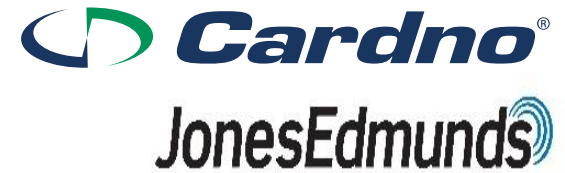




WITHLACOOCHEE
REGIONAL
WATER
SUPPLY
AUTHORITY



Withlacoochee Regional Water Supply Authority

Regional Water Supply Plan Update - Status Report 4

May 15, 2019

Water Supply Plan

Purpose

- To assist water supply utilities within the WRWSA's four-county region with the development of water supply options and strategies to meet future demands.
- 20-year planning horizon
- SWFWMD requests all four of the water supply authorities in its district to complete a water supply plan every five years.
- SWFWMD incorporates the plans into its district-wide water supply plans that are statutorily mandated every five years.
- SWFWMD funds 50 percent of the cost

Water Supply Plan Overview

- Key elements of the Water Supply Plan
 - > Water Demand Projections
 - > Water Source Evaluation
 - > Water Supply Project Options
 - > Facility Integration Plan
 - > Governance

Completion Status

- Water Demand Projections
- Year 2040 Public Supply Utility Deficits
- Water Source Analysis
 - > Water Conservation
 - > Groundwater
 - > Reclaimed Water
 - > Surface Water
 - > Seawater Desalination
- Feasibility of Water Supply Options
 - > Surface Water
 - > Seawater Desalination
- Facility Integration Plan
- Governance

2040 Water Demand Projections All Use Categories

Water Demand Projections – All Use Categories

Water Use Category	2015 Base Demand	2040 Demand	Total Increase
Public Supply	105.7	145.8	40.2
Domestic Self-Supply	23.9	40.7	16.8
Agricultural	18.3	32.1	13.8
Industrial and Commercial	9.0	10.2	1.1
Recreational	15.1	24.7	9.6
Total	172.1	253.6	81.6

2040 Water Utility Deficits

2040 Utility Water Supply Deficits

Utility Name	2015 Demand (MGD)	2040 Demand (MGD)	Planning Period Increase in Demand (MGD)	Currently Permitted Quantity (MGD)	Planning Period Deficit or Surplus (MGD)	Deficit as Percent of 2040 Demand
Citrus County						
Citrus Co. Sugarmill Woods	2.15	2.72	0.57	2.36	-0.36	13.2%
Marion County (SWFWMD)						
Laurel Center Public Water Supply System	2.50	3.10	0.60	2.56	-0.54	17.4%
City of Dunnellon	0.84	1.16	0.32	1.12	-0.04	3.4%
Marion County (SJRWMD)						
Sunshine Utilities / South Marion Regional System	0.18	0.24	0.06	0.15	-0.09	37.5%
Marion Co. Utilities Consolidated Permit	5.18	7.62	2.44	6.44	-1.18	15.5%
Sumter County						
Lake Panasoffkee Water Assoc Inc	0.23	0.59	0.35	0.41	-0.18	30.5%
City of Bushnell	0.38	1.44	1.06	1.37	-0.07	4.9%
City of Webster	0.12	0.28	0.16	0.10	-0.18	64.3%
City of Wildwood	2.21	9.42	7.20	6.44	-2.97	31.5%
City of Center Hill	0.12	0.32	0.20	0.17	-0.15	46.6%

Utilities that have Deficits in 2040

- Using the results of the water conservation assessment, a reasonable water conservation savings will be calculated for each utility, then this savings will be subtracted from their deficit.
- We will use SWFWMD's Northern District model to predict the impacts on MFLs if each of these utilities was granted an increase in their permitted groundwater quantities to cover their deficits.

Water Source Analysis

Water Source Analysis

- Sources
 - > Water Conservation
 - > Reclaimed Water
 - > Groundwater
 - > Surface Water
 - > Seawater Desalination

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Water Source Analysis

Reclaimed Water

**Quantities of Reclaimed Water Available in 2040 – WRWSA Region
(not Currently Allocated to Planned Projects)**

County	Unallocated Reclaimed Water Available in 2040 (mgd)
Citrus County	
Citrus Co. Beverly Hills	0.44
Citrus Co. - Brentwood Regional	0.47
Citrus Co.-Citrus Springs	0.54
Inverness	0.19
Citrus Co.-Sugarmill Woods	0.22
Total	1.86
Hernando County	
Hernando Co. – West	3.98
Hernando County - Ridge Manor	0.34
Total	4.32
Marion County	
Rainbow Springs FGUA	0.14
Dunellon-FGUA	0.34
Marion Co. Oak Run	1.45
Marion Co. NW	0.02
Marion Co. SJRWMD	0.45
Total	2.41
Sumter County	
Continental Country Club	0.10
Wildwood	1.96
Sumter Correctional	0.12
Villages (North, Little and Central)	0.64
Bushnell	0.78
Total	3.60
WRWSA Total	12.18

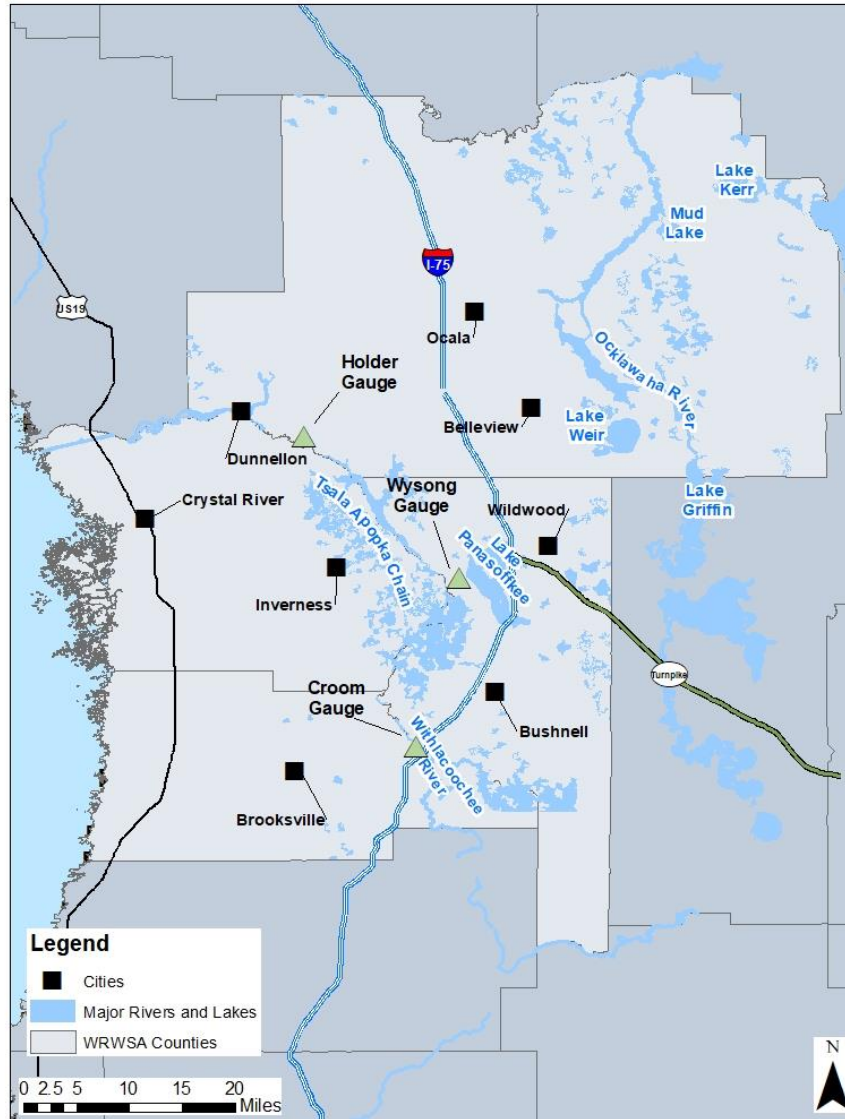
Water Source Analysis

Surface Water

Surface Water Availability

- Withlacoochee River (SWFWMD)
- Ocklawaha (SJRWMD)

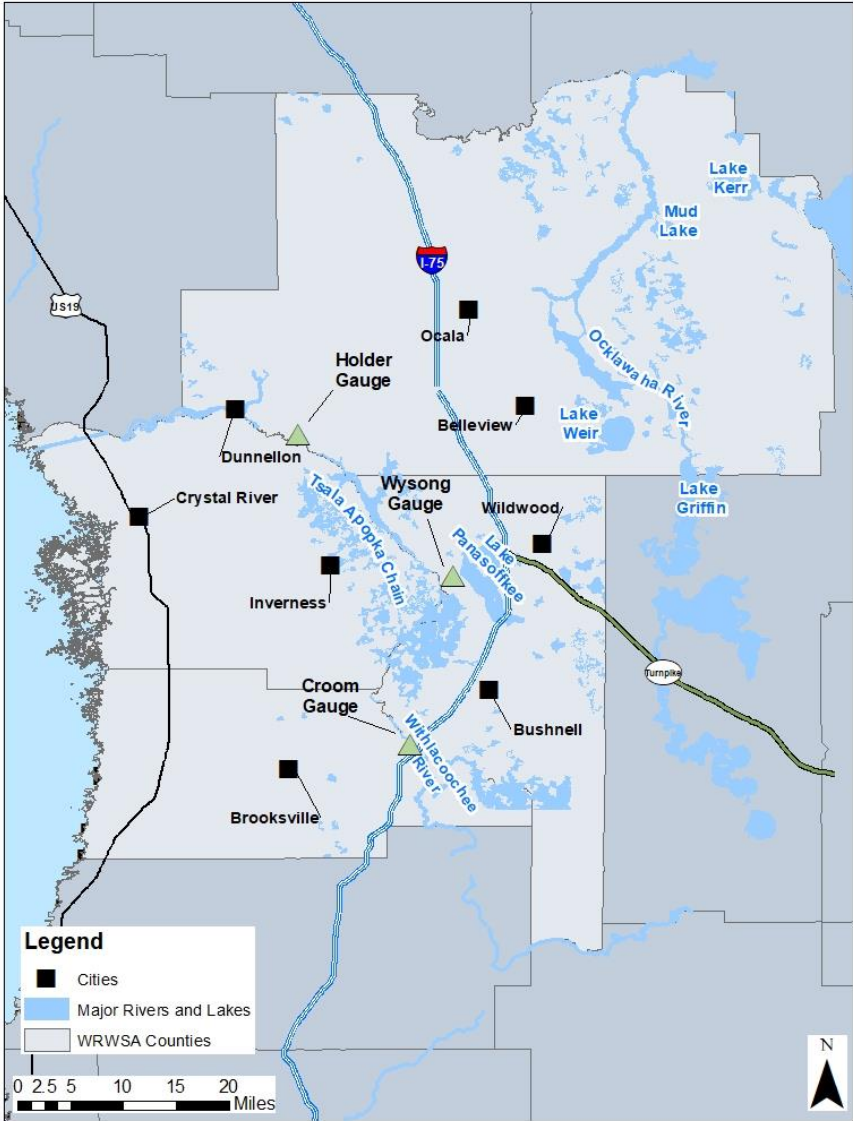
Withlacoochee and Ocklawaha Rivers



Withlacoochee River Water Availability

- Availability determined at Croom, Wysong, and Holder gauges
- Based on SWFWMDs 2010 MFL analysis
 - > 2010 MFLs were not adopted
 - > MFLs being re-evaluated – adoption scheduled for 2021

Withlacoochee River MFL Gauge Locations

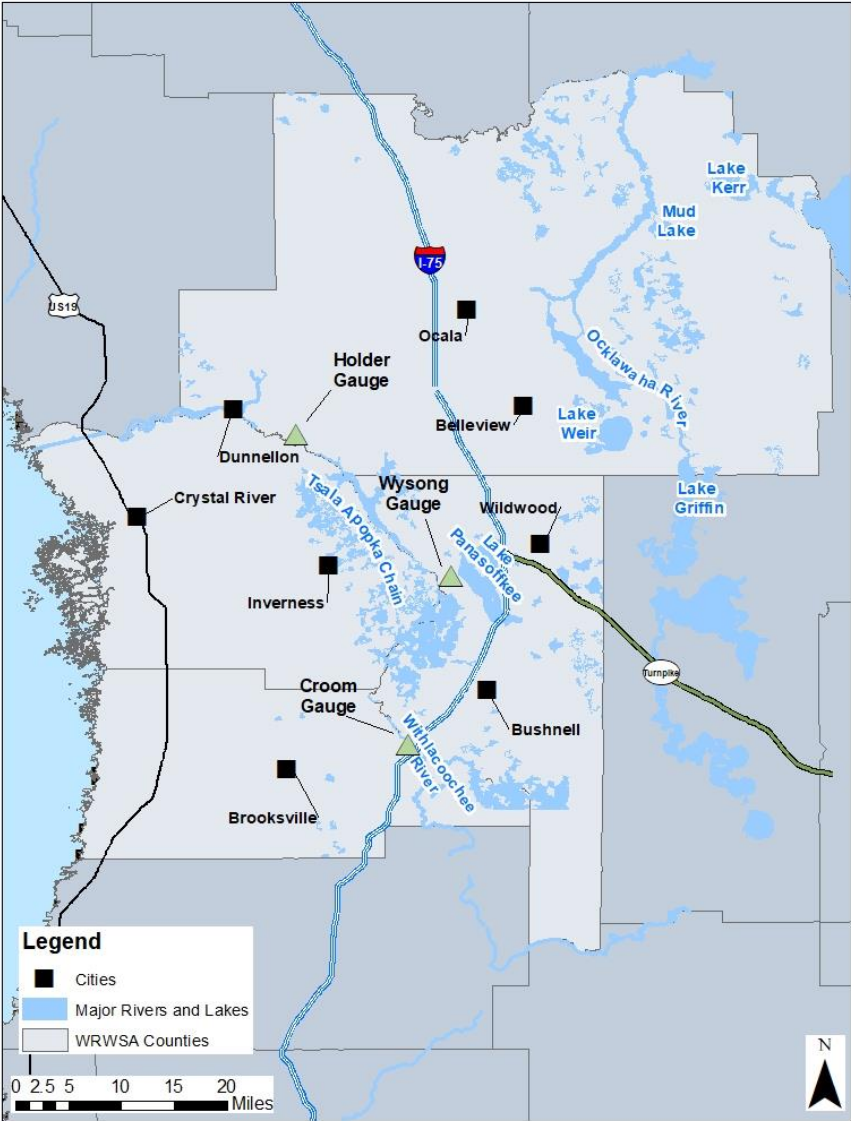


Withlacoochee River Water Availability

Mean Daily Quantity Available for Withdrawal on an Annual Average Basis

Location	Quantity Available (mgd)
Croom	27
Wysong	39
Holder	49
Lake Rousseau	Much Greater

Lake Rousseau Water Availability



Surface Water Availability

- Ocklawaha (SJRWMD)
 - > Available withdrawals will be determined upon completion of MFL analysis in 2021

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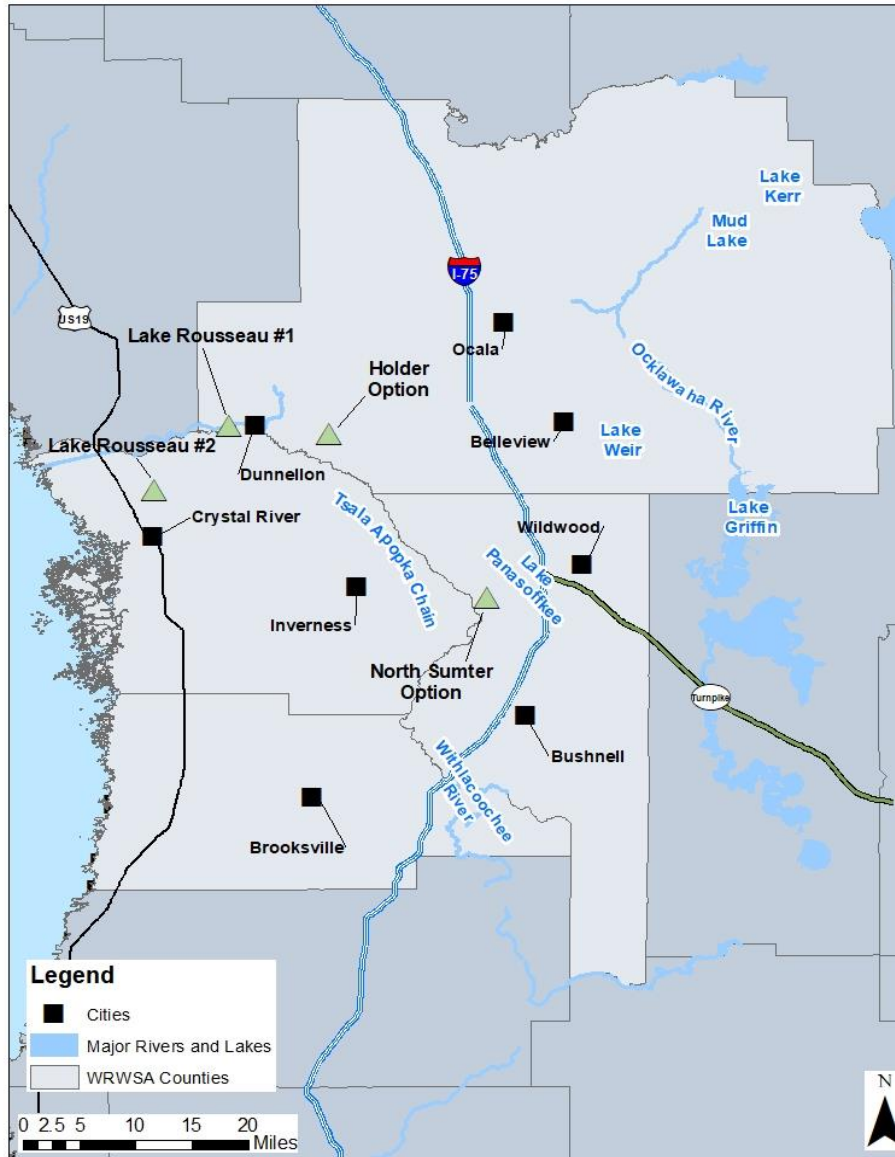
Water Supply Options Feasibility Analysis

Water Supply Options Feasibility Analysis

- Determining costs of water supply facilities
 - > Surface Water
 - Withlacoochee River

Withlacoochee River

Locations of Potential Water Supply Options



Withlacoochee River Options

- No more than one site would be developed
- Flow analysis indicated that during droughts there are long periods when no flow would be available
 - > Off-Stream Storage – reservoir or aquifer recharge
 - > Conjunctive Use – combine river withdrawals with groundwater wellfield.

Location	Yield	Infrastructure	Capital Cost	Unit Cost \$/1,000 gal
North Sumter	25 mgd	Intake & Pump Station Raw Water Transmission Off-Stream Reservoir (3 billion gals) Water Treatment/Storage Finished Water Transmission Land and Easement Non-Construction Capital Cost Total	\$21,250,000 \$1,036,800 \$110,356,560 \$85,500,000 \$53,306,400 \$2,964,000 \$123,369,550 \$397,783,310	\$4.10
Holder	25 mgd	Intake & Pump Station Raw Water Transmission Off-Stream Reservoir (3 billion gals) Water Treatment/Storage Finished Water Transmission Land and Easement Non-Construction Capital Cost Total	\$21,250,000 \$2,073,600 \$110,356,560 \$85,500,000 \$98,160,000 \$7,068,000 \$145,983,670 \$470,391,830	\$4.50
Lake Rousseau #1	25 mgd	Intake & Pump Station Raw Water Transmission Water Treatment/Storage Finished Water Transmission Land and Easement Non-Construction Capital Cost Total	\$21,250,000 \$684,300 \$85,500,000 \$121,958,200 \$8,445,800 \$107,027,200 \$344,865,500	\$3.80
Lake Rousseau #2	25 mgd	Intake & Pump Station Raw Water Transmission Water Treatment/Storage Finished Water Transmission Land and Easement Non-Construction Capital Cost Total	\$21,250,000 \$11,769,800 \$85,500,000 \$121,958,200 \$8,992,600 \$112,261,800 \$361,732,800	\$3.90