Central Florida Water Initiative

Water for Tomorrow

Steering Committee
October 15, 2019

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Water Resources Assessment Team
Groundwater Availability Team

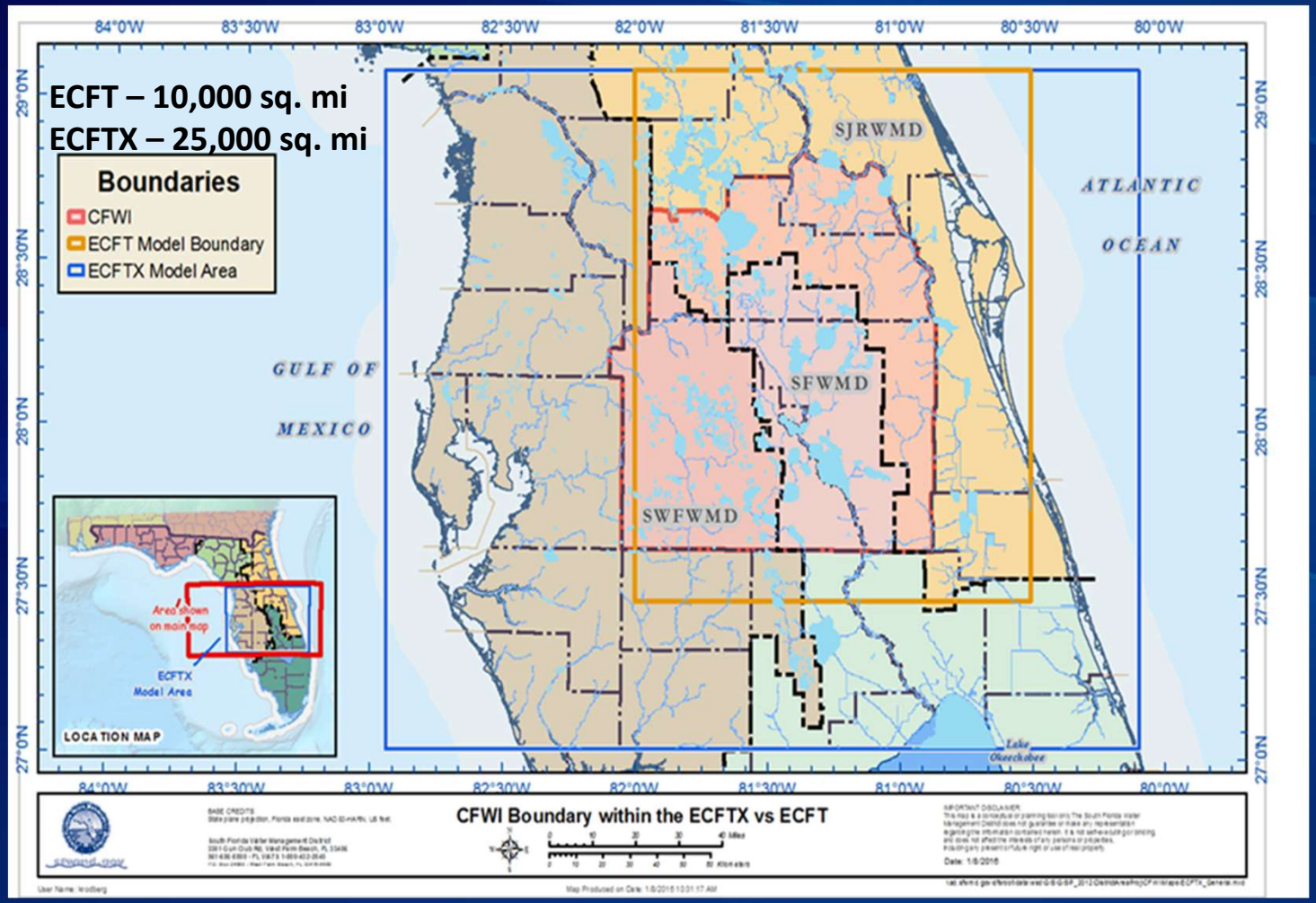
Groundwater Availability Team

- 2020 Central Florida Water Initiative Guiding Principle No. 1
  - *Review and update the 2015 CFWI RWSP as well as the sustainable quantities of traditional groundwater sources available in the CFWI area that can be used without causing unacceptable harm to the water resources and associated natural systems.*

PERMITTED QUANTITIES (mgd)

Groundwater		Surface Water		Total		Total Percent
PS	573	PS	21	PS	593.9	53.2
AG	262.5	AG	52.6	AG	315.1	28.2
CII/PG/MD	116	CII/PG/MD	20.4	CII/PG/MD	136.3	12.2
Other	40.2	Other	31.6	Other	71.8	6.4
Total	991.7	Total	125.5	Total	1,117.2	100

Groundwater Model Boundary Locations



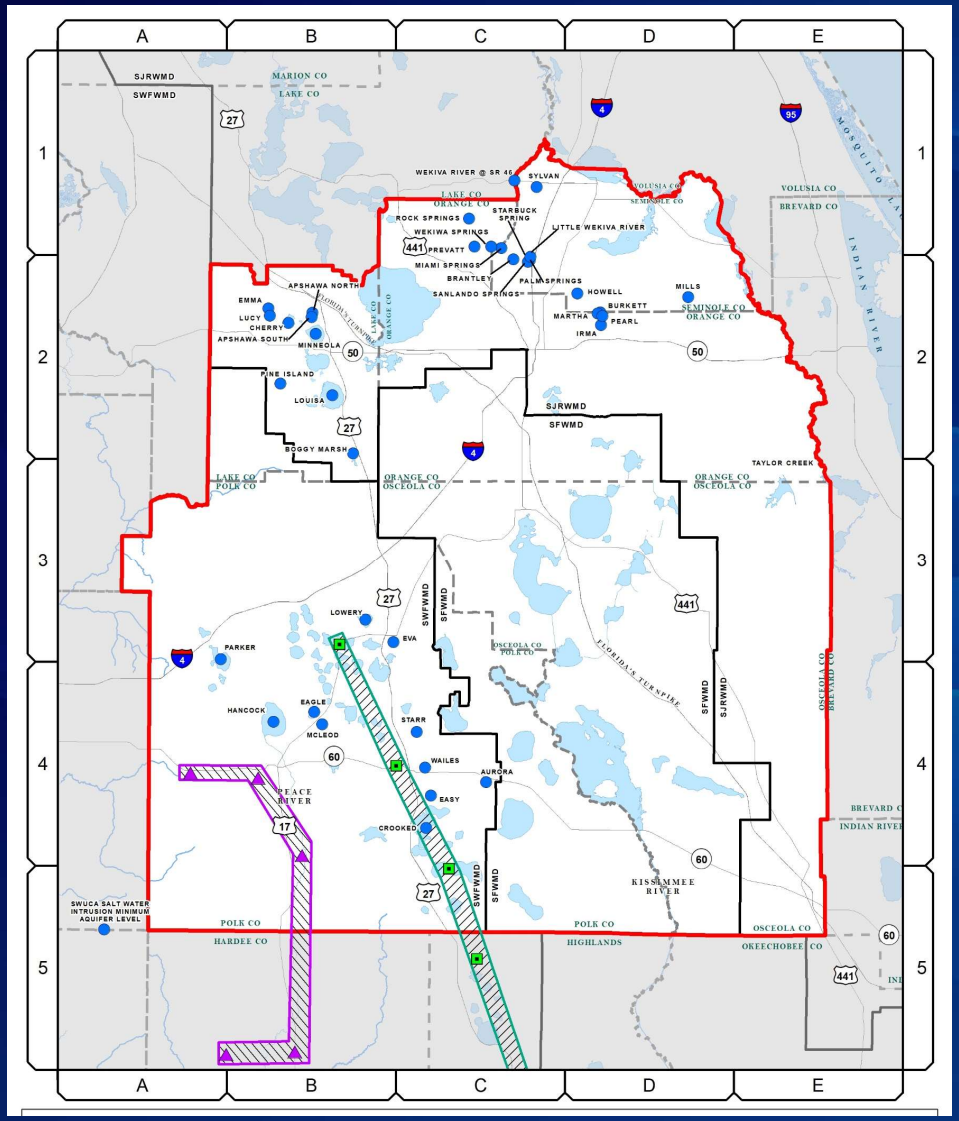
Planning Level Tool

Recent Actual Use and ECFTX Modeled Quantities (mgd)

Area	2014 RC	2017 Actual	2025	2030	2035	2040
CFWI Planning Area	620	659	753	796	825	861

2025 RWSP

Modeled quantities do not include mitigation projects or already permitted, but not yet developed, Lower Floridan aquifer wellfields (Polk County SE, Cypress Lake)



MFLs and MFL-Related Environmental Criteria

39 Criteria

- Adopted MFLs in CFWI: 29 lakes/ wetlands, 6 springs, and 1 river segment
- Adopted SWUCA SWIMAL
- Upper Peace Target Wells for SWUCA recovery
- Ridge Lakes Target Wells for SWUCA recovery

CENTRAL FLORIDA WATER INITIATIVE
WATER FOR TOMORROW

MFLs and MFL-Related Environmental Criteria Results

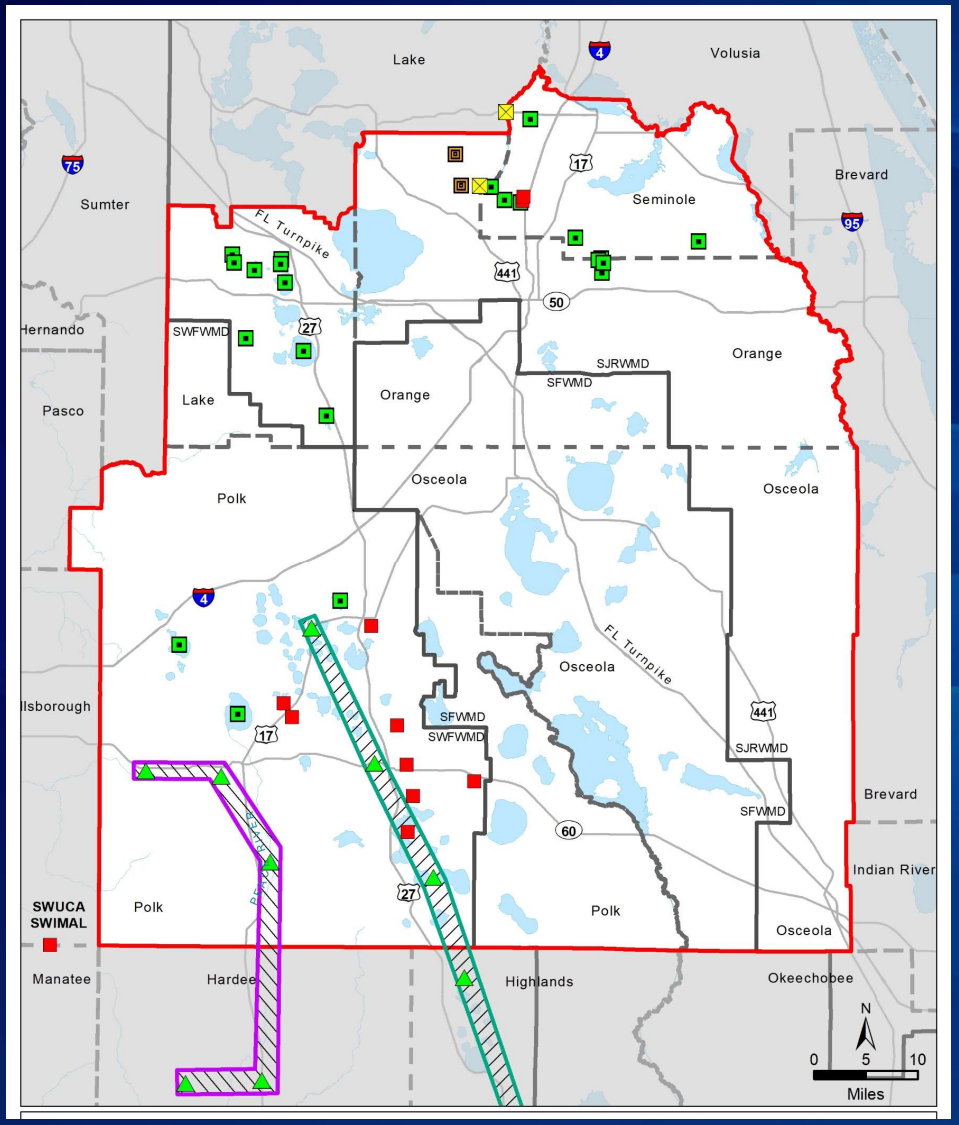
MFLs and MFL-Related Environmental Criteria	ECFTX Groundwater Model Withdrawals Scenario				
	2014 RC (620 mgd)	2025 (753 mgd)	2030 (796 mgd)	2035 (825 mgd)	2040 (861 mgd)
Number Met	28	28	26	24	24
Number Not Met	11	11	13	15	15

- Trending freeboard reductions or deficit increases noted for most environmental criteria through 2040
- Recovery or prevention strategies required for MFLs not currently met or projected to not be met over a 20-year planning horizon

SJRWMD Critical MFLs Status Based on ECFTX Model Results and Linear Interpolation

Withdrawal Condition	2014 RC	Linear Interp	2025	Linear Interpolation			2030	2035	2040
Withdrawal Rate (mgd)	**620**	**701**	**753**	**762**	**770**	**779**	**787**	**796**	**825**	**861**
Wekiwa Springs (cfs) *Outstanding FL Spring*	1.8	0.9	0.2	0.2	0.1	0.0	-0.1	-0.2	-0.6	-0.9
Rock Springs (cfs) *Outstanding FL Spring*	2.2	1.3	0.8	0.7	0.6	0.5	0.4	0.3	-0.1	-0.3
Wekiva River at State Road 46 (cfs)	6.2	2.6	0.3	0.1	-0.3	-0.7	-1.0	-1.4	-2.8	-3.9
Lake Prevatt (UFA, ft)	0.9	0.5	0.3	0.3	0.2	0.2	0.1	0.1	-0.1	-0.2

- 2014 Reference Condition and 2025, 2030, 2035 and 2040 Withdrawals Condition freeboard/deficit values are based on ECFTX model results; other are based on linear interpolation

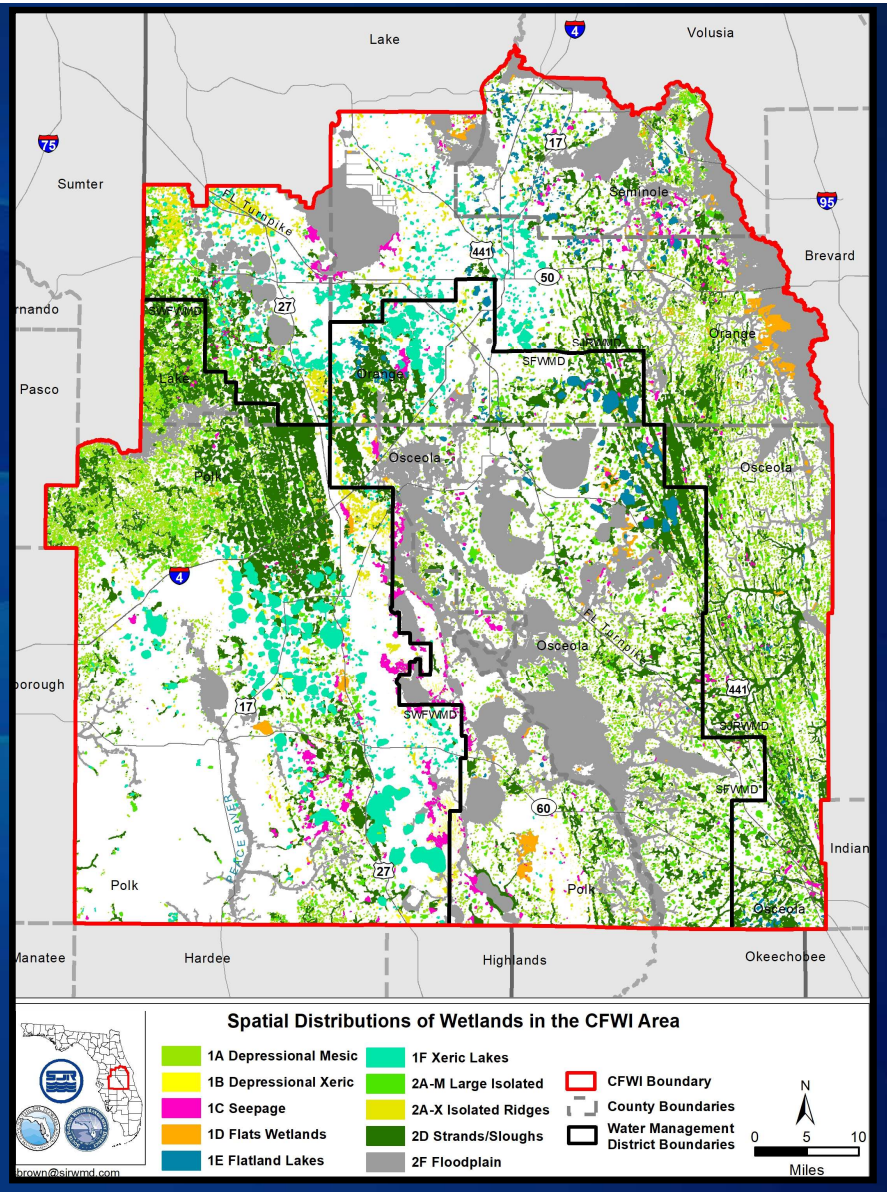


2040 Withdrawals Condition Status

- Met – 2014 RC, 2030 and 2040 *or*
- Not Met – 2014 RC, 2030 and 2040
- Not Met – 2030 RC and 2040
- Not Met – 2040

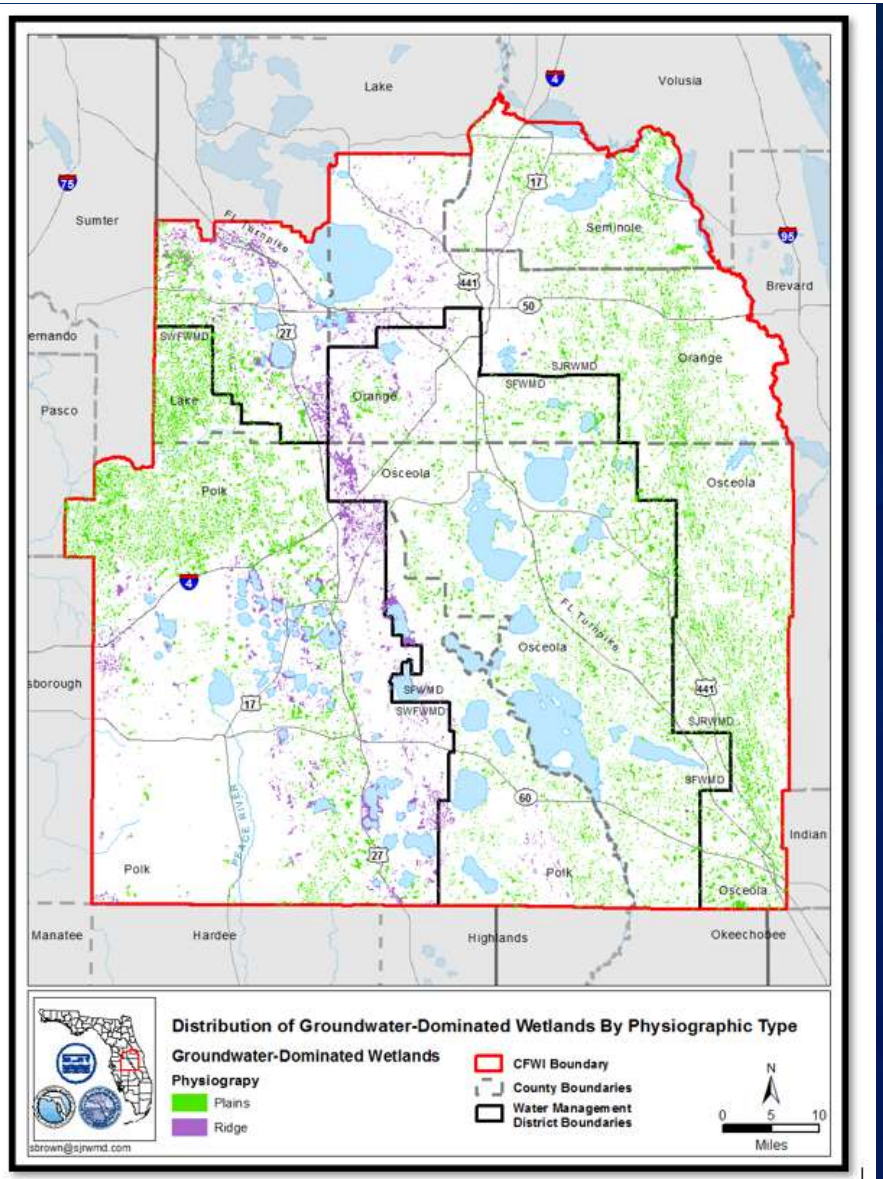
Wetlands in CFWI Planning Area

- >1 million acres
- Focus on groundwater-dominated wetlands
- About 190,000 acres included in the analysis (~19% of total)



Groundwater-Dominated Wetlands

- Plains settings
  - Typically confined
  - Little exchange between SA and UFA
- Ridge settings
  - Less confined, leaky
  - Conditions vary considerably

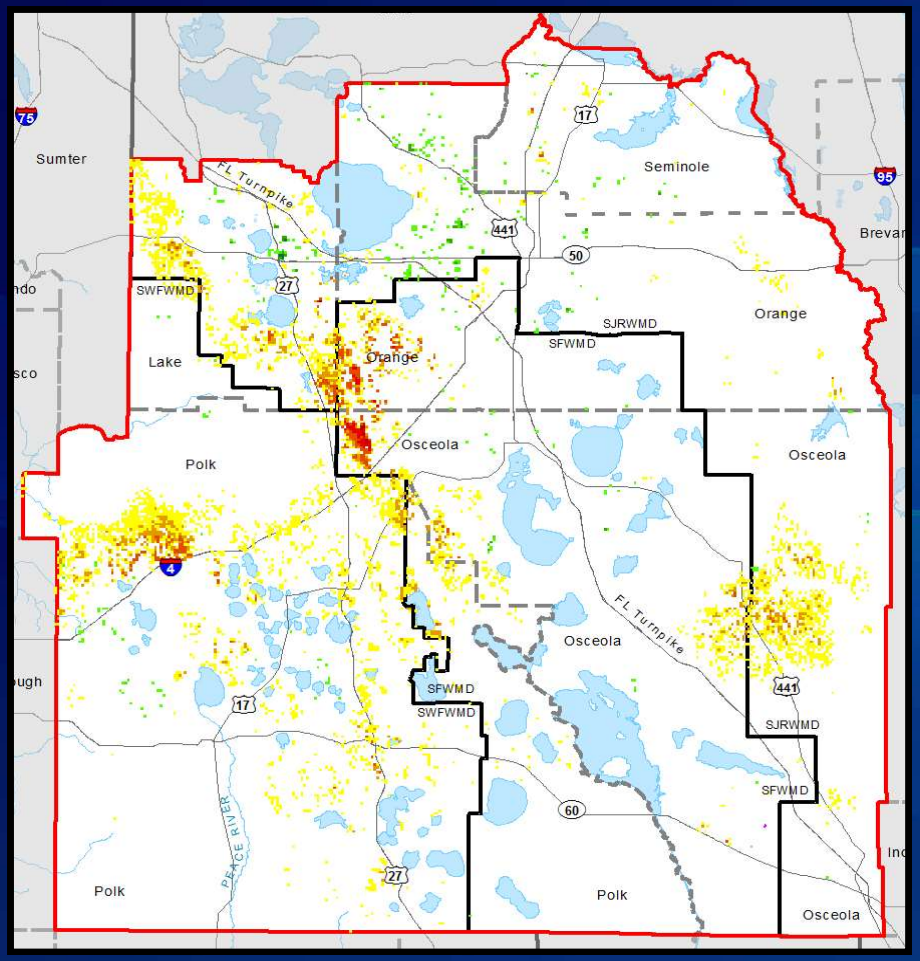


Groundwater-Dominated Wetlands Results

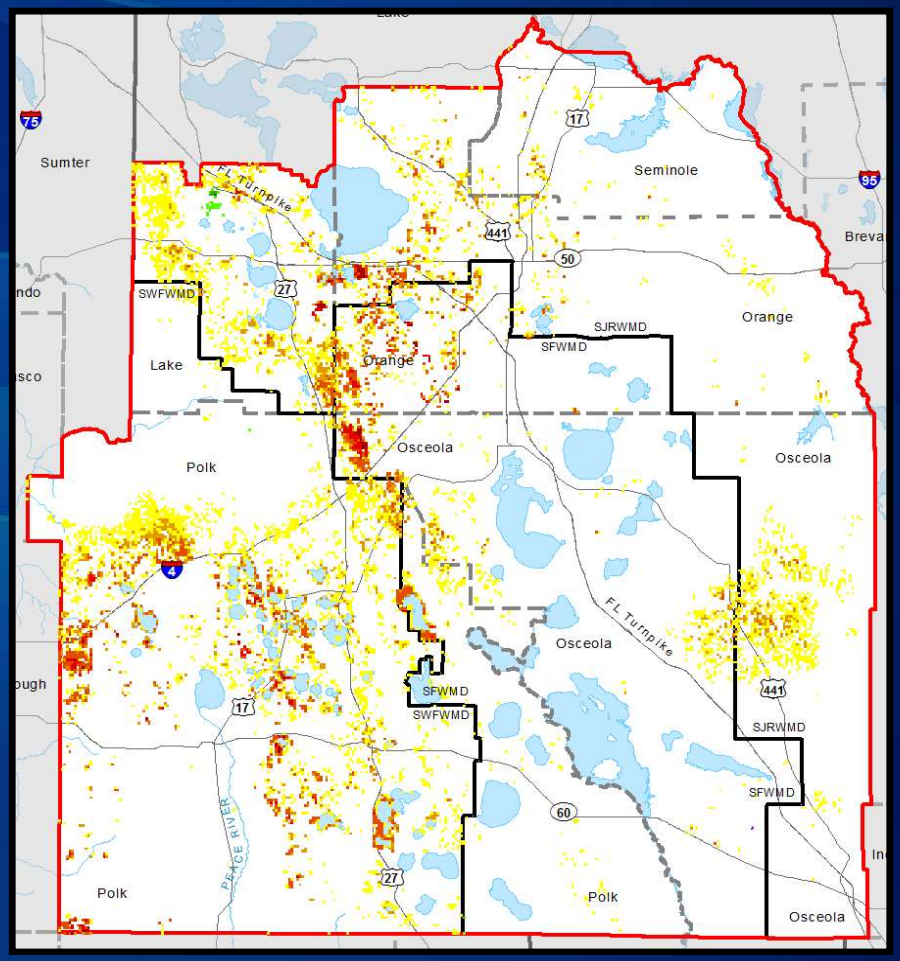
Wetland Class	Total Acres	2014 RC Probable Acres of Stressed Wetlands	2025 Probable Increase From RC	2030 Probable Increase From RC	2040 Probable Increase From RC
Surficial Aquifer System (Layer 1)					
Plains	140,000	17,000	770	1,000	1,400
Ridge	50,000	19,000	500	700	1,000
Upper Floridan Aquifer (Layer 3)					
Ridge	50,000	19,000	2,750	3,600	4,700

Stressed Wetlands, 2040 vs. 2014 Reference Condition

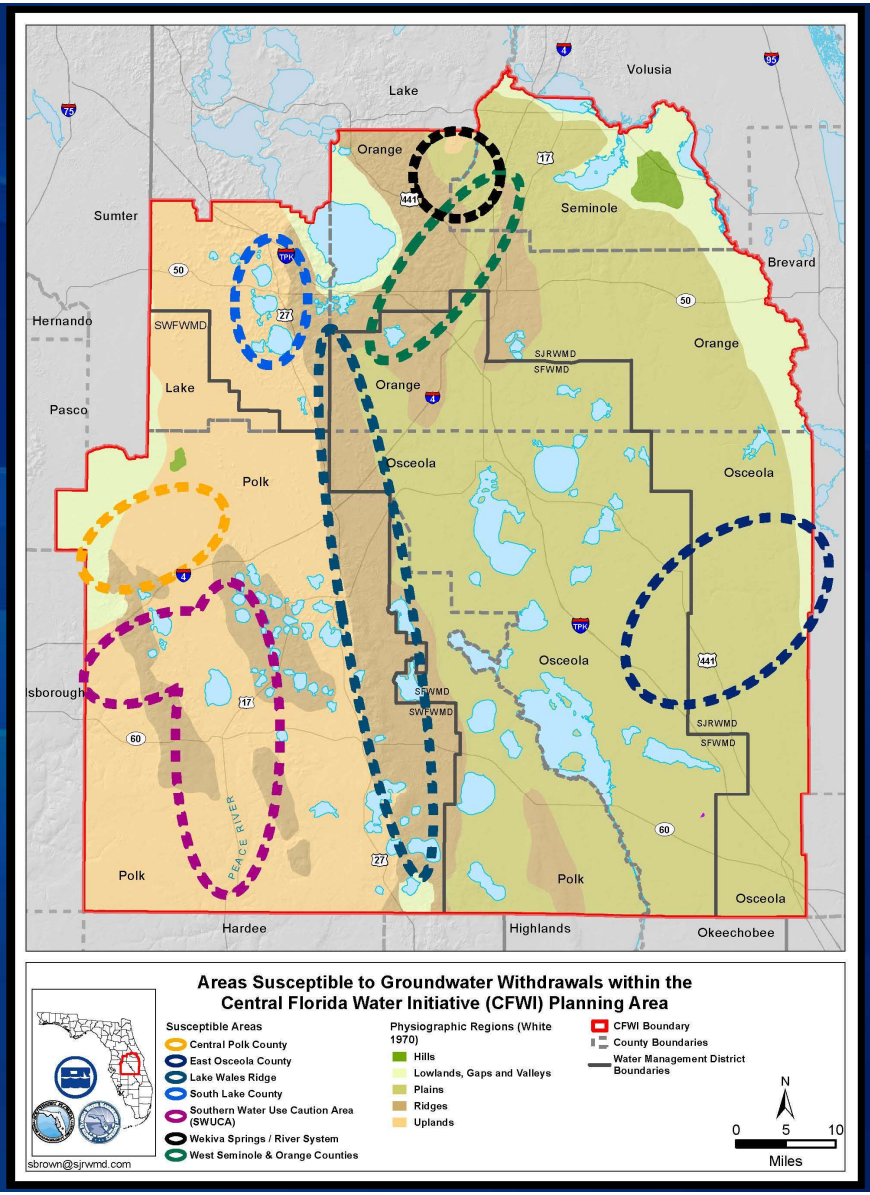
Model Layer 1 (SAS), Plains and Ridge



Model Layer 1 (SAS), Plains and Model Layer 3 (UFA), Ridge



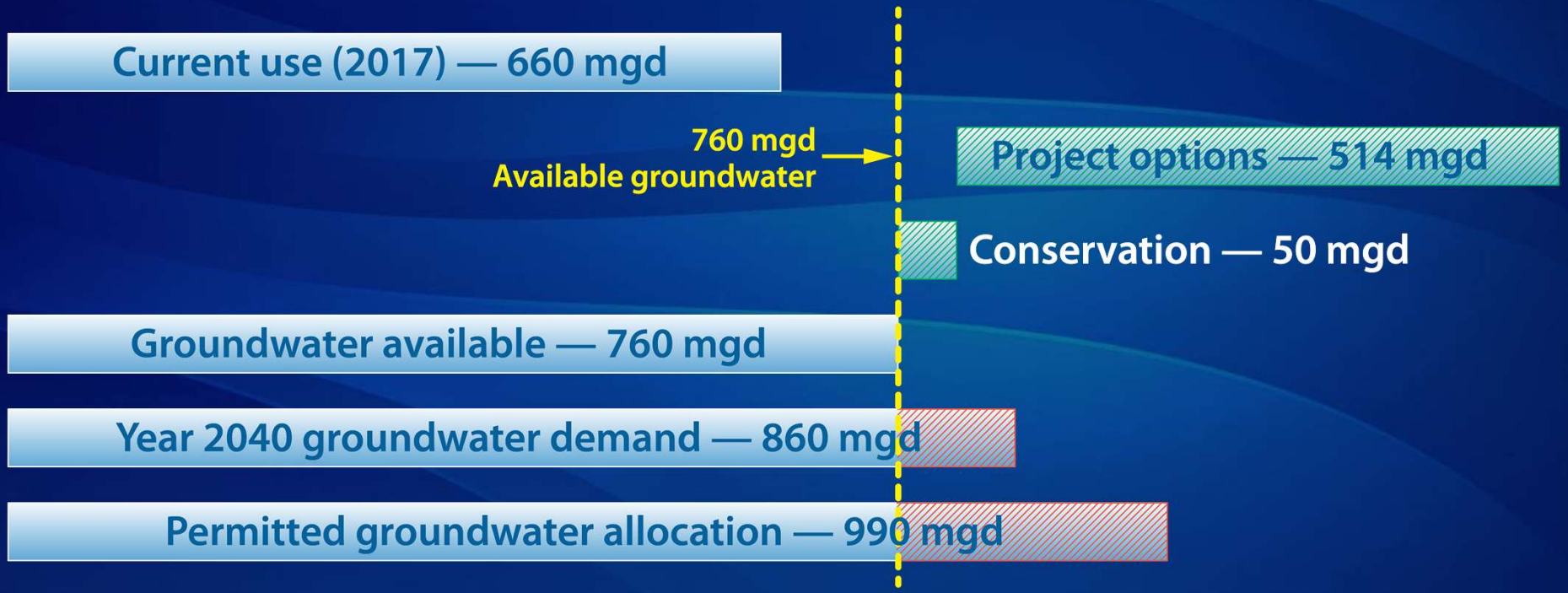
Primary Areas Susceptible to Groundwater Withdrawals



CFWI Planning-Level Groundwater Availability Assessment

Environmental Criteria	2014 RC 620 mgd	760 mgd	800 mgd	860 mgd
MFLs and MFL-related Criteria	28 Met	No Change in Status	26 Met	24 Met
	11 Not Met		13 Not Met	15 Not Met
Stressed Plains Wetlands	17,000 Acres	+770 Acres	+1,000 Acres	+1,400 Acres
	12%	+0.5%	+0.7%	+1%
Stressed Ridge Wetlands	19,000 Acres	+ 500 to 2,750 Acres	+700 to 3,600 Acres	+1,000 to 4,700 Acres
	37%	+ 1 to 5%	+1.5 to 7%	+2 to 9%

CFWI RWSP 2020
Planning-level groundwater availability



Next Steps

- Prioritize proposed project options based on:
  - Geographic location of project in relation to environmental constraints
  - Resource benefit
  - Permitability
  - Cost effectiveness
- Continue to identify water supply project options
- Focused conceptualization and optimization modeling
- Continue to implement Recovery Strategies (e.g., SWUCA)
- Develop and implement new Prevention/Recovery Strategies
- Encourage funding for construction of AWS projects
- Continue monitoring and data collection in the region

Questions

2020 RWSP Proposed Project Options (mgd) – DRAFT

County	Brackish Groundwater	Management Strategies	Reclaimed Water	Surface Water	Stormwater	Total
Orange	24.00	5.00	31.97	71.00	0.00	132.36
Osceola*	30.00	0.00	5.00	120.00	5.90	135.90
Polk	45.00	6.00	11.35	46.10	0.00	109.34
Lake	13.70	0.00	3.80	5.00	0.00	23.23
Seminole	1.00	0.00	7.03	82.20	0.00	86.53
Total	113.70	11.00	59.15	324.30	5.90	514.04

* Includes the Grove Land Reservoir Project located in Okeechobee and Indian River Counties

Modeled Groundwater Volumes in the CFWI Planning Area (mgd)

Plan	2005RC	2014 RC	2015	2025	2030	2035	2040	EOP
2015 RWSP	658		804	897		1018		990
2020 RWSP		620		753	796	825	861	992