock project to begin in 2015, pending award of FIND grant.

County Dock Boat Ramp

- Completed design for ramp replacement, parking improvements and removal of navigational hazards.
- Construction to begin in 2015, pending award of FIND grant.

Northbank Riverwalk Reroute Project

- Completed design for rerouting a short section of the Northbank Riverwalk at the end of Forest Street. The design includes an accessible kayak launch.
- Construction to begin in 2015, pending award of FIND grant.

Blue Cypress/Arlington Lions Club Boardwalk

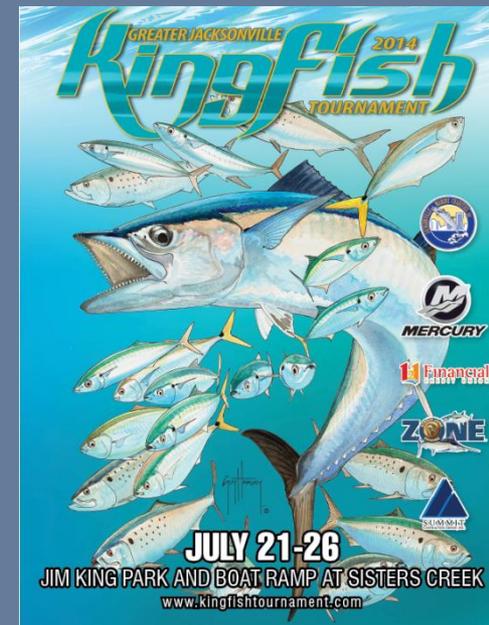
- Completed design for 800 ft. extension of the shoreline boardwalk.
- Construction to begin in 2015, pending award of FIND grant.

Mike McCue Boat Ramp Lighting

- Completed design for adding lights to this popular boat ramp on ICW at Beach Blvd.
- Installation to begin later this year.

Greater Jacksonville Kingfish Tournament

- Another successful year!
- 230 boats competed for cash and prizes
- Youth involvement:
 - 116 in Jr. Angler Off-Shore Tournament
 - 86 in Jr. Angler Dock Tournament
 - 63 from JaxParks Summer Camp



J E A Progress

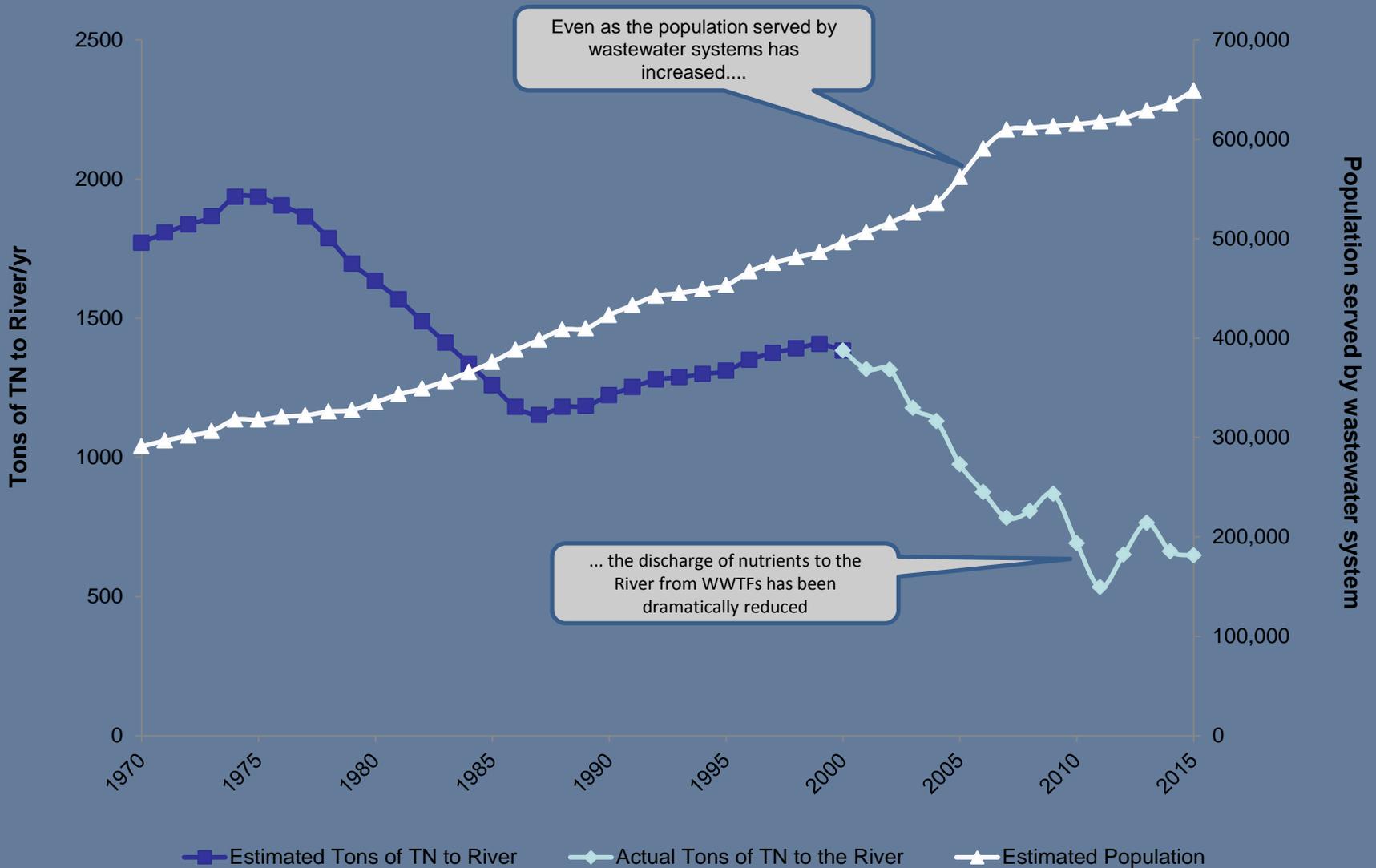


JEA Progress - Wastewater

- In the last year, JEA fulfilled its remaining commitments for the River Accord in regards to wastewater improvement projects
 - A \$22 million dollar improvement project at the Buckman Water Reclamation Facility was completed in September of 2013.
 - JEA completed the last 3 phase outs of older technology treatment plants.
 - These projects also complete JEA's nutrient reduction obligations under the LSJR TMDL and BMAP
- The total projects JEA has completed to date are expected to result in a reduction of over 1,500,000 lbs./yr. of nitrogen entering the St. Johns River.
 - JEA's loading will be reduced from 1400 tons of TN/yr in 2000 to less than 700 Tons TN/yr, a reduction of over 50%



Nitrogen Loading to the River in Duval Co. from Wastewater Treatment



JEA Progress-Reuse

- JEA has completed 185 miles of reclaimed pipe.
 - JEA added more than 1200 new reuse customers last year.
- 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.



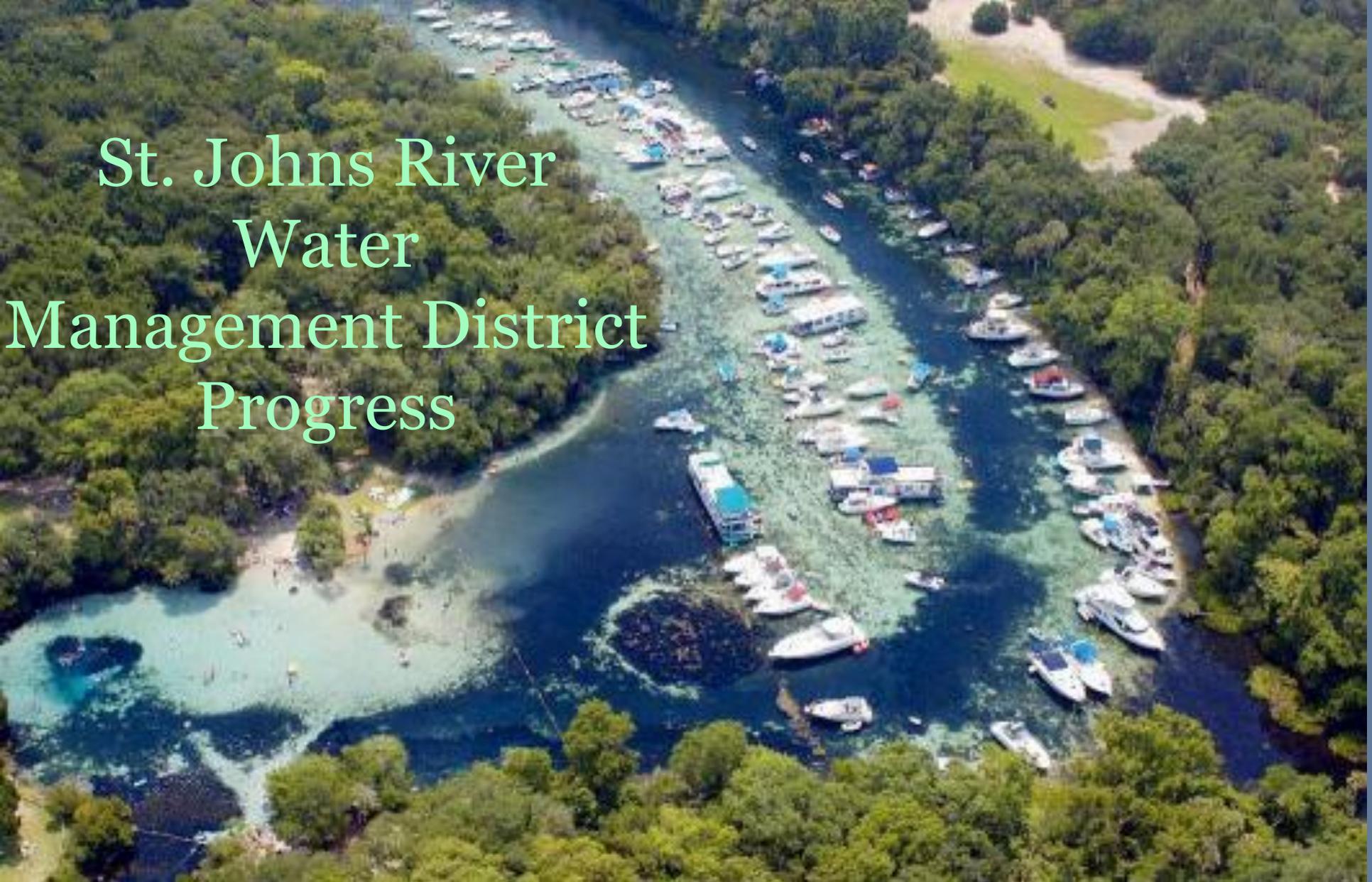
Florida Department of Health Duval County

- **1,145** properties within impaired WBIDs were provided septic tank-related outreach, educational materials and inspections
- **92** were discovered to be connected to JEA
- **34** parcels were vacant
- **13** property owners refused access
- **21** properties received official notices to correct sanitary nuisance violations

Violations included direct laundry discharge and sewage on the ground surface, unsealed and broken septic tank lids, damaged drainfields, collapsed septic tanks, plumbing back-up, and illicit discharge pipes.

Enforcement continued until all sanitary nuisances were abated.

St. Johns River Water Management District Progress



SJRWMD reuse and treatment plant improvement partnership

- SJRWMD and the state have contributed \$46.5 million to date.
- Partnership projects completed:
 - Atlantic Beach
 - Jacksonville Beach
 - Neptune Beach
 - JEA
 - Clay County
 - Orange Park
- Continue cost-share funding for nutrient reduction projects benefiting the river and springs.

SJRWMD reuse and treatment plant improvement partnership

- **NAS Jacksonville (U.S. Navy)** — \$4.2 million (\$2.2 million Navy, \$2 million State) Remove all treated wastewater from the river (except in wet weather) and apply it for reuse and sprayfields on Station. Estimated TN reduction to river by 2015: 54,412 lbs/yr.
 - Phase I construction by city of Jacksonville from Station reuse pond to Station golf course complete (\$400,000 State grant).
 - Phase II construction by city of Jacksonville from the Station reuse pond to the South Antenna Farm completed in 2014 under \$1.4 million State grant.
- **City of Palatka** — \$3.9 million. Improvements to WWTP and extension of reclaimed water system.
 - Final improvements to reclaimed water system to be complete Sept. 30, 2014.
- **Clay County Utility Authority** — \$5.5 million (50/50 cost share CCUA and SJRWMD) Storage reservoir at Mid-Clay WWTF. 9,961 lbs./yr. TN reduction to river with a 1.09 mgd reduction in groundwater withdrawals from the Floridan aquifer.
 - Agreement initiated FY 2013 extending through FY 2015 for LARS.

Next steps: Upstream efforts

- **Tri-county Agricultural Area (TCAA)**

- State appropriation to construct an additional agricultural runoff treatment facility near Hastings
 - Treatment of 1,425 acres draining to Deep Creek
- Construction to begin on FDACS-funded regional treatment within the Deep Creek Watershed
- Year 2 of Tri-County Agricultural Area Water Management Partnership
 - Led by FDACS with funding support from SJRWMD (\$1.5 million), Legislature (\$750,000) and FDEP (\$1.9 million)
 - 12 projects approved for funding
 - Fertilizer banding equipment for 12 growers
 - Fertilizer banding may decrease phosphorus fertilizer rates by 30 percent

- **Lake George gizzard shad harvest**

- 1.17 million lbs. harvested June-September 2013 (approximately 8,000-9,000 lbs. of TP removed)
- Year 2 of gizzard shad harvest initiated June 2014.

Next steps: LSJRB

- CCUA Land Application and Recovery Site (LARS)
 - In-soil storage of reclaimed water during periods of low demand for distribution during high demand periods.
 - 2.2 mgd storage capacity
 - 19,374 lbs. reduction in nitrogen
 - \$2.43 million total (SJRWMD \$1.13 million)
- Phase 1 project with NAS Jacksonville
 - Will remove all NAS Jax wastewater discharges to the river
 - 100% reuse
 - 44,525 lbs./year TN eliminated
 - 315 mgy of wastewater discharges removed from the river
 - 37 mgy potable water offset
- Continue TCAA-WMP

Related SJRWMD activities

- Continued river and estuary biweekly water quality and plankton sampling.
- Continued funding the Fisheries Independent Monitoring freshwater expansion.
- Improved algal bloom report format, which now is sent to monitoring partners, including FDEP, FWRI, DOH.
- Began deployment of continuous water quality monitoring stations.
 - Data accessible through the District's website
- Discussions with USACE to renew submerged aquatic vegetation (SAV) sampling.

Florida Department of Environmental Protection Progress



Total Maximum Daily Loads (TMDLs)

- Science based
- Water quality targets
- Based on Florida water quality standards
- TMDLs established for:
 - Lower St. Johns River (LSJR) Main Stem
 - LSJR Tributaries

Basin Management Action Plans (BMAPs) adopted to address TMDLs:

- LSJR Main Stem BMAP
 - for nutrients – October 2008
- LSJR Tributaries BMAP 1
 - for fecal coliforms – December 2009
- LSJR Tributaries BMAP 2
 - for fecal coliforms – August 2010

BMAP Progress

- BMAP stakeholders report project progress and monitoring results annually . They also meet annually to review the events of the past year and steps moving forward.
- Adopted BMAPs and annual progress reports can be found on FDEP's website at:
<http://www.dep.state.fl.us/water/watersheds/bmap.htm>

Tributaries BMAP I

- The first tributaries BMAP addressed the 10 worst-case tributaries impaired for fecal coliforms.
- December 2014, the first BMAP will have been adopted for 5 years.
- Stakeholders are conducting field investigations to prepare for the next 5 year plan.



Source ID Monitoring

- FDEP is using strategic source ID monitoring to guide efforts.
 - Quantitative polymerase chain reaction or qPCR to determine the DNA of the bacteria.
 - Artificial sweetener called sucralose commonly known under the brand name Splenda
 - A common pain killer, acetaminophen known under the brand name Tylenol



Tributaries BMAP I Progress

- Most of these tributaries have improved since the TMDL period.

Tributary Name (BMAP I)	TMDL Median (#/100 mL) (1996- 2003)	Current Median (#/100 mL) (2009- 2013)	% Reduction
Newcastle Creek	2,500	1,000	60.0%
Hogan Creek	5,000	1,291	74.2%
Butcher Pen Creek	2,400	2,600	-8.3%
Miller Creek	5,000	4,250	15.0%
Miramar Creek	7,000	1,100	84.3%
Big Fishweir Creek	3,000	2,215	26.2%
Deer Creek	2,765	440	84.1%
Terrapin Creek	1,367	700	48.8%
Goodbys Creek	3,000	520	82.7%
Open Creek	1,000	550	45.0%

Tributaries BMAP II

- The second tributaries BMAP addressed the next 15 worst-case tributaries impaired for fecal coliforms.
- In 2015, field investigations and source ID monitoring will be performed where TMDLs are not being met to guide next 5 year plan.
- All of these tributaries have improved since the TMDL period.

Tributaries BMAP II Progress

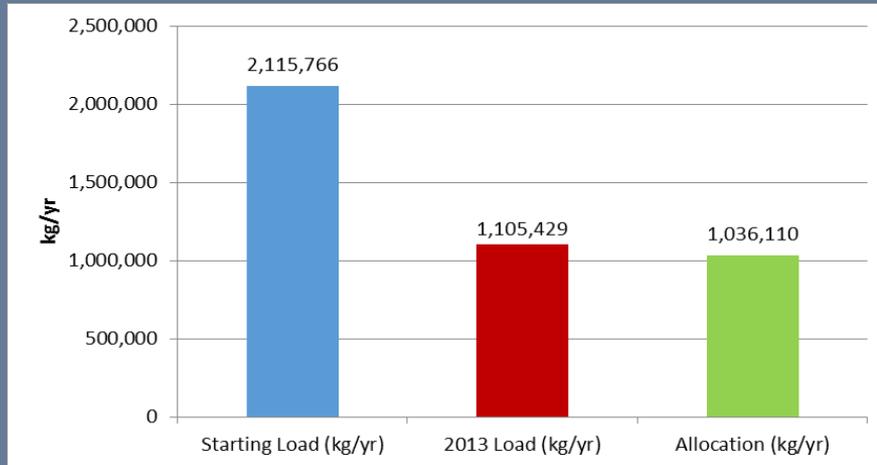
Tributary Name (BMAP II)	Data Period in TMDL	TMDL Median (#/100 mL)	Current Median (#/100 mL) (2009-2013)	% Reduction
Craig Creek	2001-2007	3,000	2,450	18.3%
Deep Bottom Creek	1991-2007	2,200	1,081	50.9%
Cormorant Branch	2001-2007	1,500	425	71.7%
Hopkins Creek	2001-2007	1,200	860	28.3%
Fishing Creek	2001-2007	1,300	450	65.4%
Blockhouse Creek	1991-2006	2,200	736	66.6%
Williamson Creek	1991-2002	2,400	2,200	8.3%
Pottsburg Creek	2001-2007	800	248	69.0%
Middle Trout River	1996-2007	1,184	360	69.6%
Greenfield Creek	2001-2007	1,354	164	87.9%
McCoy Creek	1995-2007	2,510	640	74.5%
Moncrief Creek	1991-2002	2,600	560	78.5%
Sherman Creek	1996-2008	1,400	270	80.7%
Wills Branch	1991-2002	4,000	400	90.0%
Lower Trout River	1998-2000	1,000	110	89.0%

Lower St. Johns Main Stem BMAP

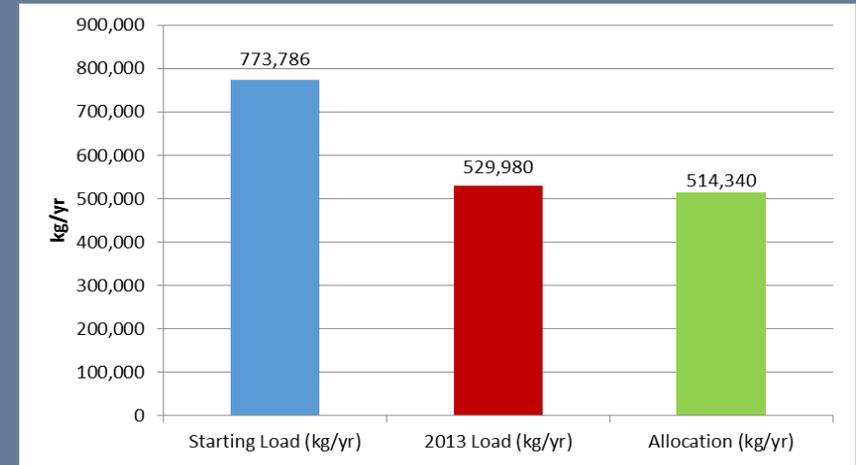
- The BMAP's 5th year assessment has been completed.
- Projects and reductions continue.

Main Stem TMDL Load Reductions

- The figures below illustrate load reductions made by the stakeholders and the remainder of nutrient loading in each river segment to achieve the TMDLs.

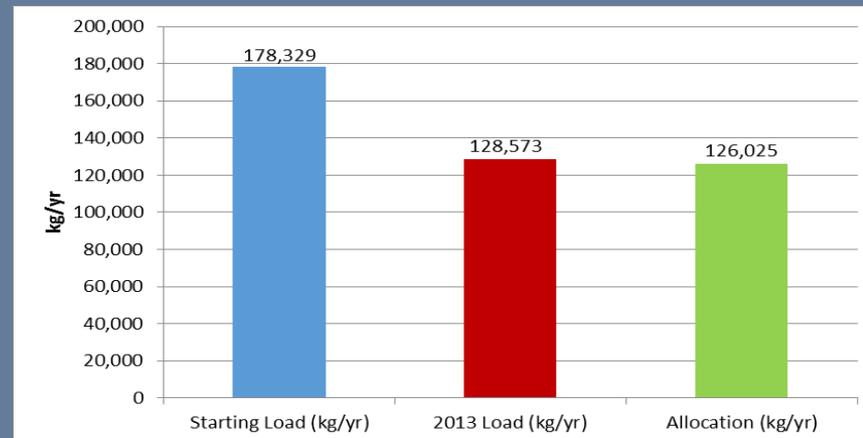


Progress towards the TN TMDL in the marine section



Progress towards the TN TMDL in the freshwater section

- “Starting Load” is based on the data period used in the TMDL.
- “2013 Load” compared to the starting load shows a significant reduction achieved.
- “Allocation” is the target.

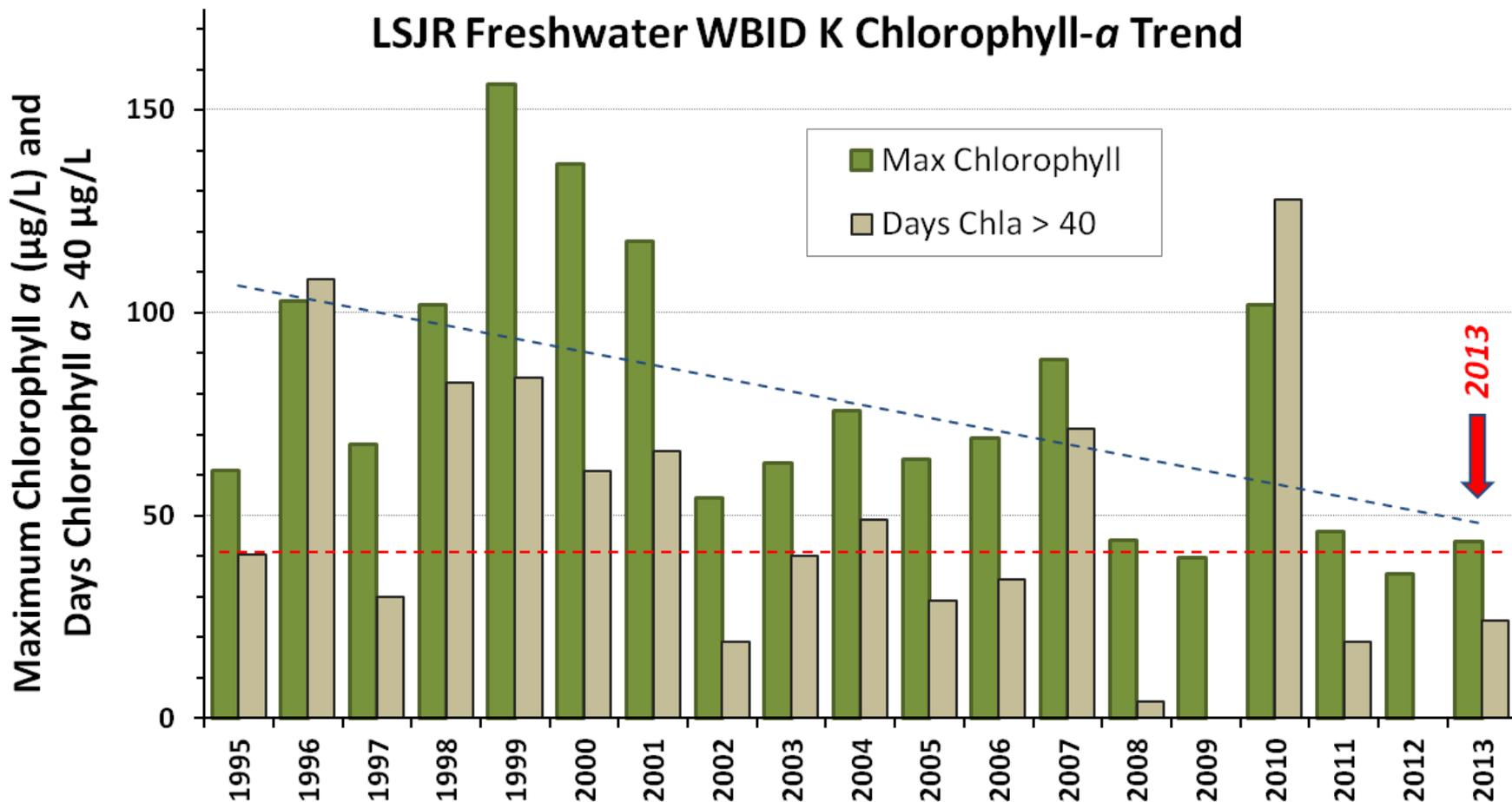


Progress towards the TP TMDL in the freshwater section

Freshwater TMDL Criteria Performance

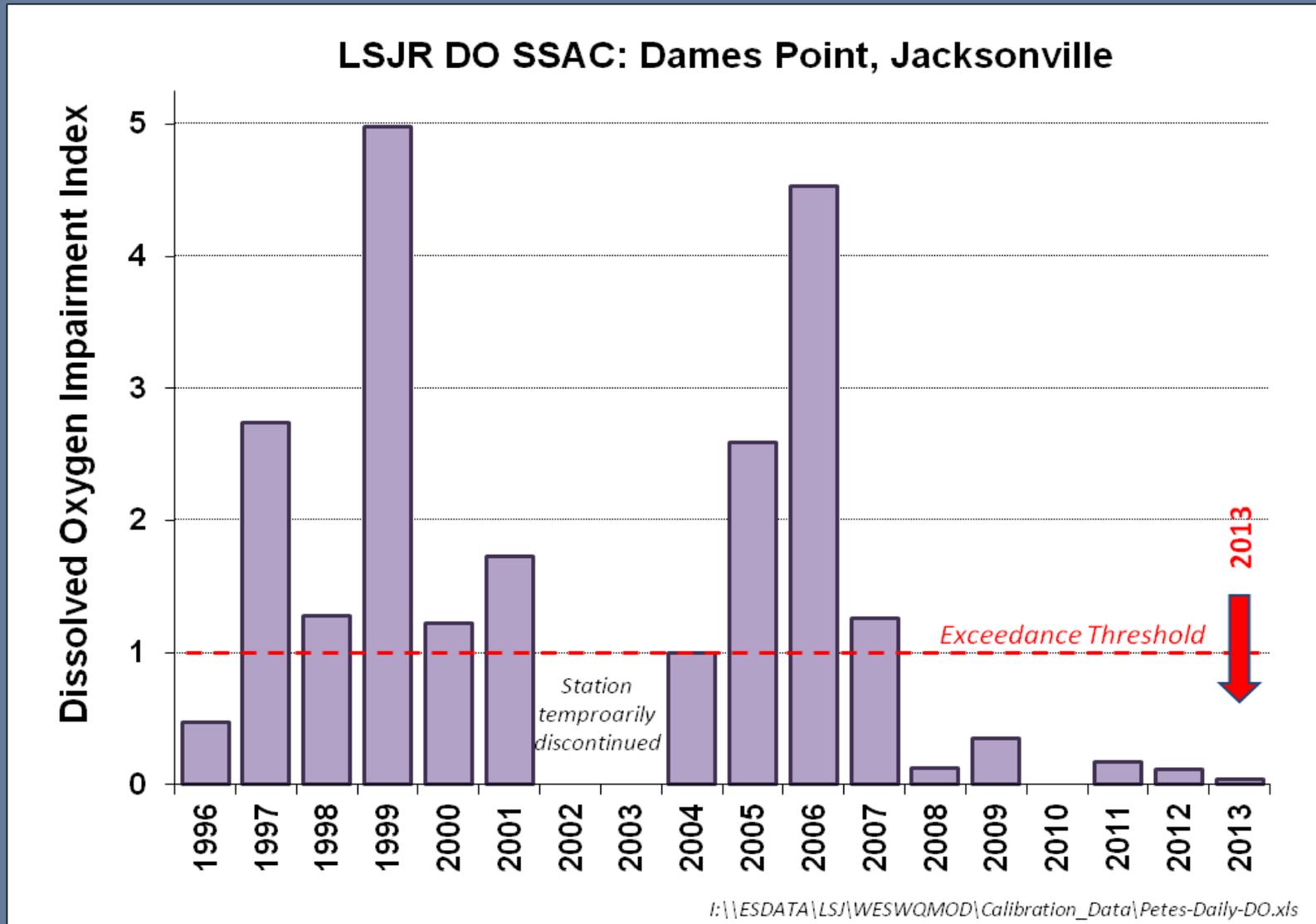
Chlorophyll-a Trends at the Racy Point Station

LSJR Freshwater WBID K Chlorophyll- α Trend



Marine TMDL Criteria Performance

Levels of Low DO Impairment Based on the LSJR Criteria for 1996-2013



and still more to come.....

