

SJRWMD Water Supply Planning Update

Withlacoochee Regional Water Supply Authority, Nov. 15, 2017

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Executive Director

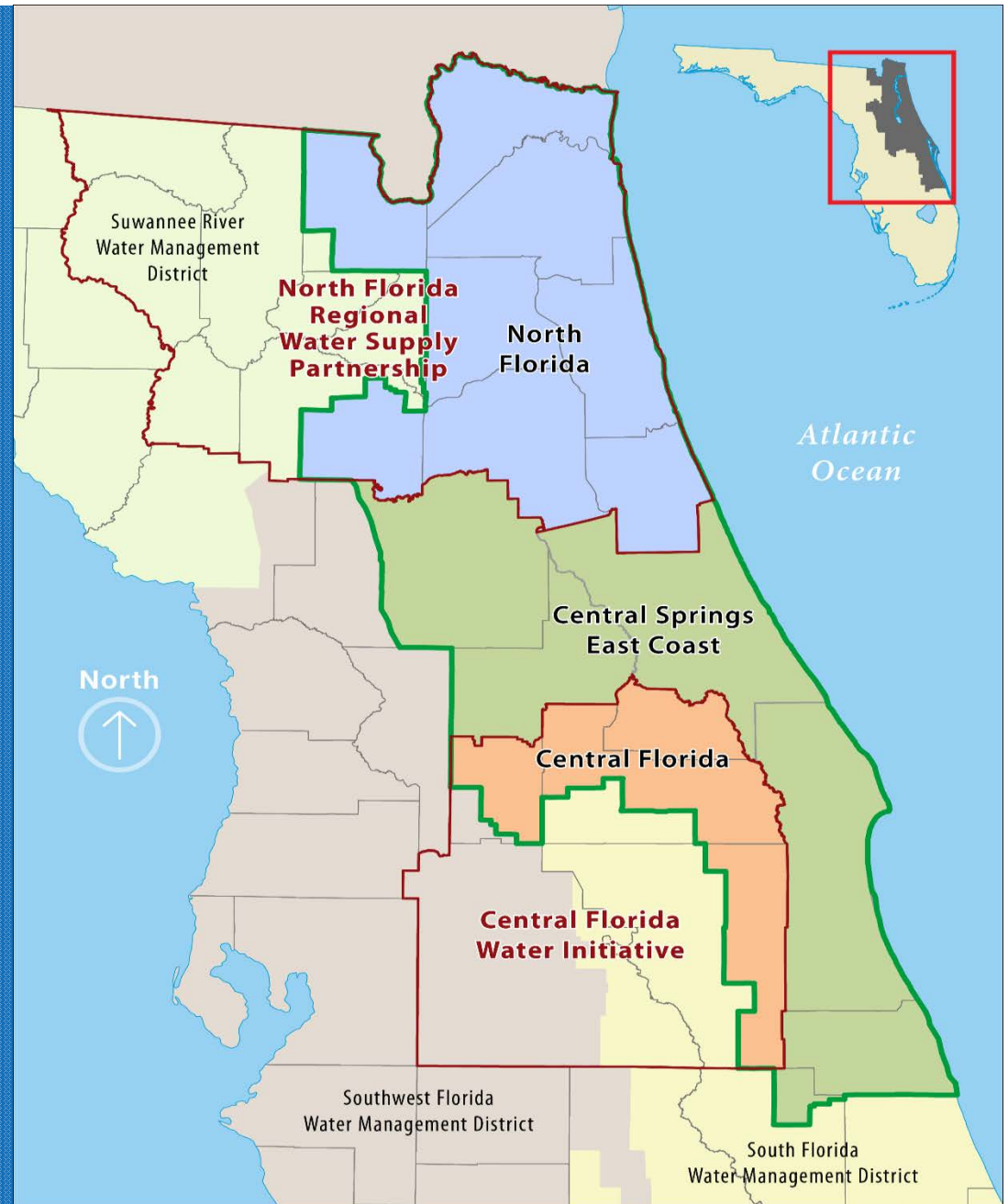
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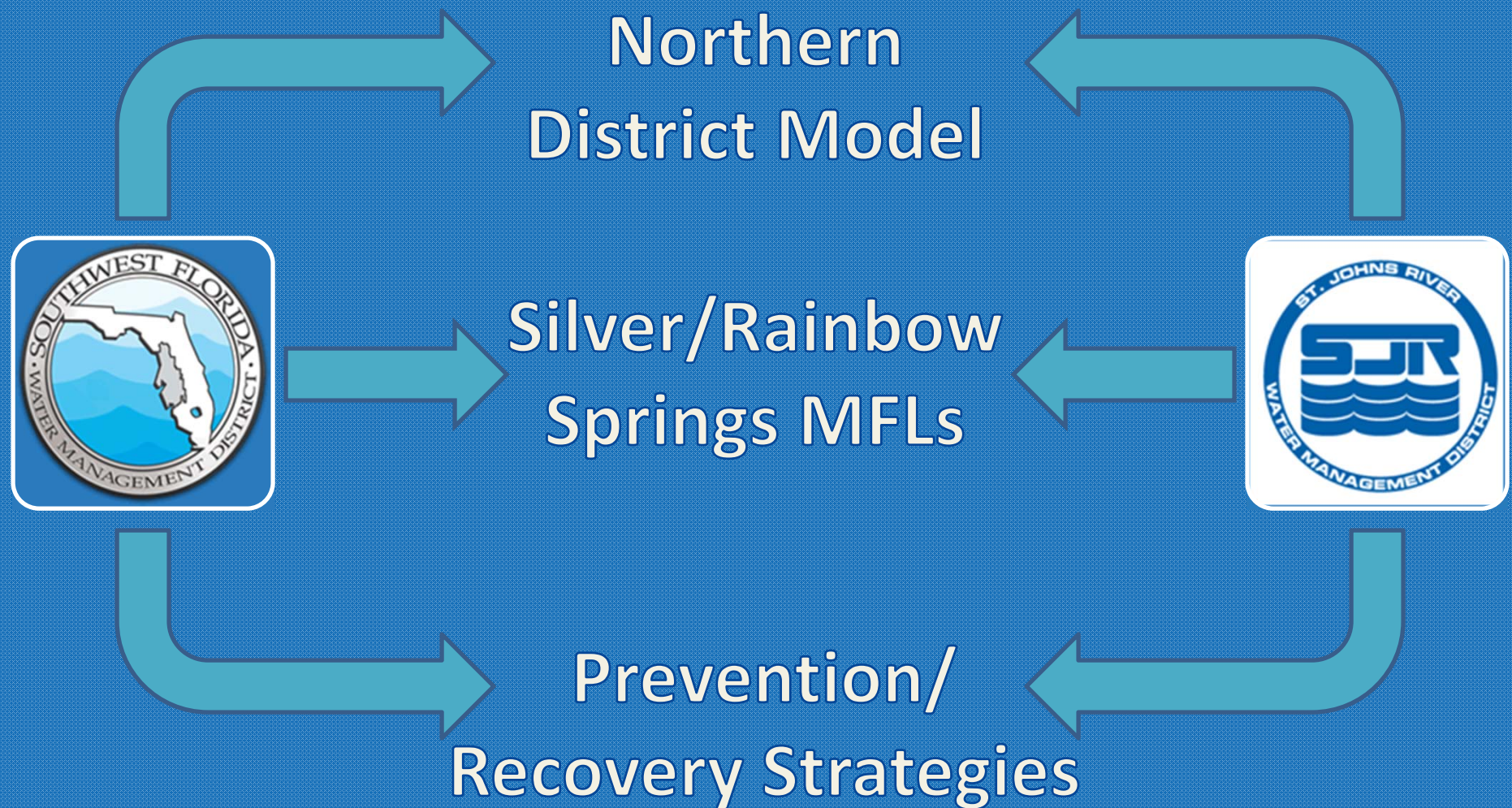
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SJRWMD Water Supply Planning Regions

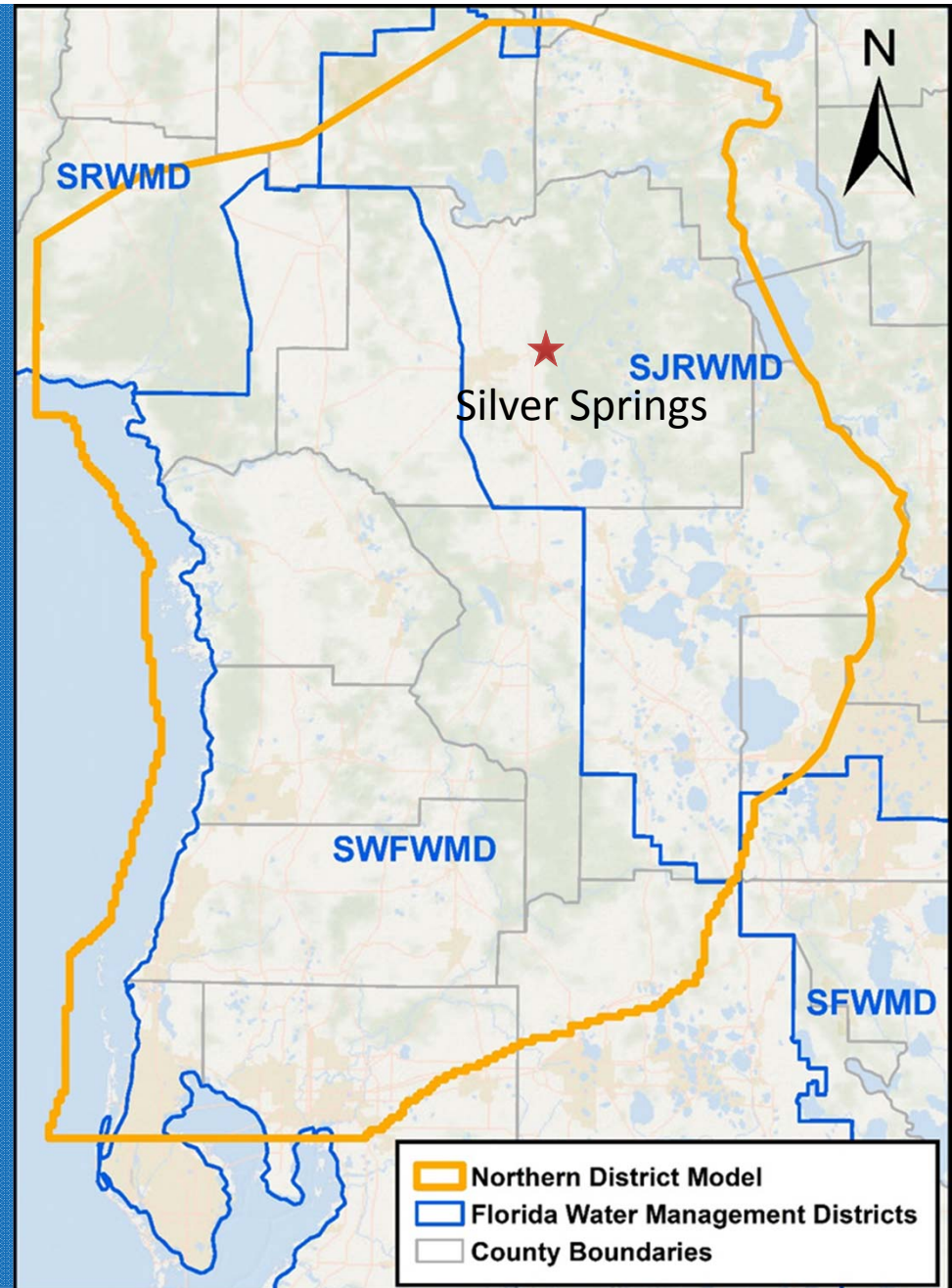
- North Florida Regional Water Supply Partnership Planning Region
- Central Springs/East Coast Regional Water Supply Planning Region
- Central Florida Water Initiative Planning Region





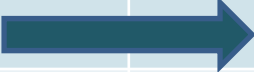




District Collaboration



Northern District Groundwater Flow Model Version 5 (NDMv5)



Water supply plan timeline

Activity	2016	2017	2018	2019
Stakeholder Outreach				
Demand Projections				
Water Resource Assessment				
Project Identification and Benefits				
Draft Plan				
Finalize Water Supply Plan				
Implement Water Supply Plan				

Silver Springs

Minimum Flows and Levels

Minimum Frequent High

(828 cfs; 40.0' NAVD88; 30 day; 5 year)

- Maintenance of hardwood swamp vegetation and habitat
- Maintenance of floodplain nutrient filtration
- Maintenance of fish and wildlife habitat

Minimum Average

(638 cfs; 38.2' NAVD88; 180 day; 1.7 year)

- Maintenance of deep organic soil elevations

Minimum Frequent Low

(572 cfs; 37.0' NAVD88; 120 day; 3 year)

- Maintenance of hardwood swamp vegetation composition and structure and wetland soils extent
- Maintenance of fish and wildlife habitat



Silver Springs Minimum Flows and Levels

- **94% of long-term mean flow preserved**
 - Allows only a 6% change to mean flow
- **98.8% of in-stream habitat (e.g. fish and wildlife habitat in the channel) preserved**
 - 1.2% change in in-stream habitat inundation
- **99% of critical velocities preserved**
 - < 1 % change in critical velocities within the channel (i.e., thresholds that maintain system metabolism, algae scour or sediment transport)



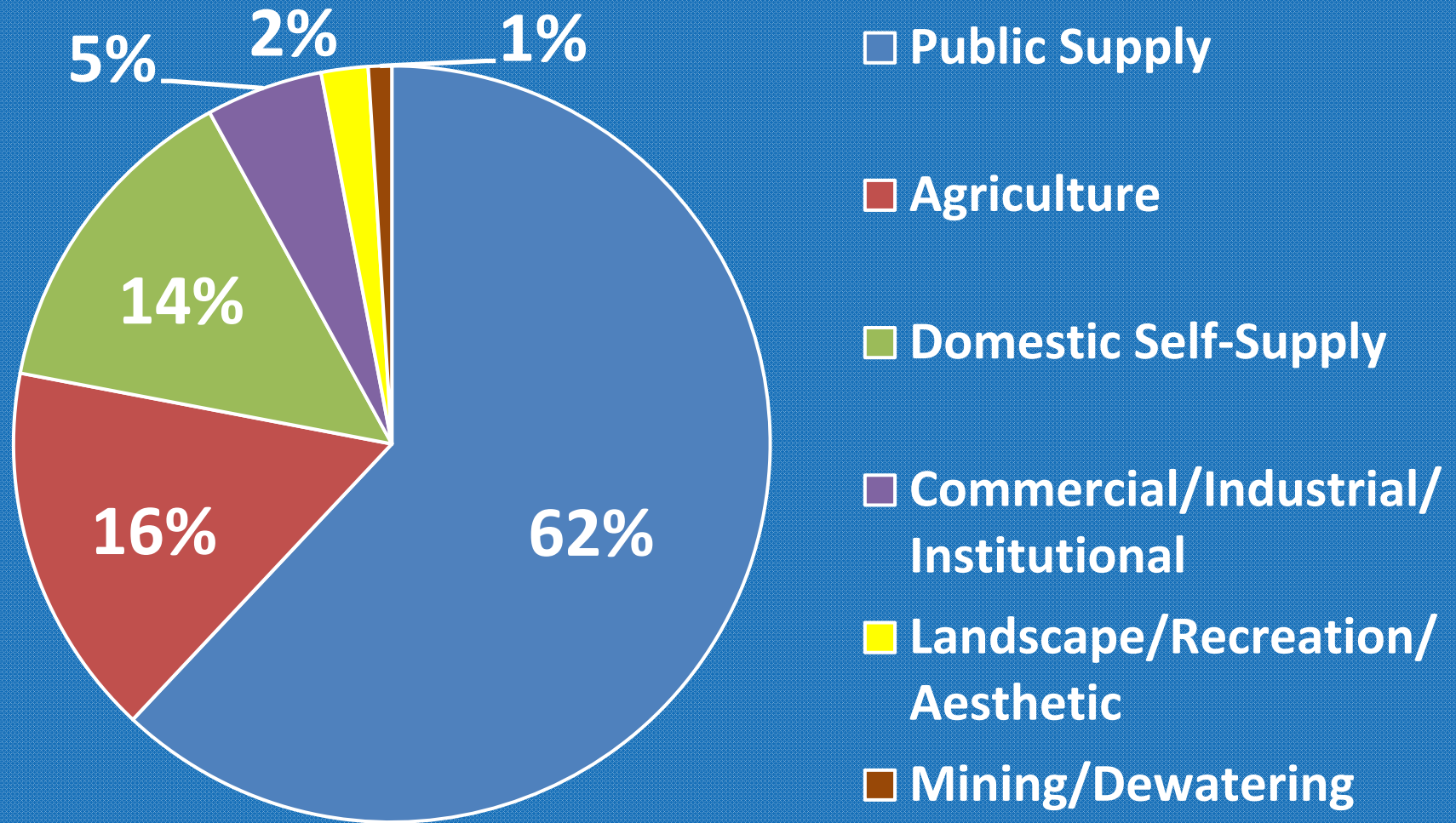
Future MFLs Status Assessment

NDMV5 Model Scenario	Silver Springs Freeboard (cfs)	SJRWMD-Marion Withdrawals (mgd)
2010 Baseline	17	36.5
2035	-10.3	62.7

Silver Springs is in **PREVENTION**



Impact Influence by Use Type



Projects Proposed in the Prevention Strategy for Silver Springs

Project/Measure	Est. Volume (mgd)	Est. Silver Springs Flow Benefit (cfs)	Capital Cost (\$M)
Water Conservation	4.4 – 7.6	1.9 – 4.2	9.6M – 13.1M
Aquifer Recharge	2.9	1.4	8.0M
Ocala LFA Conversion	7.5	7.0	6.7M – 31.7M
Reclaimed Water Expansion	1.9	0.5	3.2M
TOTAL	16.7 – 19.9 mgd	10.8 – 13.1 cfs	\$27.5M – \$56.0M

SJRWMD/DEP Funds Awarded for Water Quality Projects within the WRWSA (2013–present)

Project Awards	Amount
Silver Springs Shores Innovative Stormwater Retrofit of DRAs	\$343,232
Outstanding Florida Springs — Replacement of Septic Tanks	\$1,500,000*
Silver Springs Forest Acquisition and Water Quality Enhancements	\$7,779,154
Marion Co. Retrofit of DRAs 7244 and 7396	\$482,500
Marion Co. Utilities Wastewater Relocation	\$100,000
MSU Sleepy Hollow Package Plant Removal	\$309,000
Ocala WRF 2 Nutrient Reduction	\$3,840,000
Ocala Septic Tank Conversion	\$5,000,000

Total Award = \$19,353,886

SJRWMD/DEP Funds Awarded for Water Supply Projects within the WRWSA (2013–present)

Project Name	Amount
Ocala Wetland Groundwater Recharge Park	\$4,000,000
MSU U.S. 441 Water Main Interconnect	\$706,496
Ocala Lower Floridan Aquifer Pump Test	\$1,351,000
Marion Co. Enhanced Irrigation Evaluation	\$24,250
Marion Co. Reuse to Spruce Creek G&CC	\$3,192,000
Marion Co. Toilet Rebate	\$90,000
Ocala WaterSmart Software Pilot	\$75,000
Ocala Reuse Main Extension	\$392,000
Ocala Parks Conversion to Reclaimed Water	\$40,395

Total Award = \$9,871,141

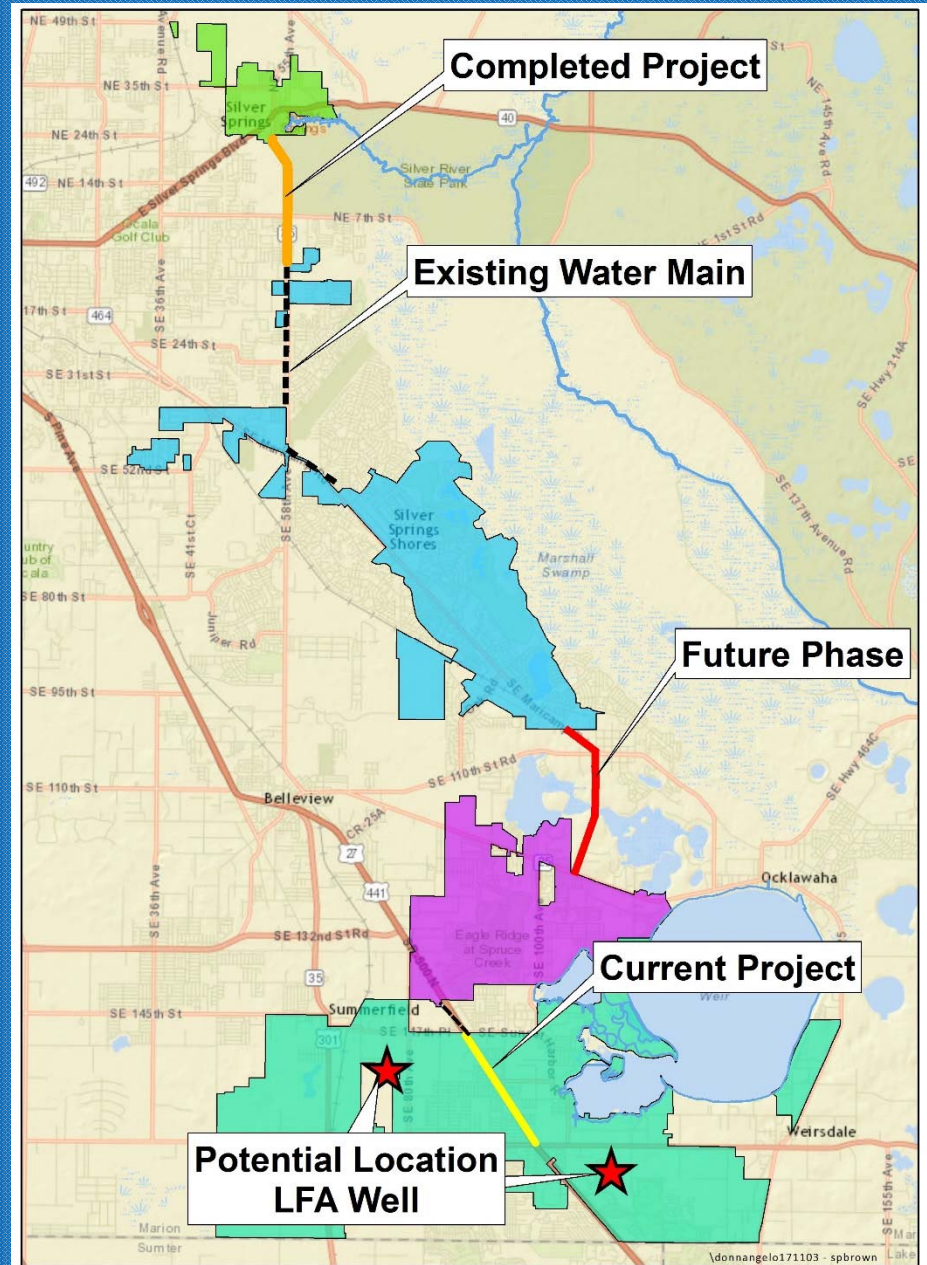
City of Ocala Wetland Groundwater Recharge Park

- Water supply and water quality benefits:
 - Recharge: up to 5 mgd
 - Load reduction (Lbs/Yr):
29,000 Total Nitrogen
30,000 Total Phosphorous



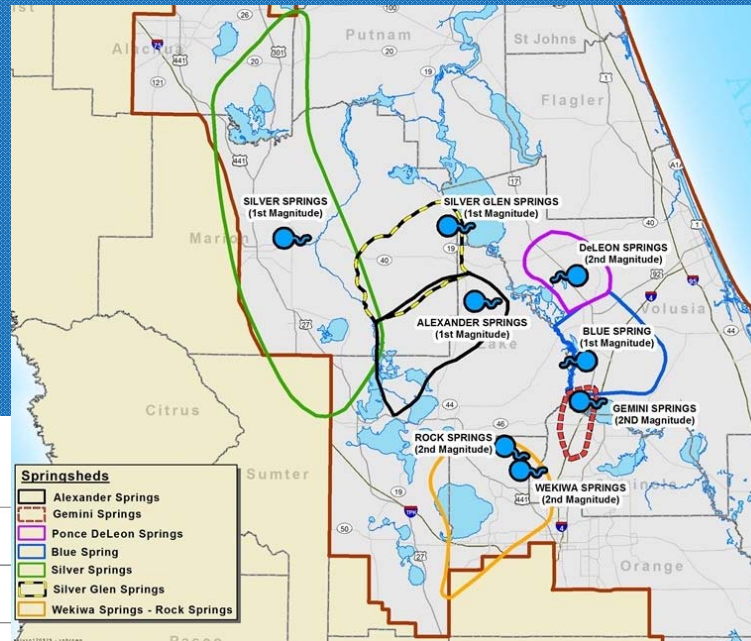
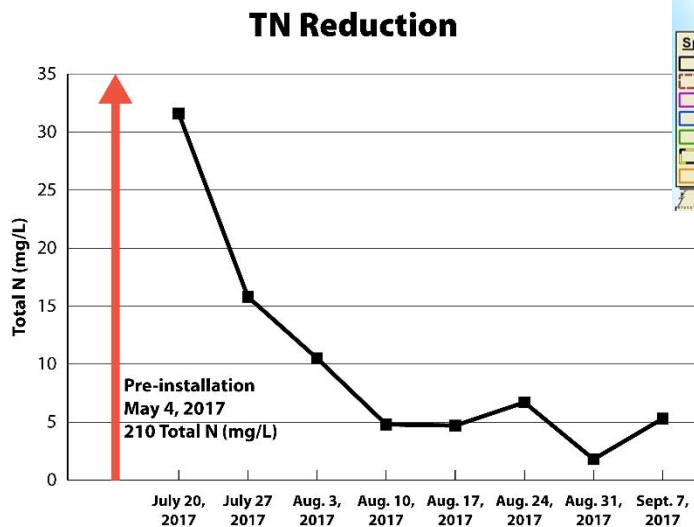
Marion County Utilities — Water Main Interconnects

- Relocate withdrawals further from Silver Springs.
- Future phases will relocate additional withdrawals.
- Final phase will develop a Lower Floridan aquifer production well.



Individual Distributed Wastewater Treatment System Pilot Project

- **Benefit:**
 - Total N load reduction 10 to 23 lbs./year/tank
- **SJRWMD Apopka Test**



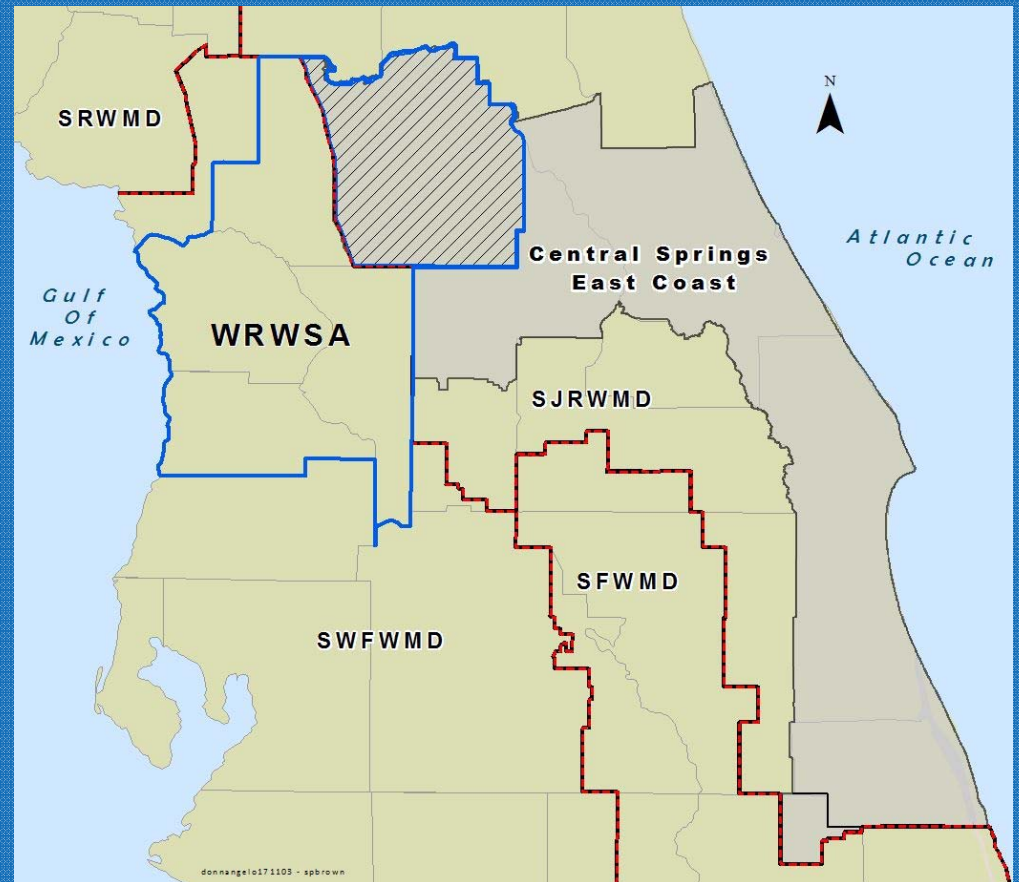
Agricultural BMP Projects (Silver Springs Springshed)

- Irrigation efficiency benefits: 0.23 MGD
- Load reduction (Lbs/Yr):
 - 11,500 TN
 - 2,400 TP
- Funding:
 - FDEP: \$706,668
 - SJRWMD: \$706,668
 - Growers: \$471,112



SJRWMD Activities within Common Boundaries

- Monthly coordination
- Projects
- Groundwater and surface water ambient monitoring
- CRISPS



Questions?



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www.sjrwmd.com