



# City of Jacksonville



Vincent A. Seibold, P.E., Chief  
Environmental Quality Division

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# Irrigation & Fertilizer

- Reduce nutrients
- Conserve water
- 30,000 handouts
- Partnering with Green Industry, Home Depot, HOAs, and Walmart
- 287 irrigation complaint responses



# Tributary Fecal Coliform and DO

- 2,092 septic tank phaseouts
- SJRWMD contract
- WSEA extend lines
- DCHD enforce septic tank compliance
- COJ enforce septic tank connection
- UTIP fund low-income connection
- PSA re environmental impacts and maintenance



# Erosion and Sediment Control

- Complement to Stormwater Utility
- Focus on new construction and pond maintenance
- 2,566 inspections past 12 months



# Stormwater Utility Purpose

- Support Jacksonville's stormwater infrastructure Operation & Maintenance needs.
- Support Jacksonville's stormwater Capital Improvement Program.
- Provide support, oversight and guidance on all of Jacksonville's stormwater management needs



# Operation & Maintenance:

- 840 sq miles
- 44,000 Catch Basins/Inlets
- 7,500 Manholes
- 1,000 miles of Pipe
- 134 Ponds
- 2,000 miles of Major Outfalls
- 4,000 miles of Roadside Ditches
- 8 Pump Stations
- \$15 million annual budget



# Capital Improvement Program

- 5 Drainage Improvement Projects completed this year
- 6 Drainage Improvement Projects started construction this year
- 7 Drainage Improvement Projects to start construction in next 6 months
- 5 New Drainage Improvement Projects started design
- 5 more New Drainage Improvement Projects will start later this year
- \$6 million annual to DSR



# Stormwater Management:

- The new City-wide Master Stormwater Management Plan
  - More extensive/accurate data
  - More accurate modeling
  - More “user friendly” technology
- Updated and improved FEMA Flood Map Program
  - More accurate maps (better define risk)
  - Tool to better manage our flood plains



# Recently opened parks/ boat ramps

- Cedar Point Preserve: boat ramp, parking area and trails
- Reddie Point Preserve: pier
- Huguenot Memorial Park Expansion: acquisition of 10 acres with waterfront access
- Palmetto Leaves Park: kayak launch



# Projects in construction

- Metro Park Marina: electric hook-up for boaters
- Betz-Tiger Point Preserve: parking area, walking trail, boardwalk, interpretive signs and a canoe/ kayak tie-up (ground breaking 10/25/09)
- Sister's Creek Park: kayak launch
- Castaway Island Preserve: trail expansion and channel dredging
- Palms Fish Camp: boat trailer parking expansion

There are 11 additional projects currently in design and expected to move to construction in the next year.



# St Johns River Water Management District

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Casey Fitzgerald  
Assistant Director  
Water Resources Department

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# Cooperative Investments

<b>SJRWMD/State</b>	<b>\$65,500,000</b>
<b>JEA</b>	<b>\$27,664,978</b>
<b>CCUA</b>	<b>\$9,961,733</b>
<b>Palatka</b>	<b>\$3,543,500</b>
<b>Jacksonville Beach</b>	<b>\$12,370,000</b>
<b>Atlantic Beach</b>	<b>\$23,000,000</b>
<b>Neptune Beach</b>	<b>\$1,600,000</b>
<b>NAS Jax</b>	<b>\$1,000,000</b>
<b>Orange Park</b>	<b>\$6,873,000</b>
<b>WSEA</b>	<b>\$3,000,000</b>
<b>Total</b>	<b>\$155,514,211</b>



## Cooperative Projects Status

- JEA Treatment and Reuse – projects completed, under construction, and finalizing design
- CCUA Reuse – under construction
- Orange Park Reuse connect – complete
- Orange Park Treatment – under construction
- Jacksonville Beach Treatment and Reuse – under construction



## Cooperative Projects Status

- Atlantic Beach Treatment and Reuse – under design
- Neptune Beach Treatment – under design
- Palatka Reuse – 80% complete (on way to zero discharge)
- NAS JAX (Navy) – design complete, match needed
- Jacksonville /WSEA Septic Tank Conversion – under construction



## Other SJRWMD LSJ Activities

- Updating Hydro and WQ Models
- Stormwater Cost Share – Palatka, Atlantic Beach, Green Cove Springs, Jax Beach
- Agricultural Nutrient Load Reduction – fertilizer and irrigation BMPs, regional treatment projects (SJRWMD, St. Johns and Putnam Counties)
- Updated SWIM Plan (2008) – expanded to include Lake George basin
- Algal Monitoring & Response Coordination
- Algal Initiative – Freshwater area and MSJ



# Water Supply Impact Study

## Purpose

- Evaluate potential environmental effects of proposed surface water withdrawals on the biological and water resources of the Ocklawaha and St. Johns rivers (2-yr/\$2M)

## Structure

- Seven working groups: hydrologic and hydrodynamic modeling; biogeochemistry; plankton; benthos; littoral zone; fish; wetlands and wetland-dependent species



# Water Supply Impact Study

- Thirteen national/international experts
- National Academy of Sciences peer review in process
- Second Technical Symposium  
September 23-24 @ UF Hilton
  - Public Welcome
  - Register at [sjrwmd.com](http://sjrwmd.com)
  - View Live Streaming Video



J E A

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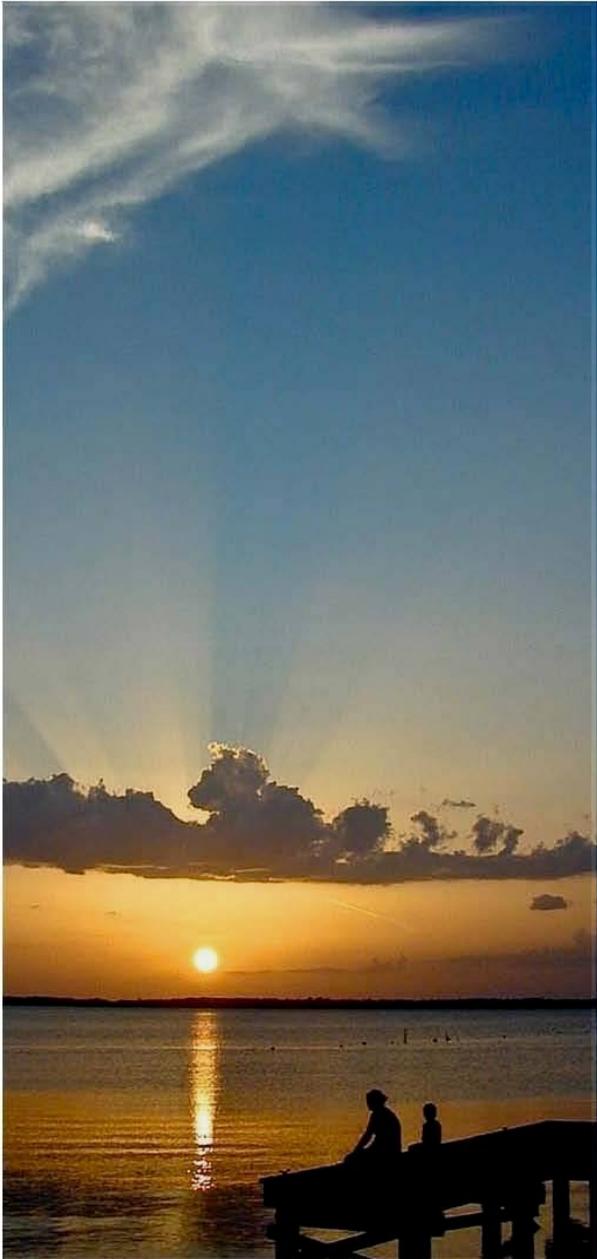


# JEA Voluntary N Reduction Program Started in 2000

- 2006 River Accord is an extension of that initiative
- \$200 MM Program
  - Phasing out older technology plants
  - Upgrading 5 Regional Plants
  - Increasing reclaimed water use

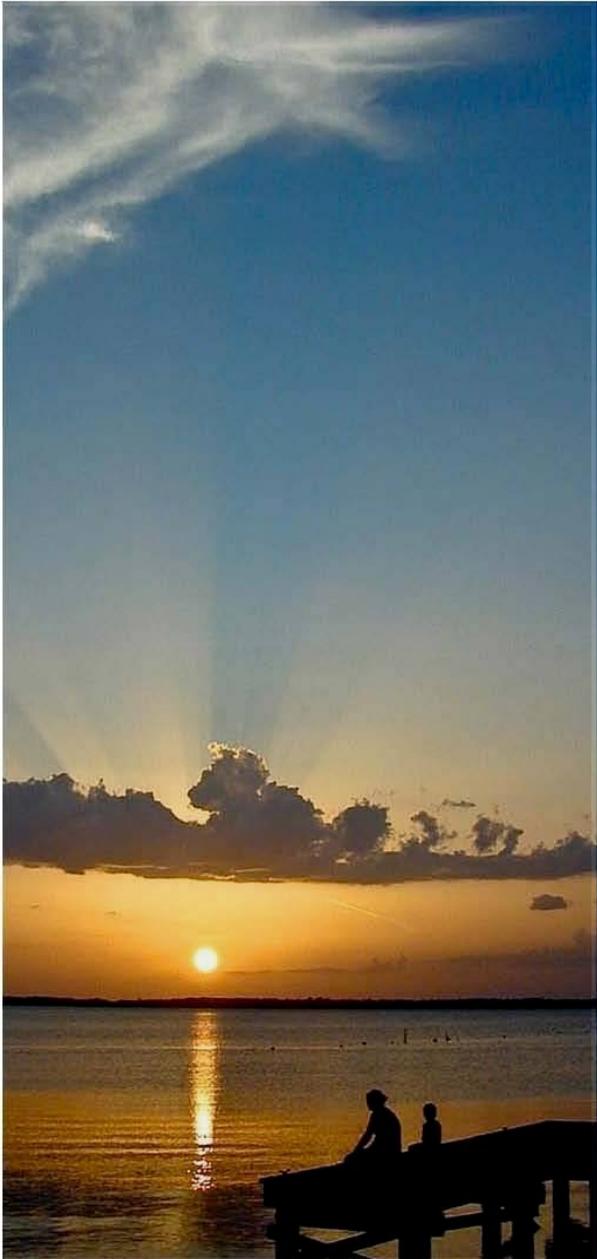
# Phasing Out Older Plants

- Efficient way to upgrade treatment
- Two of six phased out
- Third plant in design and scheduled for phase-out in 2010.



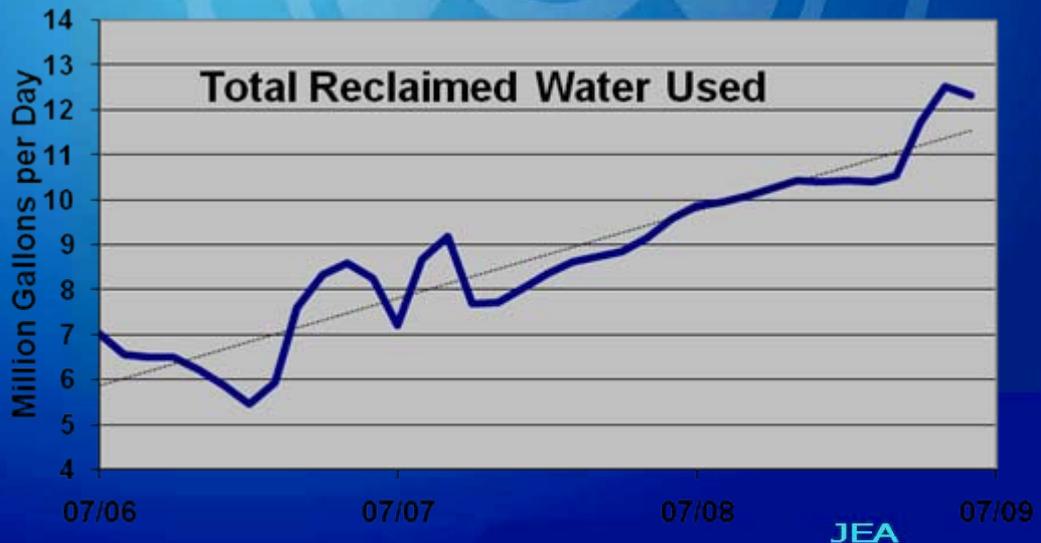
# Upgrading Regional Plants

- Two plants completed, Mandarin and Southwest
- Arlington East in construction (50 tpy)
- Buckman in design (100 tpy)



# Increasing Reclaimed Water

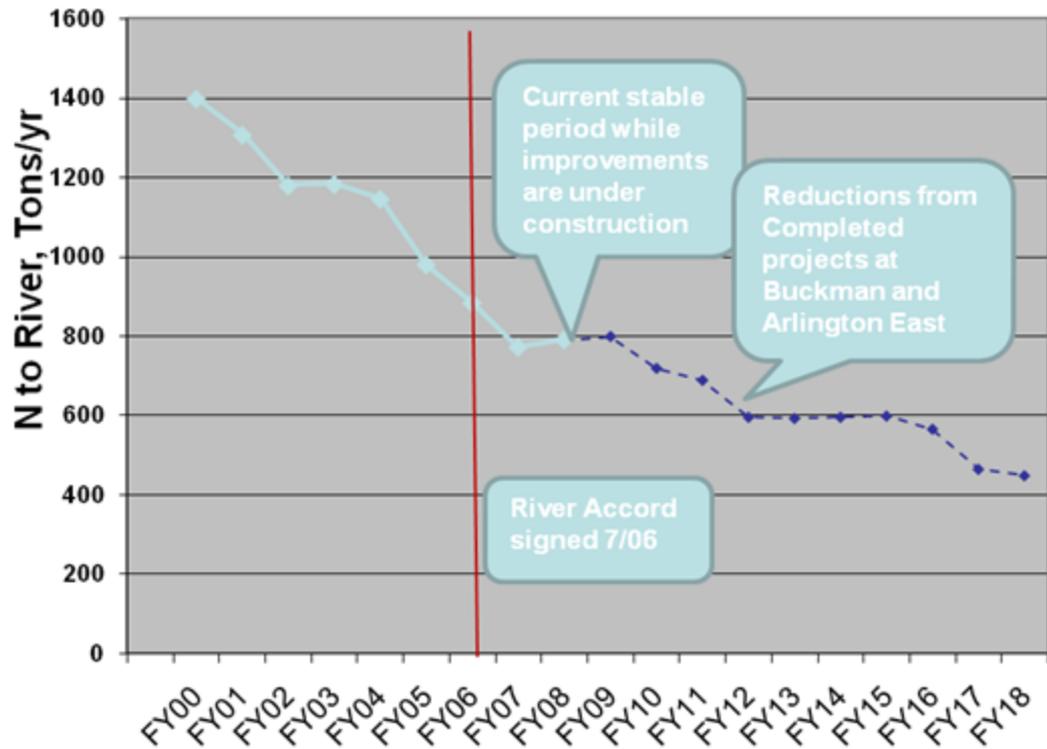
- Multiple Benefits
- 18 miles of new pipe in 08/09
- Reuse capacity > 26mgd
- Reuse demand increasing 2-3 mgd even in slow growth period



JEA

# River Results from Utility Investment

## Nitrogen Discharge to the River from JEA Owned and Acquired Facilities





# Water and Sewer Expansion Authority

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Fred Odom, P.E.  
Executive Director

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# WSEA Background

- The Water and Sewer Expansion Authority (WSEA), established in 2003 as an independent authority by the City of Jacksonville
- Originally created to provide property owners with an opportunity to finance water and/or sewer infrastructure in their existing developed neighborhoods on a voluntary basis





# Official Septic Tank Phase Out Lead

- Responsible for community outreach and program education
- Nutrient Study
- Removal of failing septic systems
  - There are 37 areas in Duval County that have been declared Septic Tank Failure Areas by the Duval County Health Department
  - Those failing areas include 30,000 septic systems



# WSEA Accomplishments

- Voluntary Program
  - Approximately 320 connections to water and/or sewer
- Current Grant Funded Projects
  - Oakwood Villa Estates Phase 2
    - Removal of 515 septic systems
  - Lincoln Villa Phase 1 and 2
    - Removal of 93 septic systems and wells



# Secured Funding to Date

## • 2007/2008

- \$2.8M in grants for the Lincoln Villa Phase 1, Septic Tank Phase Out (STPO) project
  - \$2M ad valorem grant from St. John's River Water Management District
  - \$800K Community Block Issue Request (CIBR) grant
- \$11.2M CIBR grant for the Lower St. Johns River Basin Initiative (Oakwood Villa Estates STPO project)

## • 2008/2009

- \$300K CIBR for the Lincoln Villa Phase 2 STPO project
- \$759K STAG grant for Septic Tank Phase Out



# Florida Department of Environmental Protection

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Melissa Long, P.E.  
Water Facilities Administrator

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# Total Maximum Daily Loads (TMDLs)

- Science based
- Water quality targets
- Based on Florida water quality standards
- TMDLs Established for:
  - SJR Main Stem
  - SJR Tributaries



# St. Johns River Main Stem TMDLs

- Established nutrient limits
- Science based
  - Modeling
  - Source identification
  - Point & non-point
- Stakeholder participation



# Basin Management Action Plan – Main Stem

- Adopted October 2008
- Commitments to reductions
- Annual reductions projected
  - 6.08 million lbs/yr total nitrogen (freshwater & marine)
  - 235,000 lbs/yr total phosphorous (freshwater)
- Enhanced monitoring & reporting



# TMDLs– Tributaries

- Fecal coliform impairments
- Cycle 1 - 55 tributaries verified
- Cycle 2 (2009)– verified 20 more tributaries



# Basin Management Action Plan – Tributaries

- 2009 - BMAP developed for 10 of the most impaired tributaries
  - Tributary Assessment Team
  - Wastewater management
  - Thermal imaging
  - Increased inspections
  - Illicit discharge removals
- 2009-10 – A second BMAP being developed for 15 impaired tributaries



*Just the beginning.....*

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