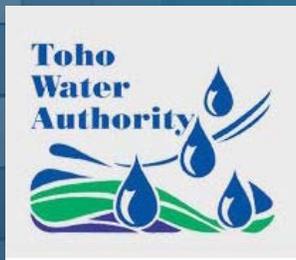
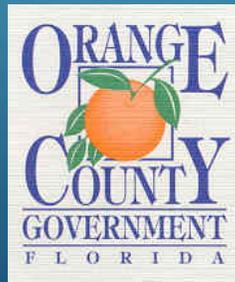


# STOPR Group Water Supply in Central Florida



SFWMD Governing Board Meeting  
April 9, 2009



# Introduction

- Welcome to the City of St. Cloud
- Agenda
  - Introduction to individual STOPR Group utilities
  - Background on STOPR Group
  - STOPR Group accomplishments
  - Water supply challenges



# Introduction

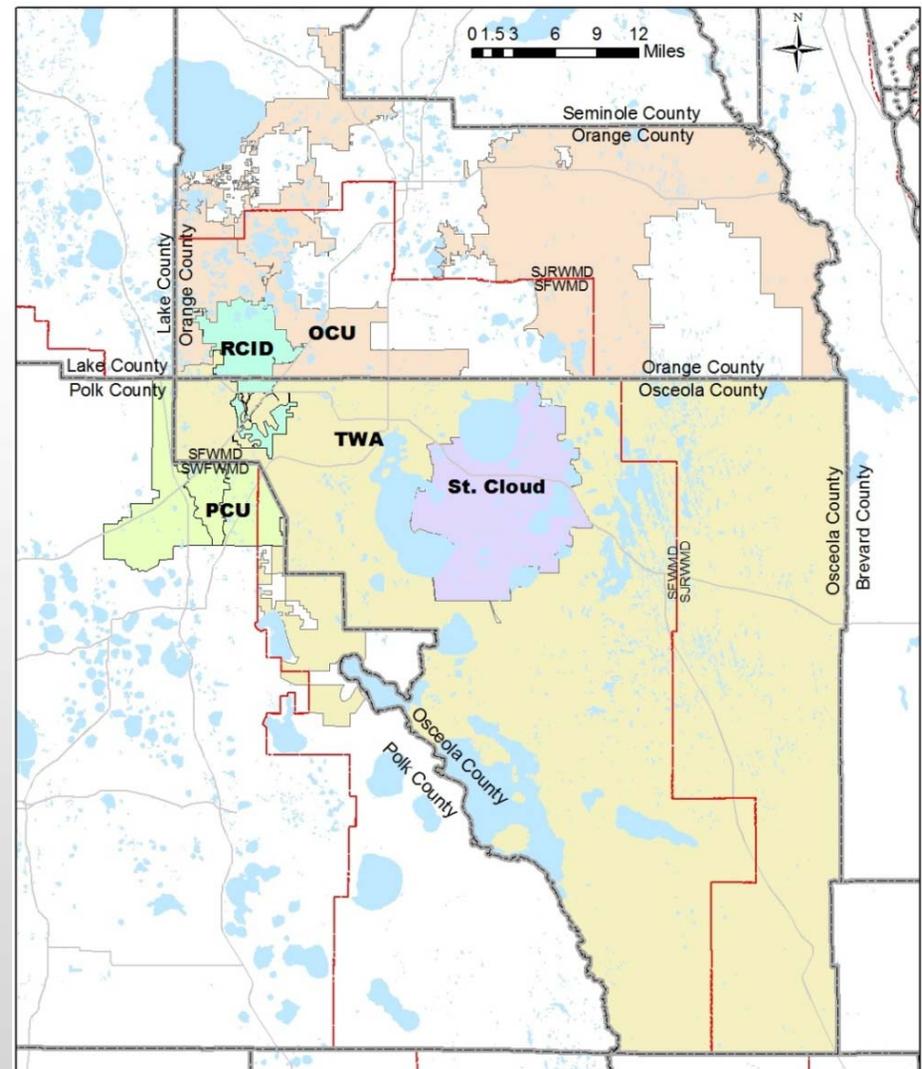
*“Begin with the end in mind”* – Stephen R. Covey

- Capitalize on the creativity and cooperation of STOPR Group
- Provide sustainable and balanced approach to water resources allocation
- Provide proactive and reliable plans for future water supply
- STOPR Group and SFWMD partnership to identify and develop future timely water sources in Central Florida



# STOPR Group Background

- STOPR Group Utilities:
  - St. Cloud
  - Toho Water Authority
  - Orange County
  - Polk County
  - Reedy Creek Improvement District
- Largest public supply service area within SFWMD in Central Florida
  - Encompasses over 80% of Upper Kissimmee River basin area
  - Approximately 70% of public supply
- Providing utility service to Central Florida since 1917
- Members have a long history of responsible water management



# STOPR Group Cooperative System Planning

- Existing and planned interconnects between members of the STOPR Group to optimize operations, increase flexibility, and increase emergency backup capacity
  - Interconnects facilitate the implementation of AWS projects by maximizing use of existing distribution systems instead of constructing new transmission pipelines
- Developing solutions to water supply challenges facing Central Florida
  - Active partnership amongst STOPR Group utilities
  - Regional outlook for secondary water users
    - Polk County project to find water supply solutions for Polk County including municipalities
    - Orange County actively working with local municipalities to meet their future water supply needs





# STOPR Group Innovative Reclaimed Water Projects

- Well-developed non-potable water systems
  - St. Cloud's aggressive reclaimed water management practices yield similar reclaimed and potable per capita use rates
  - TWA delivers twice as much reclaimed water as potable water for irrigation.
  - OCU has the largest agricultural reuse/aquifer recharge project in the world
  - Polk County's reclaimed water conservation measures have reduced the average per connection usage rate by 30% in NERUSA
  - 80% of irrigation within RCID service area is met with reclaimed water
- Large-scale Floridan aquifer recharge systems via RIBs and recharge harvesting
  - Recharge proven to provide significant water resource benefit to aquifer system



# STOPR Group Innovative Reclaimed Water Projects

- Seasonal (90 MG) reclaimed water surface storage (S)
- Industrial uses
  - Cooling tower (T, O, P and R)
  - Vehicle washing (R)
  - Sand mine recirculation water (O)
  - In-plant WRF uses (S, T, O, P, and R)
- Wetland and lake augmentation (O)
- Use of Lower Floridan aquifer water to augment reclaimed water system (P)
- Fire protection/supression (R)
- Membrane pilot study to treat reclaimed water to direct recharge standards (O)



# STOPR Group Conservation Efforts

- Conservation programs in place since 1980's
  - Aggressive conservation programs are standard practice in Central Florida
- STOPR Group utilities:
  - Existing or developing service area-wide irrigation/landscape policies
  - Mandatory reclaimed water connection and infrastructure requirements
- Residential potable per capita <130 for all members

**No Watering  
10 a.m. to 4 p.m.**



# STOPR Group Conservation Efforts

- Use conservation (inclined block) rate structures for residential potable water uses (S, T, O, and P)
- Reclaimed water conservation (inclined block) rate structures (S, T, and P)
- Implementation of automatic meter reading/monitoring systems (T, O, P, and R)
- Monitor customer irrigation schedules
- Better leak detection
- Large-scale low-flow shower and toilet retrofits (O and R)
- Adopted mandatory Florida Water Star program requirements (T)

Base Charge	Inside City Rate (\$/month)	Outside City Rate (\$/month)
¾" Meter	\$5.00	\$6.25
Consumption (kgal)	Inside City Rate (\$/kgal)	Outside City Rate (\$/kgal)
0-5	\$0.62	\$0.79
5-10	\$0.77	\$0.96
10-18	\$1.18	\$1.48
18-30	\$1.61	\$2.01
30-50	\$2.15	\$2.69
> 50	\$2.70	\$3.38

# STOPR Group Irrigation/Landscaping Conservation Efforts

- Have permanent 2 day per week or less potable watering restrictions (S, T, O, and P)
- 2 day per week reclaimed water irrigation restrictions (S, T, and P)
- Free irrigation audit support/consultation (S, T and O)
  - Florida Yards and Neighborhoods
  - Mobile Irrigation Labs
- Reclaimed water block irrigation schedule (S)
- Policy requiring new developments to first explore AWS for irrigation (T and O) and extensive use of Florida Friendly landscaping (T, O, and P)
- Florida Friendly demonstration gardens (O and P)
- ET-based, computer controlled, irrigation system (R)
- Full-time and part-time code/watering restriction enforcement employees (S, T, O, and P)

St. Cloud Reclaimed Water Block Schedule

Block	Day and Time
0	Tues, Fri: 2:30 – 5:00 am
1	Thurs, Sun: 2:30 – 5:00 am
2	Wed, Sat: 5:00 – 7:30 am
3	Tue, Fri: 7:30 – 10:00 am
4	Wed, Sat: 2:30 – 5:00 am
5	Tue, Fri: 5:00 – 7:30 am
6	Thurs, Sun: 5:00 – 7:30 am
7	Wed, Sat: 7:30 – 10:00 am
8	Thurs, Sun: 7:30 – 10:00 am
9	Thurs, Sun: 12:00 – 2:30 am



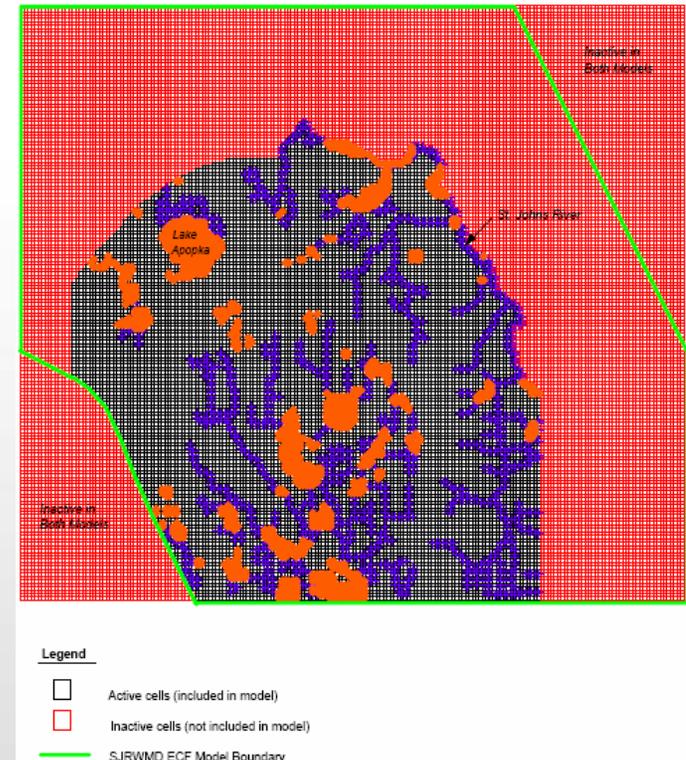
# STOPR Group Stormwater AWS

- STOPR Group members have existing (O and R) and planned (S and T) stormwater non-potable water supply sources
- Stormwater has been and will continue to be evaluated as a potential future supply source; however:
  - Stormwater requires seasonal storage or supplemental supply to increase reliability
  - Will only meet a small percentage of future demands, additional sources necessary



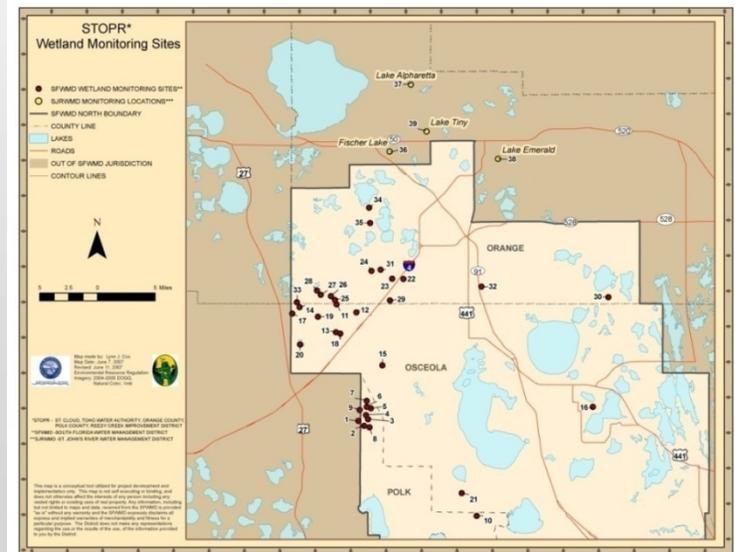
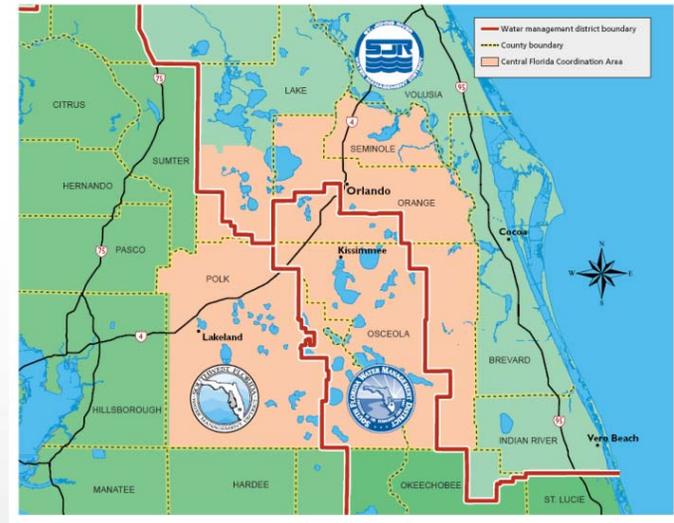
# STOPR Group Origins

- In 2006, identified the benefits of cooperation and began working together to:
  - Identify regional solutions
  - Work on a regional basis
  - Coordinate WUP process
    - Equitable distribution of available resources
    - Avoid litigation
  - Track and participate in rule development
  - Coordinate water supply planning
    - Potable and non-potable
  - Coordinate conservation programs
- Entered into an agreement to complete WUPs
- Worked together with the water management districts during CFCA rule development process



# STOPR Group WUP Coordination

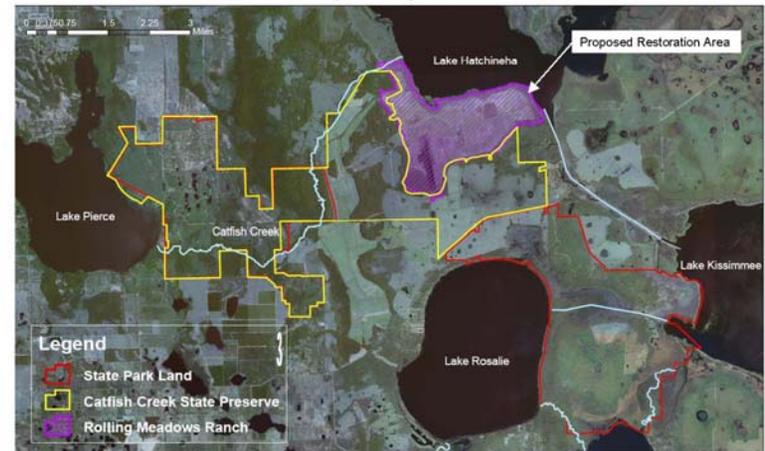
- In June 2007, the utilities were issued 20-year WUPs
  - Groundwater allocations through 2013 (per CFCA rules)
  - Continued reuse and conservation
  - Implementation of AWS by 2013
  - Implementation of Kissimmee River/Upper Chain of Lakes (UCOL) as an AWS source by 2014
    - Analysis results from SFWMD reservation rule development has created uncertainty in project feasibility
- Significant commitment to protection of the environment:
  - Joint environmental monitoring (76 sites):
    - \$2,500,000 (initial setup)
    - \$1,700,000 (annually)



# STOPR Group WUP Coordination

- In June 2007, the STOPR Group and SFWMD entered into a wetland restoration agreement
  - SFWMD provided restoration site
  - 108 acre wetland mitigation bank
  - Separate escrow agreement to fund wetland restoration activities
- In June 2007, STOPR Group and SFWMD entered into an agreement to begin implementation of a reservoir for a Kissimmee River/UCOL AWS Project
  - SFWMD to identify potential reservoir sites
  - SFWMD to perform feasibility evaluation

Exhibit D – Proposed Restoration Area Map



# STOPR Group Today

- The STOPR Group continues as a strong regional cooperative effort
  - Water supply planning and AWS development
  - WUP compliance and monitoring
  - Continued potable and reclaimed water interconnects and systems optimization planning
  - Continued reclaimed water planning
  - Conservation coordination and implementation
  - Regulatory involvement
- Group cooperatively developing solutions to water supply challenges facing Central Florida
  - Active partnership amongst STOPR Group utilities
  - Regional outlook for water supply needs
  - Project partnerships support goal of regional outlook



# Regional Water Supply Challenge

- WUPs only provide permitted water supply (groundwater) through 2013 per CFCA
- Mature reclaimed water and conservation programs
- Stormwater already in use and being evaluated further
- Reclaimed water, stormwater reuse and conservation not enough; ***still have a significant projected water supply deficit***
- ***Water supply sources available to Central Florida are limited***



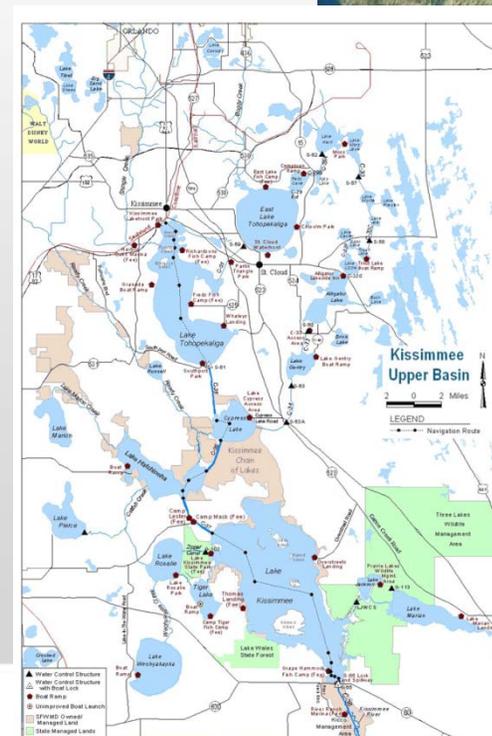
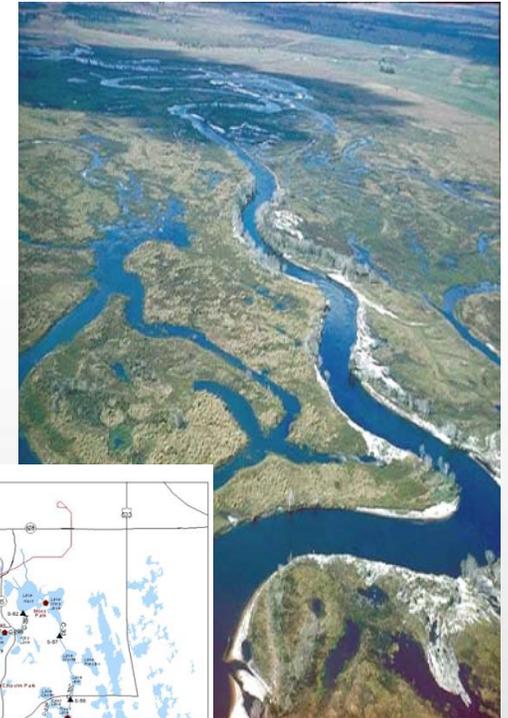
# Regional Water Supply Challenge

- AWS sources will require implementation of complex, large-scale projects
  - WMD support in identification and implementation of projects is critical
  - Significant capital investment amidst funding challenges
  - Extended implementation schedules (10+ years is common)
- Surface water projects
  - Kissimmee River appears infeasible and UCOL uncertain for public water supply
- Supplemental and brackish groundwater projects
  - CFCA regulation changes may be necessary for successful implementation
- ***Central Florida needs near-term supply answers and an implementable long-term supply strategy***



# STOPR Group Surface Water AWS

- All STOPR Group members are actively pursuing surface water AWS projects to meet future water needs
  - St. Cloud: Kissimmee River/UCOL
  - TWA: Kissimmee River/UCOL and SJR/TCR Project
  - Orange County: Kissimmee River/UCOL and SJR/TCR Project
  - RCID: Kissimmee River/UCOL
  - Polk County: Kissimmee River/UCOL, Peace River, and Alafia River



# STOPR Group Surface Water AWS

- Kissimmee River/UCOL is a key element of the STOPR Group's future water supply plan
  - In 2007, STOPR Group required by WUP to develop at least a 25 MGD AADF Kissimmee River/UCOL Project by 2014
  - Identified as a future source in 2007 SFWMD *KBWSP*
- SFWMD now indicates no water from the Kissimmee River and an uncertain amount of water from the UCOL may be available for public water supply

*February  
2009  
SFWMD  
presentation  
on the  
Kissimmee  
River  
Reservation  
Rulemaking*

SOUTH FLORIDA WATER MANAGEMENT DISTRICT

## Conclusions

- The Target Time Series representing the water required for the protection of fish and wildlife:
  - Is based on a set of River Performance Measures that are consistent with the Kissimmee River Restoration Project
  - Has been developed using modeling tools that have been calibrated, verified and undergone Peer Review
  - The quantity of water required for the protection of fish & wildlife is consistent and within the range of observed flows over the past 70 years
- Based on the preliminary results, all water in river (inflows at S-65 and outflows at S-65E) is required for the protection of fish and wildlife.

# STOPR Group Groundwater AWS

- Cypress Lake LFA Wellfield: Southern Osceola County
  - Led by Toho Water Authority
  - Regional partnership with STOPR Group utilities
  - Currently in test well phase (hydrogeology and water quality)
  - SFWMD partial funding
  - Source permittable per CFCA
- NE and SE Polk County LFA Wellfields
  - Led by Polk County
  - Potential regional partnership
  - Feasibility assessment currently underway
  - SFWMD partial funding
  - May require CFCA rule change



# Moving Forward

- SFWMD and STOPR Group to work together to identify feasible water supply sources for Central Florida that can be implemented by 2013
  - Creative and innovative solutions will be necessary
  - Regulatory changes will be necessary
    - Expand use of existing sources until new sources are available
    - Rule making to expand feasibility of future sources (e.g., brackish groundwater, surface water, and aquifer recharge)
  - Increased shareholders participation in rulemaking process through timely sharing of information
- Equity in allocation of available water supplies for all use types through water use permitting process
- Prioritized funding for AWS in Central Florida



# Questions

