

**Central Florida Water Initiative**

Toho Water Authority  
951 Martin Luther King Blvd  
Kissimmee Florida 34741  
Thursday, January 17, 2019  
9:30 AM

**Agenda**

1. Introductions
2. Public Comments
3. Consent Items
  - a. April 13, 2018 Meeting Summary (ACTION)
4. Steering Committee Change (ACTION)
  - a. Todd Swingle for Public Water Supply Representative
5. MOC Membership Change (ACTION)
  - a. Kathleen Greenwood for FDACS Representative
6. Regulatory Team Update
7. Conservation Team Update
8. Regional Water Supply Team Update
9. Water Resource Assessment Team Update
  - a. Environmental Measures Team Presentation
  - b. Hydrologic Analysis Team Presentation
  - c. Minimum Flows and Levels and Reservations Team Presentation
  - d. Data Monitoring and Investigations Team Annual Work Plan Update (ACTION)
10. Communications Team Update
11. Open Discussion
12. Next/Future Steering Committee meetings

April 19, 2019 TOHO 9:30 AM	
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13. Adjourn

# Agenda Item #3

## Central Florida Water Initiative

Toho Water Authority  
Friday, April 13, 2018

### Meeting Summary

*(All presentations made to the Steering Committee have been posted on [www.cfwiwater.com](http://www.cfwiwater.com))*

#### 1. Introductions

- a. Steering Committee members present: Stephen James (FDEP), Brian Wheeler (TOHO Water), Paul Senft (SWFWMD), John Miklos (SJRWMD), Ray Scott for Steve Dwinell (DACS), Terri Bates for Dan O'Keefe (SFWMMD)
- b. The sign in sheet for those in attendance has been posted to the website.

#### 2. Consent Items

- a. On Motion by Mr. Senft and a second by Mr. Wheeler, the January 19, 2018, Meeting Summary was approved with modifications.

#### 3. Regulatory Team Update

Kristine Morris gave a brief update on the status of the Department of Environmental Protection's CFWI rulemaking. A future workshop is being planned.

#### 4. Conservation Team Update

Christine Morris gave a brief update on the status of the Conservation Plan. The Implementation Plan is not yet ready, but will be presented at the next Steering Committee meeting.

#### 5. RWSP Team Update

Tammy Bader gave the following update:

##### Current Efforts

- Finalized review of BEBR deliverable
- Draft demand projections under review
  - Public Supply detailed
- Distributed FSAID IV Agricultural projections spatially
- Established water source options, technical writing and reclaimed water subgroups
- Solicited reclaimed water projections

# D R A F T

- Initiating solicitation of water project options

## Projection Changes

- FSAID IV
- BEBR Population
- Per Capita
- Starting Year

## Draft Population Projections

Category	2015	2040	Change	% Change
Public Supply	2,856,512	4,215,543	1,359,031	48%
Domestic Self-Supply & Small Utilities	77,403	134,050	56,647	73%
<b>Total</b>	<b>2,933,915</b>	<b>4,349,593</b>	<b>1,415,678</b>	<b>48%</b>

- Graph showing a comparison of the BEBR population projections from the 2015 RWSP and the current draft effort. 2015 RWSP was increase of 1.4 million or 49%
- Graph showing comparison between 2015 RWSP Agricultural Irrigated Acreage and 2020 Draft CFWI RWSP Agricultural Irrigated Acreage
  - As public supply and agriculture are our 2 largest sectors, we also wanted to provide a comparison of projected agricultural acres.
  - Previously 2015 acreage were projections.
  - 2015 on the orange line represents acreage projections published by FDACS in their FSAID IV product. 2015 is actual irrigated acreage and was field verified by the District and USGS in a joint project with FDACS.
  - 2020 RWSP = reduction of 1,383 acres
  - Prior to sector plan incorporation, FSAID IV indicated decrease of 8,601 acres
- Next Steps
  - Verify water demand projections
  - Finalize reclaimed water projections

# DRAFT

- Solicit project options / update existing project list (The letter for project solicitation is under review now and will be sent out this month.)
- Outreach to stakeholders
- Coordination with WRAT for modeling
- Begin drafting chapters
  
- *Mr. Wheeler noted that the changes in future population projections are in flux; we need to look at all of the data during this process.*
- *Mr. Scott suggested we need to remain cautious since whatever the actual conception numbers are we are still seeing existing impacts and in the long run we will probably see a greater deficit.*

## 6. Water Resource Assessment Team

Brian Starford gave a brief update for the WRAT:

- Improved Coordination. The Steering Committee asked the WRAT to ensure that the sub-teams were coordinating and that the DMIT monitoring points and the timeframe to install the monitoring points met the needs of the other sub-teams.
  - a. February 26, had a meeting with all sub-teams to discuss the DMIT program. The DMIT will also schedule a meeting with a couple of consultants who had other suggestions to improve coordination.
  - b. April 16, a second coordination meeting with all the sub-teams to discuss the groundwater modeling Reference Condition and groundwater modeling scenarios.
- MFL & RT – has been formed and has been working on completing their scope of work. They will be involved in the April 16 meeting.
- EMT – Identified the field work that the team will complete to support the RWSP.
  - a. Revisit 44 Class 1 wetlands identified in the first RWSP.
  - b. Visit 8 additional Class 1 wetlands to determine if they are stressed or not stressed.
  - c. April 19, the District's staff will meet in the field to ensure they are consistently using the evaluation form and are doing consistent wetland evaluations.
  - d. Split the work approximately evenly between Districts.
  - e. Include mapping of wetland locations in the RWSP instead of just tabular data.
  - f. Identify and document a scope of work for future EMT activities.

# DRAFT

- HAT will be wrapping up the steady-state model calibration in about 2 weeks. They will schedule a meeting with the peer review panel to discuss the calibration and to discuss the path forward for calibration of the transient model.
  - *Brian Wheeler asked for a timeline with regard to the steady state calibration. Brian projected about 2-3 weeks and then they would move to the transient state modeling.*

Claire Muirhead gave an update on the DMIT:

- DMIT/HAT/EMT/MFL Coordination
  - Sub-teams met in February and discussed:
  - Status of monitoring site construction
  - Evaluation of need for sites and site addition\removal
  - Extension of construction schedule
  - Available products (maps\spreadsheets\workplan)
  - A plan for continuing coordination
- Water Quality (WQ) Monitoring
  - Where appropriate WQ is collected at some DMIT monitoring sites
  - Approximately 50% of the DMIT non-wetland sites are monitored for water quality
  - Parameters monitored typically include chlorides, TDS, specific conductivity, sulfates
- Extension of DMIT Work Plan Schedule
  - Recommendation for an additional 5-years (will end in FY2025)
  - Recommendation based on a review of:
  - Number of remaining planned sites
  - Past construction history
  - Staffing levels
  - Anticipated site acquisition
  - Site work (Surveying, transects, mapping, instrumentation)
  - Revisiting of established wetland sites for first 5-year evaluation
- FY2015-FY2025 DMIT Status

	<b>Wetland Sites</b>	<b>Wetland SA</b>	<b>General SA/IA</b>	<b>UFA/APPZ</b>	<b>LFA</b>
<b>2015</b>	<b>0</b>	<b>0</b>	<b>2</b>	<b>3</b>	<b>1</b>
<b>2016</b>	<b>13</b>	<b>4</b>	<b>5</b>	<b>4</b>	<b>2</b>
<b>2017</b>	<b>9</b>	<b>7</b>	<b>7</b>	<b>7</b>	<b>3</b>
<b>2018</b>	<b>8</b>	<b>5</b>	<b>17</b>	<b>11</b>	<b>7</b>
<b>2019-2025</b>	<b>77</b>	<b>77</b>	<b>51</b>	<b>19</b>	<b>25</b>
<b>Total:</b>	<b>107</b>	<b>93</b>	<b>82</b>	<b>44</b>	<b>38</b>

# DRAFT

- Implementation Costs\*

Fiscal Year	Total Implementation Costs (in millions)
2015	\$0.55
2016	\$1.15
2017	\$2.86
2018 <sup>1</sup>	\$5.76
2019-2025 <sup>2</sup>	\$27.38
<b>Total:</b>	<b>\$37.70</b>

\*The implementation costs do not include staff costs.

<sup>1</sup> Cost is budgeted but may be lower based on actual construction performed

<sup>2</sup> Cost is estimated for the seven-year period and subject to funding

- Action Items

- DMIT requests approval of the revised DMIT construction schedule (construction through FY2025) (**APPROVED**)
- DMIT requests approval of the DMIT Hydrogeologic Annual Work Plan for FY2018-FY2025 (**APPROVED**)
  - *Mr. James asked whether the financial figures are sufficient to complete the proposed wells. Ms. Muirhead stated that the general belief is that the Districts will be able to be completed on time and within budget. Meetings with DEP are continuing to ensure access and the pace of completion has increased.*
  - *Mr. Wheeler wanted to make sure that the funding message made its way back to each of the District boards as the timeline has been extended and the information from these wells is one of the most important parts of the process.*
  - *Mr. Senft wanted to note that the water resources of the area have been fully allocated and wants to make sure that everyone knows that these wells are for monitoring purposes only and not for consumption.*

## 7. Communications Team Update

The Communications gave a brief update noting that the website is being continually.

## 8. Open Discussion

Ray Scott wanted to make sure that the Steering Committee always opened public comment before voting on action items.

# D R A F T

Stephen James asked how the population projections impact modeling. The WRAT is planning to reform the Groundwater Supply Team to see if any additional work is necessary.

## 9. Public Comments

- a. David Gore, NE Polk County resident and representative of the natural systems expressed concern that, in his opinion, there is no representative on the committee representing the natural systems. Mr. James noted that that was the responsibility of a number of persons on the committee and supporting the process. Mr. Gore remains concerned about the methodology.

Mr. Miklos requested that staff meet with Mr. Gore as it seems he continues to raise the same issues. After a discussion it was agreed that a meeting with various District staff would be set so that Mr. Gore could present his issues and responses could be given. Mr. Gore was also invited to provide written comments regarding the annual work plan.

Many Committee members noted that nothing Mr. Gore has said has been ignored and that there are a large number of persons in the scientific community working on and reviewing this process.

## 10. Next SC meeting

- a. July 13, 2018

## 11. Adjourn

# Agenda Item #4

Steering Committee

Representative	Member
FDEP	Stephen James, Chair
Public Water Supply	<del>Brian Wheeler</del> , TOHO <u>Todd Swingle</u>
SWFWMD	Paul Senft
SJRWMD	John Miklos
SFWMD	Federico Fernandez
FDACS	Angela Chelette



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October 4, 2018

Stephen M. James, Esq.  
Director  
Office of Water Policy  
Florida Department of Environmental Protection  
3900 Commonwealth Blvd. MS46  
Tallahassee, Florida 32399-3900

**Re: CFWI Steering Committee Utility Representation**

Dear Mr. James:

Mr. Brian Wheeler retired as the Executive Director of Toho Water Authority effective October 1, 2018 and as such can no longer serve as the utility representative on the Central Florida Water Initiative Steering Committee (CFWI). The STOPR+2 utility group (City of St. Cloud, Toho Water Authority, Orange County, Polk County, Reedy Creek Improvement District, Orlando Utility Commission, and Seminole County) have selected me to be the utility representative on the CFWI Steering Committee. I am familiar with the CFWI and its efforts over the years having served as the Deputy Director of Orange County Utilities for the past three years prior to becoming the Executive Director of Toho Water Authority and as an original founding member of the STOPR Group while serving as Public Services Administrator for the city of St. Cloud. Please submit my name for approval to the Steering Committee at its next scheduled meeting.

I look forward to contributing to the continuing work of the CFWI to plan for the water supply for Central Florida in the coming years.

Sincerely,  
TOHOPEKALIGA WATER AUTHORITY

Todd P. Swingle, P.E.  
Executive Director

TPS/ncd

cc: Craig Varn, Teresa Remudo, Kevin Felblinger, Krystal Azzarella, Jason Herrick, Christine Russell,  
Robert Heaviside

# Agenda Item #5

MOC	
Representative	Member
SJRWMD	Ann Shortelle, Chair
Public Water Supply	Teresa Remudo-Fries, OCU
Environmental	Beth Lewis, Nature Conservancy
SWFWMD	Brian Starford
SFWMD	Terrie Bates
FDACS	<del>Kathleen Greenwood</del> <del>Angela Chelette</del>
FDEP	Kristine Morris
Agriculture	Kerry Kates

# Agenda Item #8

***Central Florida  
Water Initiative  
Water for Tomorrow***



**Steering Committee**

**January 17, 2019**

**Regional Water Supply Plan  
Team**

# Current Efforts

- Population and Water Demand Projections
- Spatial Demand Distribution
- Reclaimed Water Projections
- Alternative Water Supply Projects
- 2020 RWSP Development



# 2020 RWSP Population Estimates and Projections (2015-2040)

Category	2015	2040	Change	% Change
Public Supply	2,748,018	4,156,038	1,408,020	51%
Domestic Self-Supply and Small Utilities	185,897	217,271	31,374	17%
<b>Total</b>	<b>2,933,915</b>	<b>4,373,309</b>	<b>1,439,394</b>	<b>49%</b>



# 2020 RWSP Draft Demand Estimates and Projections (2015-2040)

Category	2015	2040	Change	% Change
Public Supply	385.97	592.28	206.31	53%
Domestic Self-Supply and Small Utilities	21.56	24.59	3.03	14%
Agricultural	159.38	163.49	4.11	3%
Landscape / Recreational / Aesthetic	39.63	49.27	9.64	24%
Commercial / Industrial / Institutional and Mining / Dewatering	53.50	69.00	15.50	29%
Power Generation	8.47	11.27	2.80	33%
<b>Total</b>	<b>668.51</b>	<b>909.90</b>	<b>241.39</b>	<b>36%</b>

Values are shown in million gallons per day

# Comparison of 2015 RWSP and 2020 Draft RWSP Demands

Category	2015 RWSP 2035	2020 RWSP 2040	Difference	% Change
Public Supply	654.34	592.28	-62.06	-9%
Domestic Self-Supply and Small Utilities	24.42	24.59	0.17	1%
Agricultural	214.84	163.49	-51.35	-24%
Landscape / Recreational / Aesthetic	72.18	49.27	-22.91	-32%
Commercial / Industrial / Institutional and Mining / Dewatering	95.85	69.00	-26.85	-28%
Power Generation	22.41	11.27	-11.14	-50%
<b>Total</b>	<b>1,084.04</b>	<b>909.90</b>	<b>-174.14</b>	<b>-16%</b>

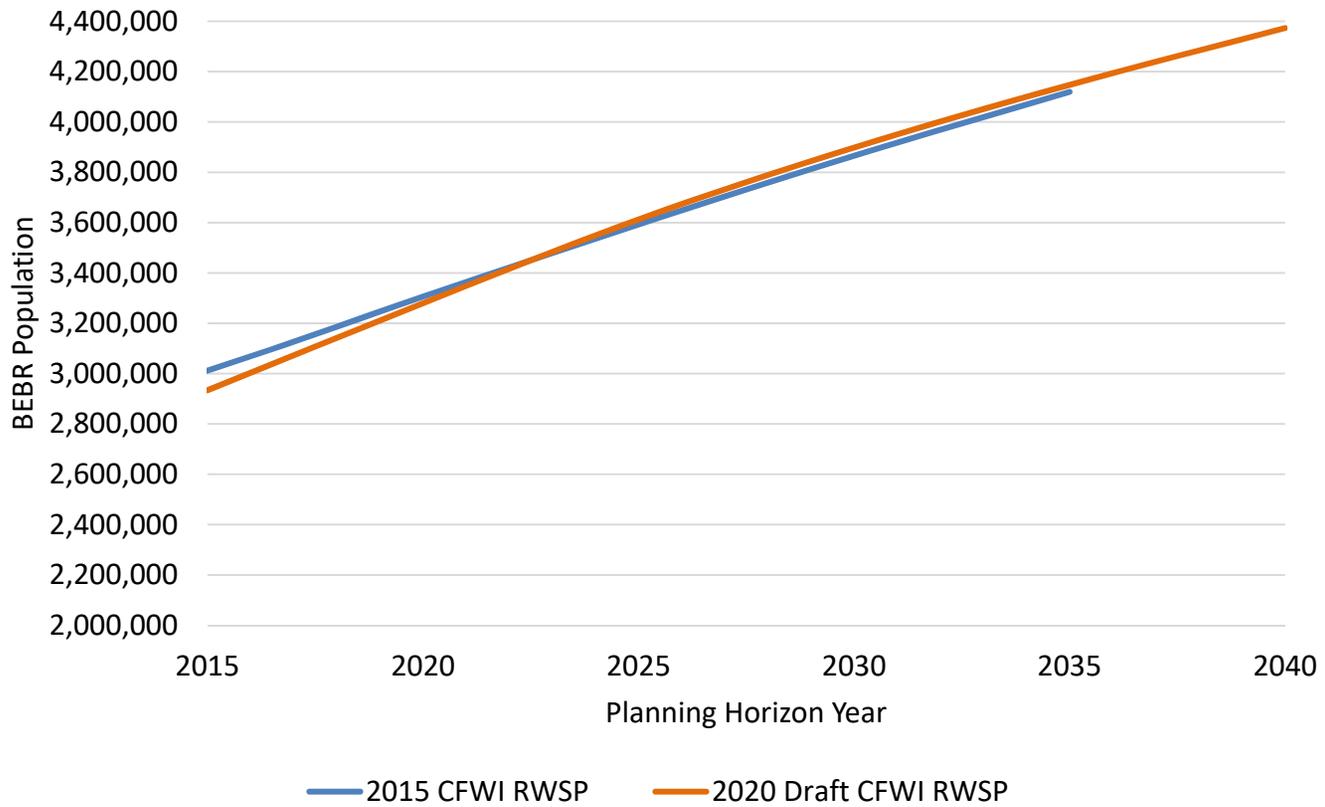
Values are shown in million gallons per day

# Comparison of 2015 RWSP and 2020 RWSP Methods

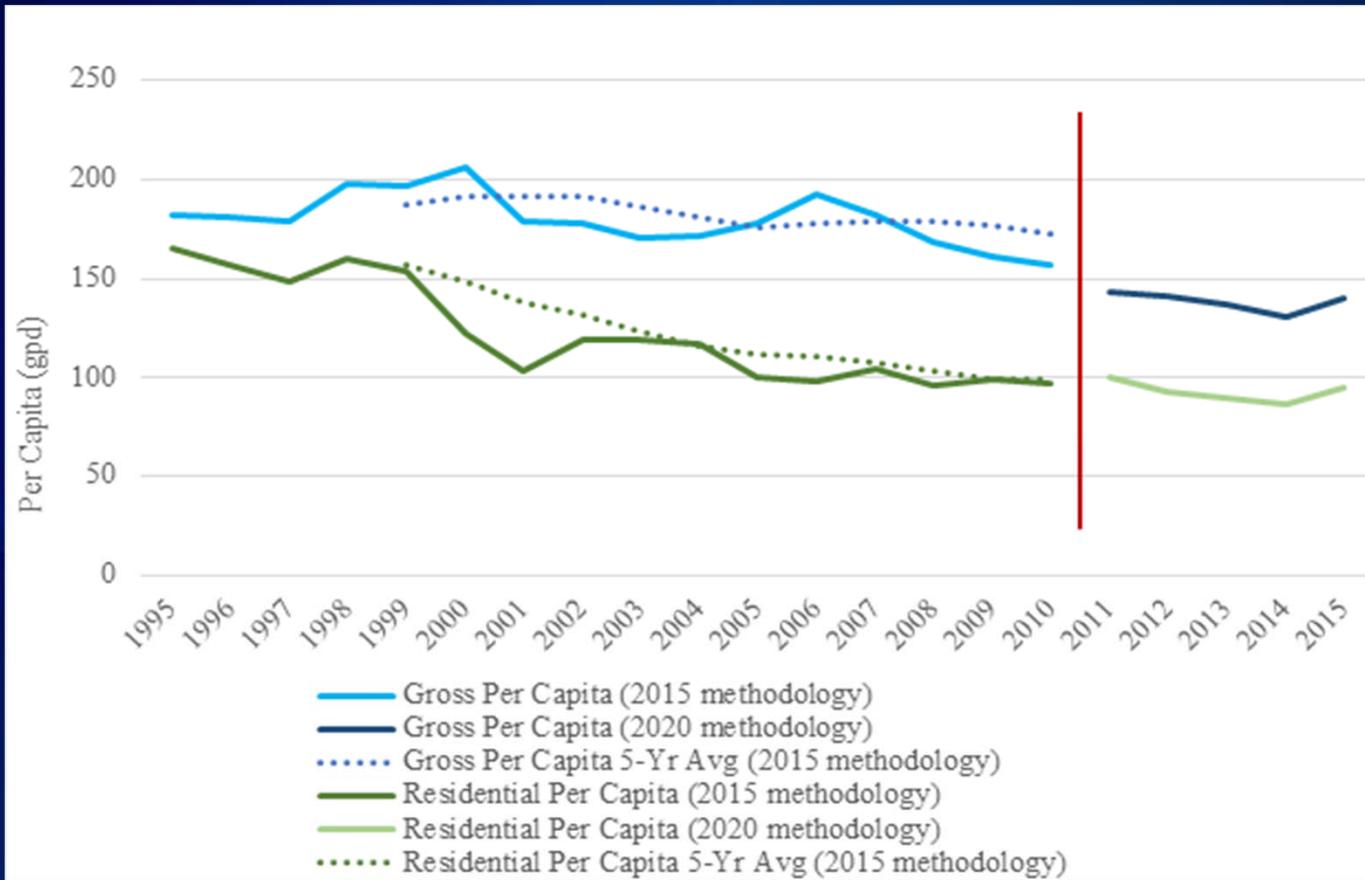
Plan	Methods			
	Base Year	Public Supply Population Method	Per Capita	Agricultural Method
2015 RWSP	2010-2035	District Methodologies	2006-2010 Average	District Methodologies
2020 RWSP	2015-2040	BEBR Parcels	2011-2015 Average	FSAID



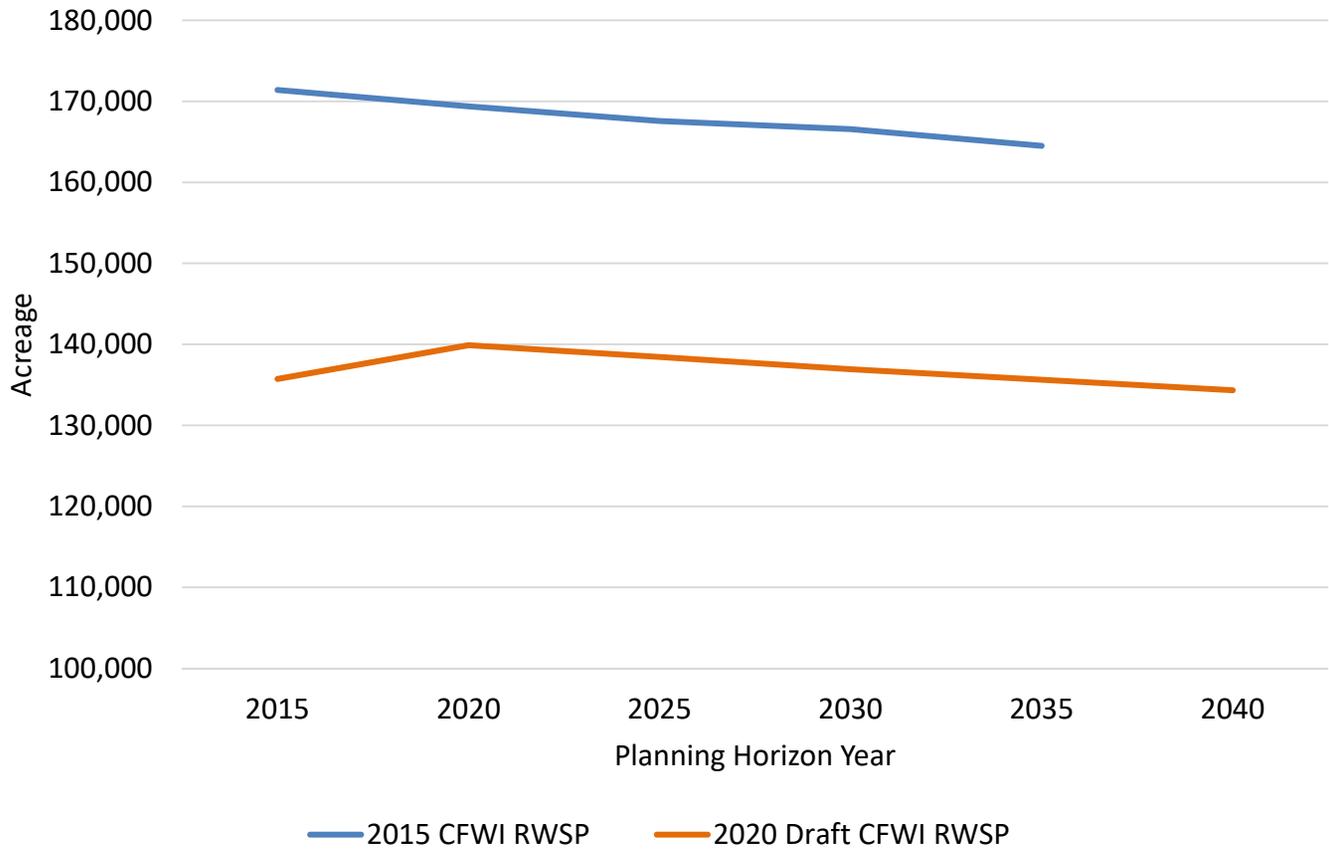
Comparison of 2015 RWSP and 2020 Draft RWSP Population Projections



## Historic Per Capita Trends in the Region



Comparison of 2015 RWSP and Draft 2020 RWSP Agricultural Acreages



# Spatial Demand Distribution

- Need for GW Modeling
  - Coordination with WRAT
  - Entire ECFTX Model
- Tabular to Spatial / Well Level
  - Stakeholder Review
- Five-Year Increments
- Monthly Variation



# Reclaimed Water Projections

City / County	2015	2040	Change	% Change
City of Cocoa	1.97	4.87	2.90	147%
Southern Lake	5.10	9.51	4.42	87%
Orange	103.26	174.69	71.43	69%
Osceola	26.49	49.79	23.30	88%
Seminole	36.62	47.10	10.48	29%
Polk	50.85	58.79	7.94	16%
<b>Total</b>	<b>224.29</b>	<b>344.75</b>	<b>120.46</b>	<b>54%</b>

Values are shown in million gallons per day

# Alternative Water Supply Projects

- Update existing projects
  - Status and Cost
- New Project Solicitation
  - April 1, 2019 Deadline



# RWSP Development

- Drafting Chapters and Appendices
- Streamlined RWSP
- Coordination Among Teams



# Schedule

Task	Dates
All Scenarios / Model Runs Completed	1/31/2019
Technical Methods Workshop	February / March 2019
All Analyses Completed	4/30/2019
1st Internal RWSP Draft Release	8/15/2019
2nd Internal RWSP Draft Release	12/10/2019
SC Meeting to Notify Posting of External Draft of RWSP in March	January 2020
Present External Draft to Governing Boards	February 2020 / March 2020
Public Comment Period	3/13/2020-5/15/2020
Public Workshops	April 2020
Review Comments, Answer and Update Draft RWSP	5/15/2020-8/25/2020
MOC Review of RWSP Updates and Changes Made	8/26/2020 - 9/16/2020
SC Approval	October 2020
Final Draft (with Comments / Responses Appendix) - Posted to Website After SC Approval	October 2020
Final Draft (with Comments / Responses Appendix) - Governing Board Approvals	November 2020

# Next Steps

- Finalize Project Options
- Outreach to Stakeholders
  - Technical Methods Workshop
  - Potential Webinar
- Communication Plan
- Continue Drafting 2020 RWSP



# Agenda Item #9

May 21, 2018, Meeting with David and Robbyn Gore

Comments Introduced by Mr. Gore

Regional Water Supply Plan (RWSP)

- The Regional Water Supply Plan needs to clearly explain the hydrologic cycle and note that the source of all water supply is the water table. The source is not where the withdrawal occurs. It is not the Upper or Lower Floridan aquifers.
- He is concerned that he has spoken to many people, but they do not listen to what he is saying. Some agree with him, but his concepts/facts are not reflected in the RWSP.
- He complimented the RWSP for identifying ways to store water.
- He wants the RWSP to paint a clear picture and clearly identify the source of water, so anyone can understand it. He especially wants the RWSP to be clear to decision makers, so we do not waste money on projects that could hurt the water table. He doesn't want to waste \$3 Billion. He didn't have specific suggestions for improving the wording in the RWSP. He wanted agency staff to improve the language.
- He thinks the RWSP should more strongly emphasize water conservation.

Water Table

- Withdrawals from the Upper Floridan aquifer come from the water table. All natural systems are at the water table. One gallon of water withdrawn from the Upper Floridan is equal to one gallon of water from the water table.
- The CFWI needs to take a comprehensive look at storing water in the water table. Need to improve containment/storage to maintain flows. We can use all the water we want if it doesn't take water from the water table.
- The Plan talks about Lower Floridan Aquifer (LFA) wells as being Alternative Water Supplies. He is concerned that withdrawals from the LFA will impact the surficial aquifer and the water table. It is not a good idea to imply we're creating a big change in water availability.
- In addition to water withdrawals, other human activities are significantly impacting the water table. He constantly sees equipment putting in more pipes and ditches which lower the water table.
- The groundwater model can't tell the impact to the water table caused by human activity on the surface.
- The timing of flow from the water table is also important. Water should always flow in creeks, not just during times after a big rainstorm.
- He indicated there are constraints on the water table by other means.

Aquifer Storage and Recovery (ASR)

- ASR simply changes the route water takes to get to the Upper Floridan. It doesn't go through the natural filtration process that water goes through as it filters through the aquifers. ASR doesn't put clean water into the aquifer.
- Water doesn't stay in the aquifer. When you stop pumping, the pressure created goes away. If you put water in the aquifer it has to go out somewhere else faster.

## Other

- Monitoring data is sparse in the CFWI. He could point to a place on a map and we wouldn't be able to tell what the water level is in the water table unless it is near a monitoring point. There is room for error.
- He is concerned that established MFLs allow impacts to environmental systems. Specifically, he is concerned that the water management districts can set and change MFLs at any desired level or flow rate, with the implication that MFLs are not established or revised for natural systems protection.
- Reservoirs are a good way to store water.
- There are not enough environmental stakeholders involved in the CFWI.
- Projects identified in the plan are not based on real data and facts and will have no benefit.

## Craig Varn

---

**From:** David & Robbyn Gore <dgorergore@gmail.com>  
**Sent:** Wednesday, January 9, 2019 10:27 AM  
**To:** Craig Varn; brian.starford@swfwmd.fl.us  
**Subject:** Re: 1/17/2019 SC meet

Mr Varn,

Thank you for being more specific about misleading ideas related to words in the WSP. First your role in this initiative is a powerful part and what you say you believe about staff thinking must be coming from somebody in the WD staff. It would prove that this is not just your ideas if that person would be at the CFWI meet to answer some very basic questions about the meaning of words and the action and thought that they are creating in the WSP. As I have pointed out more than once nobody wants to discuss this with me in any detail and certainly not to be into public record as this is now.

You and whoever WMD staff that you are quoting their words will hopefully be at the CFWI meet. Will you both please read my email to you 5/10/18 regarding what would be discussed at the last staff meet with me in Auburndale. The CFWI members and whoever creates the agenda or any effected party involved should get this email as this WSP is directly effecting how huge amounts of tax payers money is being spent [wisely or wastefully?] and the well being of natural systems of the area.

Thank you for your help in this matter.

David gore speaking up for our natural systems and flows

On 1/8/2019 11:21 AM, Craig Varn wrote:

Mr. Gore,

It is my understanding that staff from at least two of the water management districts met with you to listen to and discuss your issues. However, I do not believe any of the staff agrees with your position. With that, you are always welcome to submit your questions or issues and make short comments during public comment time at the Steering Committee meetings. Any documents, such as your email below, arguing your position will be provided to the Steering Committee for their review. If you would like to supplement your email with additional information, please feel free to do so and I will share it with the committee members.

As to your specific question, first, I am not aware of anyone that agrees there are "misleading" words or ideas in the water supply plan. Second, identifying a specific person who prepared the plan is not possible. It was the result of the contributions of many persons both private and public.

Finally, with respect to the following comments:

I was told by staff that they consider water flowing through cracks and crevices and caverns draining out and away from Fla's land platform through the Floridan is water storage action.

I'm not sure what you mean by "water storage action" but I would agree with a statement that the water flowing through those cracks and crevices is part of the water storage, i.e., the aquifer.

I was told by staff that the WMD's do not consider the water filled space where water flow is emptying space the source of the flow

I'm not exactly sure what you mean in this statement, but I think the "source" of a water flow is not defined as the space where water flow is emptying space.

Feel free to clarify any of these issues and, as I said, I will be happy to forward to the committee members and staff.

Craig

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**From:** David & Robbyn Gore [<mailto:dgorergore@gmail.com>]  
**Sent:** Tuesday, January 8, 2019 7:49 AM  
**To:** Craig Varn; [brian.starford@swfwmd.fl.us](mailto:brian.starford@swfwmd.fl.us)  
**Subject:** 1/17/2019 SC meet

1/7/2019

Mr Varn;

Mr Starford;

The CFWI SC has directed WMD staff to meet with me three times to discuss some flawed science ideas in the WSP that I have pointed out by written and in person at SC meets for over 4 yrs. So far there has not been one little tiny bit of scientific discussion about these bogus ideas that are being used in the WSP to promote some very costly solution ideas that do little or nothing to accomplish the goals of the CFWI at those three meets or at the SC meetings.

**Mr Varn or Mr Starford; How can I or anybody else find out where and why these misleading words and ideas came from and who crafted them into the WSP plan ???**

At the last staff meet with me 5/21/2018 in Auburndale the staff evaded any kind of scientific discussion about the things that I pointed out very clearly in my email to the staff and Mr Varn on 5/10/2018 9:13 AM and Mr Starford 5/10/2018 11:48 AM and in several other emails to staff and CFWI Facilitator Mr Varn. The staff at the meet lacked any interest in seeing the the things I had or discussing the very basic facts I pointed out that are critical to understand where, why, or how and know water flow and storage action occurs within and on the CFWI land area. I was told by staff that they consider water flowing through cracks and crevices and caverns draining out and away from Fla's land platform through the Floridan is water storage action. I was told by staff that the WMD's do not consider the water filled space where water flow is emptying space the source of the flow and that WMD's consider that the source of a water flow is where the flow is emerging or is being withdrawn out from the land's geology. These ideas are very misleading and greatly effect the perception of how the WSP recognizes, addresses, or solves the problems that is the goals of the CFWI.

Please forward this email to the SC or whoever is controlling or deciding what will be brought up and discussed by the SC at the 1/17 /2019 SC meet and include this in the summary of the 1/17 /2019 meet and CFWI records .

David gore -----Speaking up for our natural systems and flows

# Agenda Item #9a

# *Environmental Measures Team*

## *Current Work Status*

*Steering Committee Meeting  
January 17, 2019*

**Kym Rouse Holzwart**

Senior Environmental Scientist

Southwest Florida Water Management District

Environmental Measures Team Chair



# Introduction and Background

- Subteam of the Water Resources Assessment Team (WRAT)
- Scientists from 3 water management districts and public supply utility representatives
- Provides expertise concerning wetlands and surface waters



# Tasks 1 and 2: Wetlands Analysis

## Methodology Options

### COMPLETED

- Statistical analysis of Class 2 wetlands dataset indicated sample greater than original needed to provide reliable answer
- Approved methodology:
  - Visit original Class 1 wetlands
  - Add new Class 1 wetlands
  - Original methodology with expanded Class 1 wetlands dataset and updated model

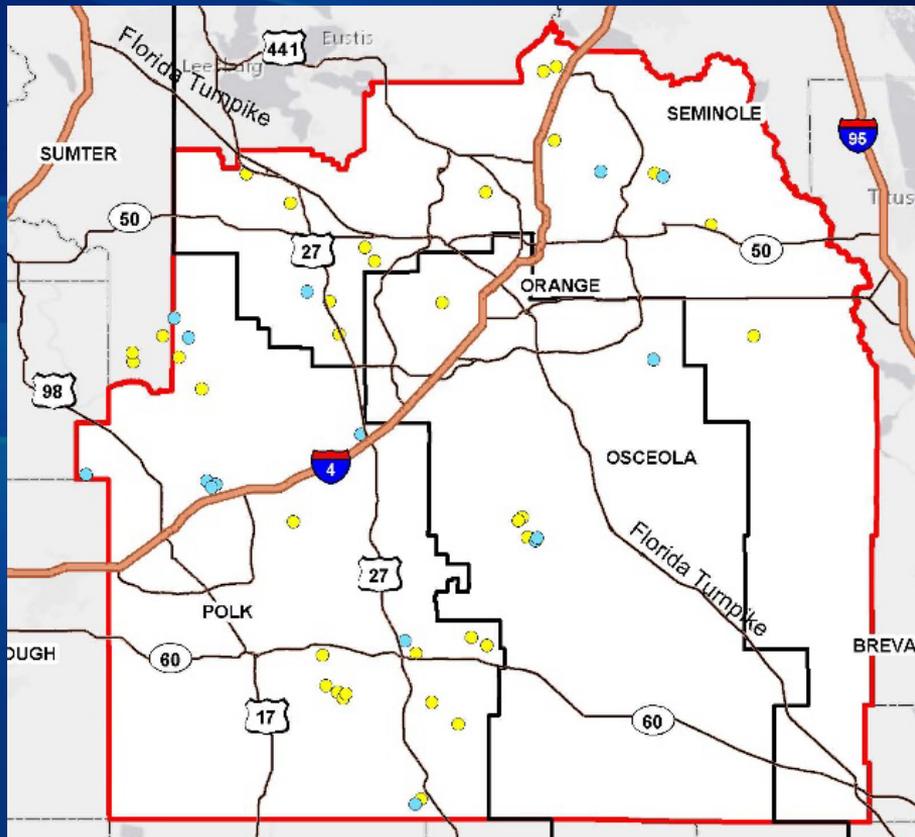


# Task 3: 2018 Assessment of Class 1 Wetlands

## COMPLETED

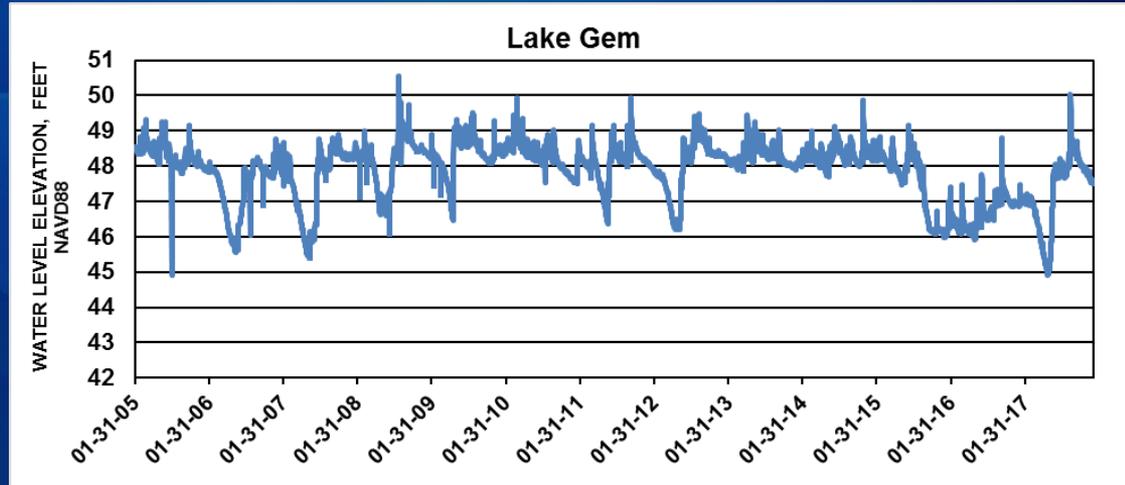


- Expanded Class 1 wetland dataset: 56 wetlands (41 original + 15 new)



# Task 4: Determination of Period-of-Record of Class 1 Wetlands Water Level Data for Wetlands Analysis COMPLETED

- Selected period of record: 2009 through 2017



# Task 5: GIS Tasks in Support of Wetlands

## Analysis COMPLETED



- Calculate acreage of Class 1 wetlands
- No GIS work needed for Class 2 wetlands
- Calculate acreage of Class 3 wetlands for western portion included in new model
- Calculate stressed and unstressed wetland acreage in each model cell for each model scenario



# Task 6: Wetlands Analysis

## Task 7: Report Preparation

- Calculate statistical relationship between stress and water levels for Class 1 wetlands
- Relationship used to develop equations to estimate probability of future change in wetland stress status
- Predict probable future change in stressed and unstressed wetland acreage
- Report to support 2020 RWSP



# Task 8: Evaluation of Methodology to Improve Assessment of Impacts of Future Groundwater Withdrawals on Wetlands in the CFWI Planning Area

- Methodology will be used for future RWSPs
- Include data from wetlands monitoring program being established by the Data, Monitoring and Investigations Team (DMIT)



# Task 9: Future of the EMT

- In position to complete analyses for future five-year updates of the RWSP, future wetland and surface water assessments, and other related work assignments
- Documentation will ensure knowledge is maintained
- Composition will change over time but representation will remain similar or increase



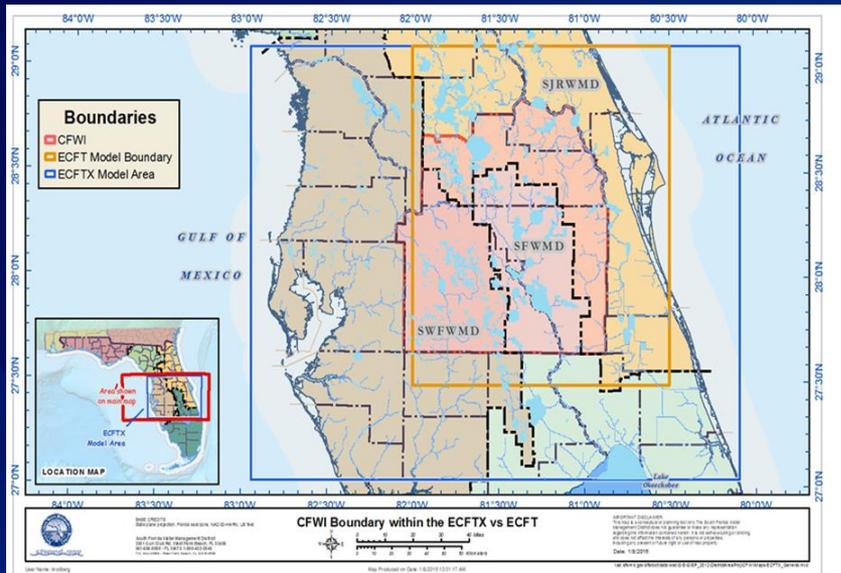
# EMT Schedule

Task	Start Date	Stop Date
1. Class 2 Wetlands Statistical Analysis	1/1/17	5/31/17
2. Methodology Options for Wetlands and Lakes Analysis in Support of the 2020 RWSP	6/1/17	1/31/18
3. 2018 Assessment of Class 1 Wetlands	2/1/18	12/31/18
4. Determination of Class 1 Wetlands Water Level Data Period of Record for Wetlands Analysis	2/1/18	10/1/18
5. GIS Tasks in Support of Wetlands Analysis	10/1/18	12/21/18
6. Wetlands Analysis	2/1/18	4/30/19
7. Report and Chapter Preparation	2/1/18	4/30/19
8. Evaluation of Methodology to Improve Assessment of Impacts of Future Groundwater Withdrawals on Wetlands and Surface Waters in the CFWI Planning Area	4/30/19	12/31/20
9. Future of the EMT	4/30/19	Ongoing



# Agenda Item #9b

# ECFTX Model Update



*CFWI Management Oversight Committee (MOC) Meeting*

*January 14, 2019*

*Peter J. Kwiatkowski, P.G.  
Hydrologic Analysis Team*

[www.cfwiwater.com](http://www.cfwiwater.com)

# Objectives

Improve confidence in model and associated predictions by:

- Reducing boundary issues
- Becoming more computationally efficient
- Resolving water use discrepancies
- Reaching consensus on hydrostratigraphy and model layering
- Incorporating more recent data for calibration (2004 to 2012) and verification (2013 to 2014)



# Model Improvements

- Incorporate additional model layering of the Lower Floridan Aquifer
- Use of information from other peer-reviewed models
- Improved conceptualization of boundary conditions – Atlantic Ocean and Gulf
- Peer Review – incorporate comments as we go
- Consistency between the model and reported use described in the water supply plan using a single water use database

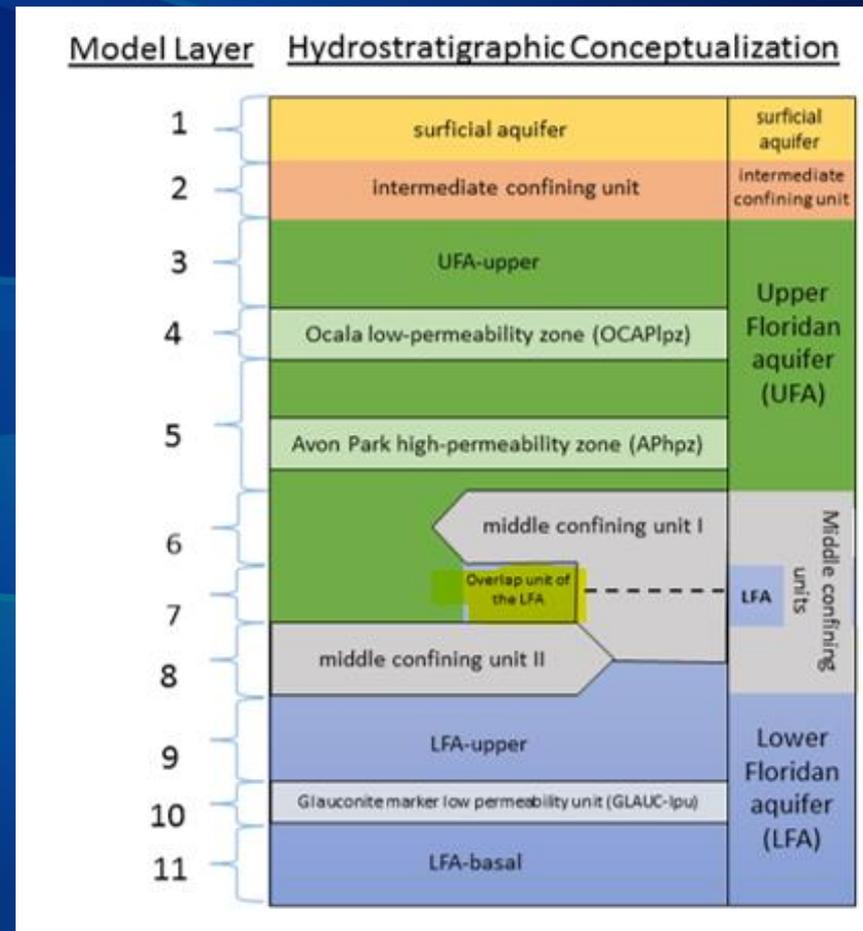


Figure 1. Critical Hydrogeologic Units

# Peer Review Panel

- Groundwater Modeling Experts
  - Louis Motz, PhD, Associate Professor Emeritus, University of Florida
  - Mark Stewart, PhD, Professor Emeritus, University of South Florida
  - Peter Anderson, P.E., M.S., Principal Engineer, Tetra Tech GEO
- Scope of Work – Review:
  - Conceptual Model Documentation
  - Calibration Plan and Implementation
  - Final Documentation

# Timeline

- Started Work – March 2015
- Peer Review Kickoff – September 2016
- Steady-State Calibration – June 2018
- Transient Calibration – November 2018

# Plan Forward

- Peer Review Concurrence with Calibration – January 2019
- Complete Normalization (De-trending) of Water Use Demands – January 2019
- Conduct Reference Condition Simulation – January 2019
- Conduct 2030 and 2040 Simulations – February 2019
- Prepare DRAFT Model Documentation – March 2019
- Peer Review of Model Documentation – May 2019
- Final Model Documentation – July 2019

**Questions?**

# Agenda Item #9c

# ***GAT and WRAT Environmental Criteria***

***January 17, 2019  
Steering Committee Meeting***

**Doug Leeper**

CFWI MFLRT Lead, GAT Member  
MFLs Program Lead, SWFWMD



# Environmental Criteria

- To be used with the ECFTX model to identify environmental impact limits supporting development of planning-level estimates of groundwater availability in the CFWI Planning Area



# 2020 RWSP GAT and WRAT Recommended Environmental Criteria Options

## MFL and MFL-Related Criteria

- Adopted MFLs for 29 lakes/wetlands, 6 springs and 1 river segment within the CFWI Planning Area
- Adopted Saltwater Intrusion Minimum Aquifer Level for the Most Impacted Area of the SWUCA
- Target regulatory groundwater level below Lake Wales Ridge Lakes established for SWUCA recovery
- Target regulatory groundwater level below the upper Peace River established for SWUCA recovery
- As available, proposed MFLs for 6 lakes, 6 springs and 2 river segments

## Non-MFL Lakes/Wetlands Criteria

- Isolated ridge and plains stressed wetland acreage changes

## Non-MFL Spring Criterion

- 1 spring within the CFWI area without adopted MFLs

## Wellfield Water Quality Criteria

- Upward migration of poorer quality water at selected wellfields/areas



# Notes Regarding “As Available” Environmental Criteria

- Environmental criteria associated with proposed MFLs that are identified “as available” are currently prioritized for development (i.e., for MFLs adoption) in 2019 or 2020
- None are currently available and are not expected to be available by April 2019, when the GAT anticipates determining groundwater availability estimates for use in the 2020 CFWI Regional Water Supply Plan
- As these environmental criteria become available, they will be presented to the GAT for consideration regarding their use in the 2020 CFWI regional water supply planning effort



# Questions?



# EXTRA SLIDES



# 2020 RWSP GAT and WRAT Recommended Environmental Criteria Options

## MFL and MFL-Related Criteria

- Adopted MFLs for 29 lakes/wetlands (Aurora, Boggy Marsh, Brantley, Burkett, Cherry, Crooked, Eagle, Easy, Emma, Eva, Hancock, Howell, Irma, Louisa, Lowery, Lucy, Martha, McLeod, Mills, Minneola, North Apshawa, Parker, Pearl, Pine Island, Prevatt, South Apshawa, Starr, Sylvan, Wailes) within the CFWI Planning Area.
- Adopted MFLs for 6 Springs (Miami, Palm, Rock, Sanlando, Starbuck, Wekiwa) within the CFWI Planning Area.
- Adopted MFLs for one river segment (Wekiva River at SR 46) within the CFWI Planning Area.
- Adopted Saltwater Intrusion Minimum Aquifer Level for the Most Impacted Area of the Southern Water Use Caution Area within the SWFMWD.
- Established target regulatory water level based on five Upper Floridan aquifer (UFA) wells used to characterize ground water levels below Lake Wales Ridge Lakes where MFLs have been established and are being recovered.
- Established target regulatory water level based on five UFA wells used to characterize groundwater levels below the upper Peace River where MFLs have been established and are being recovered.
- As available:
  - MFLs that may be proposed but are not yet adopted for three lakes (Avalon or Johns, East Crystal, Hodge) within the CFWI Planning Area.
  - MFLs that may be proposed but are not yet adopted for a river segment (Little Wekiva River) within the CFWI Planning Area.
  - Revised MFLs that may be proposed but are not yet adopted for three lakes (Prevatt, South Apshawa, Sylvan) with established MFLs within the CFWI Planning Area (reevaluation MFLs).
  - Revised MFLs that may be proposed but are not yet adopted for a river segment (Wekiva at SR 46) with established MFLs within the CFWI Planning Area (reevaluation MFLs).
  - Revised MFLs that may be proposed but are not yet adopted for six springs (Miami, Palm, Rock, Sanlando, Starbuck, Wekiwa) with established MFLs within the CFWI Planning Area (reevaluation MFLs).

## Non-MFL Lakes/Wetlands Criteria

- Isolated ridge and plains stressed wetland acreage changes based on a statistical method.

## Non-MFL Spring Criterion

- One spring (Apopka) within the CFWI area without adopted MFLs.

## Wellfield Water Quality Criteria

- Upward migration of poorer quality water at selected wellfields/areas (locations to be determined).



# Agenda Item #9d

**Data, Monitoring and Investigations  
Team (DMIT)**

**DMIT Hydrogeologic  
Annual Work Plan  
(FY2019-FY2025)**



**CFWI Steering Committee Meeting  
January 17, 2019**

# Goal of DMIT

“Ensure that available hydrologic, environmental, and other pertinent data collected throughout the region are identified, inventoried, and accessible to support the CFWI technical initiatives and CFWI regulatory activities.”



# Major DMIT Tasks over past 5 years

- Created an inventory of existing monitoring data (DMIT CFWI Inventory)
  - ArcMap interface with links to data sources
- Determined data collection needs and developed work plan to meet those needs
  - Regional Monitoring Program Summary Report (June 2014)
  - DMIT Hydrogeologic Work Plan for FY 2015-FY2020

# DMIT Hydrogeologic Work Plan

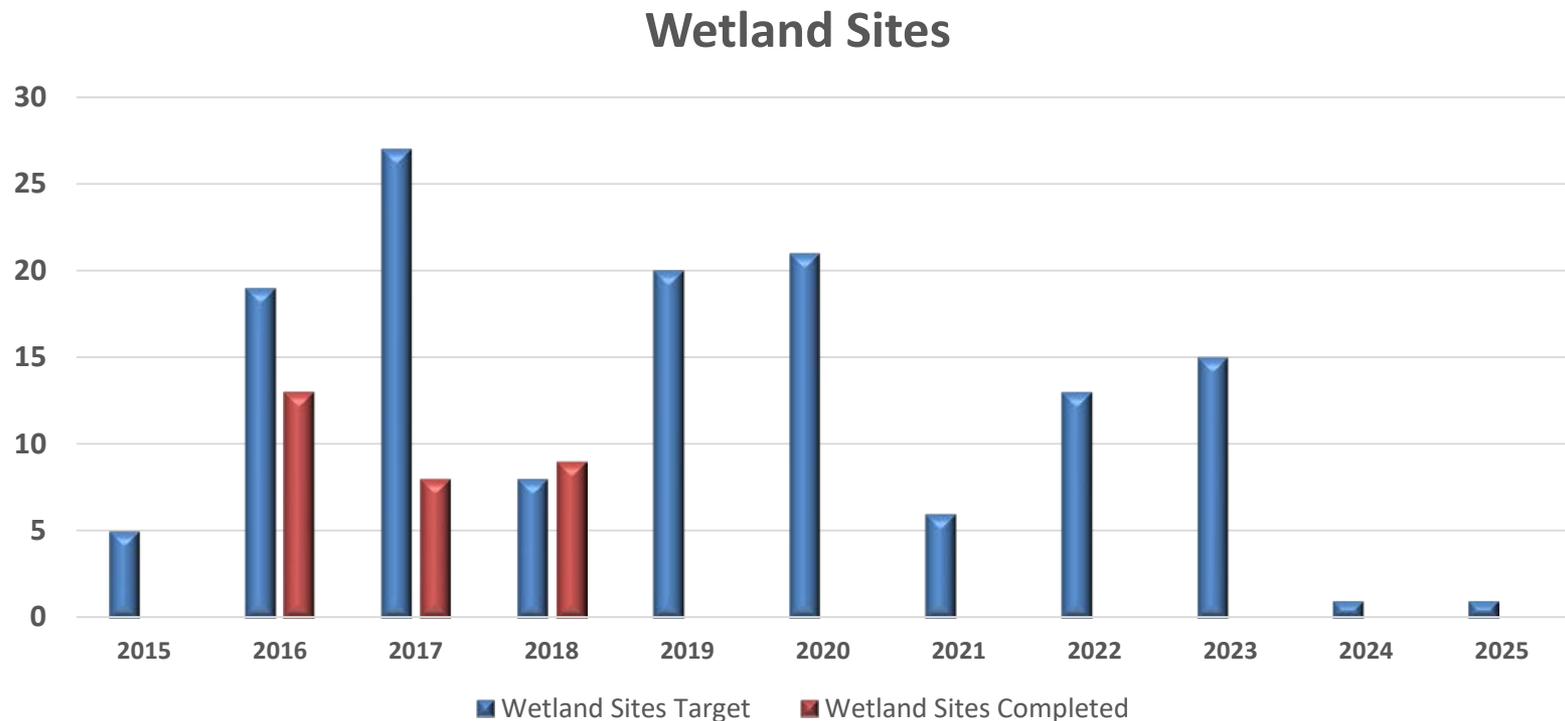
- Purpose is to develop new hydrogeologic monitoring sites
  - DMIT work is a 10-year process (2015 – 2025)
  - Annual updates
  - Standard fiscal years
- Resources monitored include
  - Wetland monitoring with transects and Surficial Aquifer wells
  - Regional water level monitoring
    - Surficial aquifer
    - Upper Floridan aquifer
    - Lower Floridan aquifer
  - Other Parameters such as Water Quality and Rainfall

# FY2015-FY2025 DMIT Well Status

	Wetland Sites	Wetland SA	General SA	UFA	LFA
2015	0	0	2	3	1
2016	13	4	5	4	2
2017	8	7	7	7	3
2018	9	5	8	6	2
Total (2015-2018):	30	16	22	20	8
2019	20	17	6	4	8
2020-2025	57	53	31	23	20
Total (2015-2025):	107	86	59	47	36

Red line divides completed from proposed

# Wetland Sites Targeted / Completed



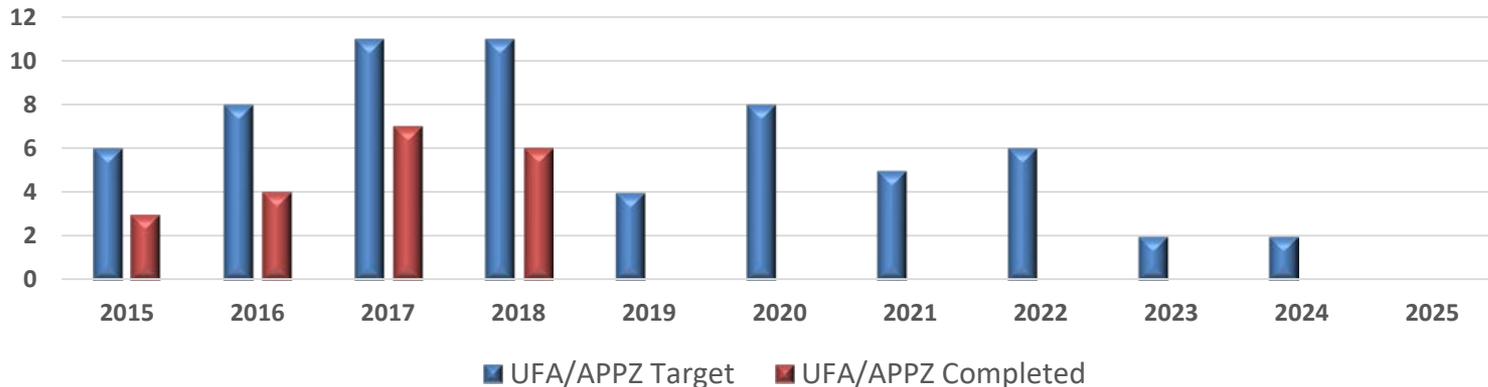
Targets not met are incorporated into future Work Plans as appropriate

# SA/UFA Sites Targeted / Completed

## General SA Wells

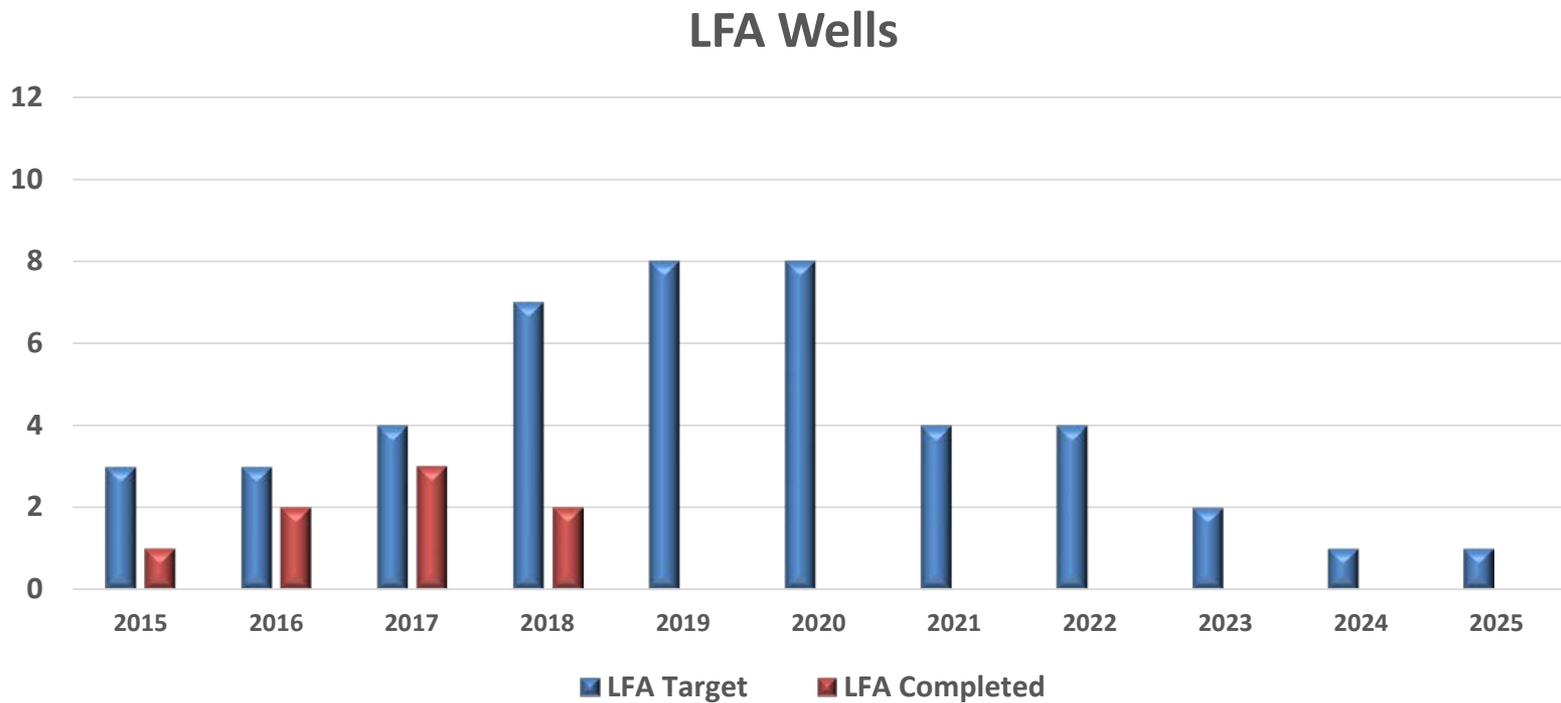


## UFA/APPZ Wells



Targets not met are incorporated into future Work Plans as appropriate

# LFA Well Sites Targeted / Completed



Targets not met are incorporated into future Work Plans as appropriate

# Reasons for Construction Delays in FY2018

- Site acquisition difficulties
- Well construction challenges
- Defer site construction
- Budget limitations



# Additional Measures Being Implemented to Further Construction

- Coordinate with stakeholders to assist with site development
- Continue to identify District land opportunities



# Wetland Site Development Process Improvement

- Due to practical, logistical, scientific, and safety reasons, DMIT has identified the need to modify the site selection process.
- DMIT coordinated with stakeholders including the WRAT sub-teams, WRAT and MOC.
- New approach meets the data needs for the CFWI teams.
- DMIT is still proposing to establish a total of 107 wetland monitoring sites and, where appropriate, utilize this alternative site selection process.

# Implementation Costs

Fiscal Year	Total Implementation Costs (in millions)
2015	\$0.63
2016	\$0.70
2017	\$3.05
2018	\$3.53
2019 <sup>1</sup>	\$10.90
2020-2025 <sup>2</sup>	\$20.45
<b>Total</b>	<b>\$39.26</b>

<sup>1</sup>Cost is budgeted but may be lower based on actual construction performed

<sup>2</sup>Cost is estimated for the six-year period and subject to the availability of Legislative appropriation or State funding.

# DMIT Ongoing Activities

<b>Activity</b>	<b>Status</b>
<b>Identify and acquire legal access to future monitoring locations.</b>	<b>Ongoing.</b>
<b>Address changing approach regarding wetland site location development.</b>	<b>DMIT coordinated with CFWI teams and sub-teams and developed new approach for wetland site location development.</b>
<b>Develop a uniform electronic database for storing wetland site data.</b>	<b>80% Complete. Will be complete by December of 2019.</b>
<b>Update the DMIT Well Inventory to include new sources.</b>	<b>Complete.</b>

# Action Item

- DMIT requests approval of the DMIT Hydrogeologic Annual Work Plan (FY2019-2025)



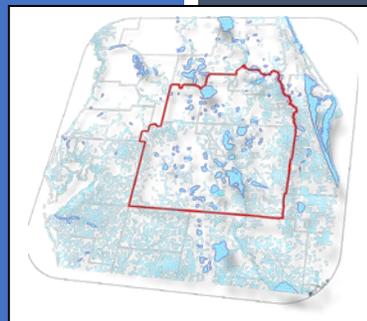


# DMIT HYDROGEOLOGIC ANNUAL WORK PLAN (FY2019-FY2025)

*Central Florida  
Water Initiative*

This document is the product of the Data, Monitoring, and Investigations Team (DMIT) and represents an update to the DMIT 2018 Annual Work Plan (FY2018-2025) dated April 13, 2018.

*January 17, 2019*



## Executive Summary

Forty wells were planned for construction in FY2018 and 21 wells were completed including five wetland surficial aquifer (SA), eight general SA/intermediate aquifer (IA), six Upper Floridan aquifer (UFA), and two Lower Floridan aquifer (LFA) wells. The remaining wells were not constructed during FY2018 due to difficulties with site access authorization, decisions to delay site development until a later date, or technical drilling challenges. However, development of 46 monitoring sites are currently in progress. Well sites not completed in FY2018 will be incorporated into the FY2019 Work Plan, as appropriate. A total of 35 wells are planned to be constructed during FY2019. This includes 17 wetland SA, six general SA/IA, four UFA, and eight LFA wells. Eight wetland sites were planned for completion in FY2018 and nine were completed. The overall estimated cost for DMIT construction for FY2019 is \$10.90 million dollars.

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## Abbreviations and Acronyms

APHPZ – Avon Park high-permeability zone

APPZ – Avon Park permeable zone

CFWI – Central Florida Water Initiative

DMIT – Data, Monitoring, and Investigations Team

FY – Fiscal year (October 1 – September 30, Fiscal years are named based on the year they end)

General SA/IA – surficial and intermediate aquifer wells supporting general monitoring

HAT – Hydrologic Assessment Team

LFA – Lower Floridan aquifer

Minimum Standards Document - Minimum Standards for Water Resource Data Collection, Site Establishment and Field Data Collection Protocols

SC – CFWI Steering Committee

SFWMD – South Florida Water Management District

SWFWMD – Southwest Florida Water Management District

SJRWMD – St. Johns River Water Management District

Summary Report - CFWI Regional Monitoring Program: Summary Report (June 2014)

Wetland SA - Wetland monitoring surficial aquifer wells

WMDs - Water management districts

WRAT – Water Resources Assessment Team

UFA – Upper Floridan aquifer

2015 Work Plan - DMIT Hydrogeologic Work Plan for FY2015 – FY2020 (approved January 30, 2015)

2016 Work Plan - DMIT Hydrogeologic Work Plan Update for FY2016-FY2020 (approved July 22, 2016)

2018 Work Plan - DMIT Hydrogeologic Annual Work Plan (FY2018-FY2025) (approved April 13, 2018)<sup>1</sup>

2019 Work Plan - DMIT Hydrogeologic Annual Work Plan (FY2019-FY2025) (approved January 17, 2019)

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<sup>1</sup> Following completion of the 2016 Work Plan, the DMIT requested and received approval to amend the deadline for subsequent work plans from July to January. There is no “2017 Work Plan” for this reason.

## 1.0 Introduction

The Central Florida Water Initiative (CFWI) is a planning-level effort to review existing and projected water use demands in a five-county region of Central Florida and requires coordination between various stakeholders including the South Florida Water Management District (SFWMD), Southwest Florida Water Management District (SWFWMD), St. Johns River Water Management District (SJRWMD), Florida Department of Environmental Protection (FDEP), and the Florida Department of Agriculture and Consumer Services (FDACS). The Data, Monitoring, and Investigations Team (DMIT) is tasked to ensure that available hydrologic, environmental, and other pertinent data collected throughout the region are identified, inventoried, and accessible to support the CFWI technical initiatives and CFWI regulatory activities. DMIT summarized data collection findings and activities within the CFWI region and prepared the *CFWI Regional Monitoring Program: Summary Report (June 2014)* (Summary Report). Following the acceptance of the Summary Report, the CFWI Steering Committee (SC) provided additional guidance to DMIT to develop a work plan detailing an implementation strategy based on the Summary Report findings and minimum data collection standards. The annual workplans are developed based on fiscal years.

The initial work plan, *DMIT Hydrogeologic Work Plan for FY2015–FY2020* (2015 Work Plan), set forth construction and other data collection activities through FY2020. The objective of this plan was to establish a schedule for the construction and testing at existing and new data collection sites identified in the Summary Report. The work plan is updated on an annual basis and provides a tool to convey information to CFWI management and the SC to ensure data collection needs for the CFWI region are being met. Following the initial work plan, an updated work plan was approved in July 2016, entitled *DMIT Hydrogeologic Work Plan Update for FY2016-FY2020* (2016 Work Plan), that describes progress from the previous fiscal year. A subsequent update, entitled *DMIT Hydrogeologic Annual Work Plan (FY2018-FY2025)* (2018 Work Plan), was approved by the SC in April 2018. The SC also approved an extension of the DMIT construction program through FY2025.

In January 2018, the SC directed the DMIT to coordinate with other Water Resources Assessment Team (WRAT) sub-teams to ensure that DMIT activities will meet their data needs. Based on this direction, DMIT has scheduled regular coordination meetings with the sub-teams and has participated in WRAT sub-team meetings. In addition, the DMIT has copied the WRAT sub-team leads on work products as appropriate.

This document, the *DMIT Hydrogeologic Annual Work Plan (FY2019-FY2025)* (2019 Work Plan), is the third update to the 2015 Work Plan and describes the progress since implementation of the 2018 Work Plan, as well as the proposed schedule for future work through FY2025. The status of items included in the Ongoing DMIT Activities section of the previous work plans are also updated in this report. Where necessary, any changes to monitoring site locations or frequencies are included. This report supersedes the previously published work plans and

serves as the working document for future activities. All documents and methodologies can be found at the CFWI website ([www.cfwiwater.com](http://www.cfwiwater.com)).

## 2.0 Status of DMIT Monitoring Site Construction

Wells constructed pursuant to the DMIT work plan (see Appendix A) are for monitoring and not for water supply production. The location and status of all existing and proposed DMIT monitoring sites developed pursuant to the DMIT work plans are shown in **Figure 1**. The water resources monitored at the sites are indicated in **Figure 2**. Information about the status of each site is provided in **Appendix A**. Sites planned but not mapped are sites whose exact locations are yet to be determined.

Figure 1: Status of DMIT Sites (November 2018)

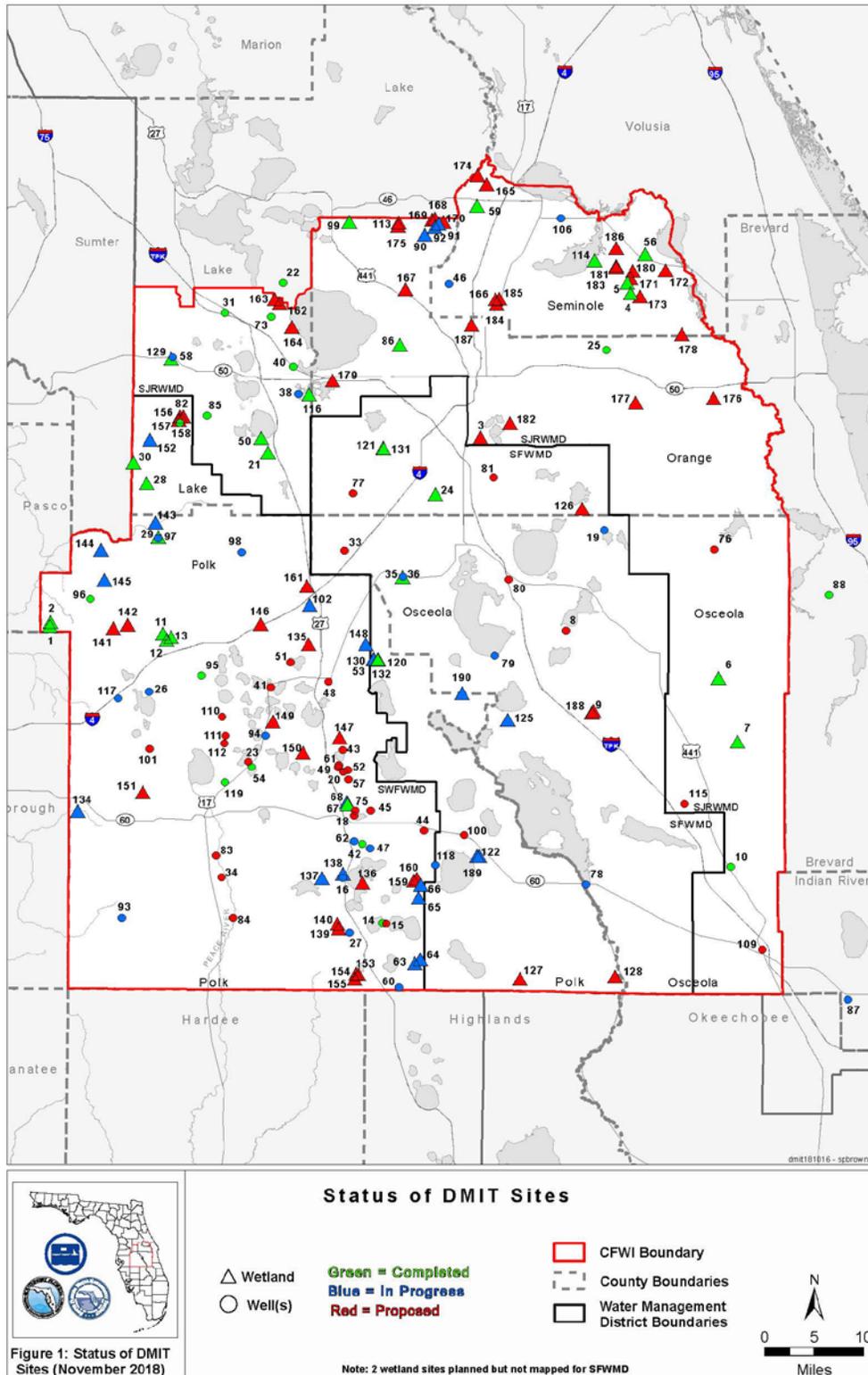
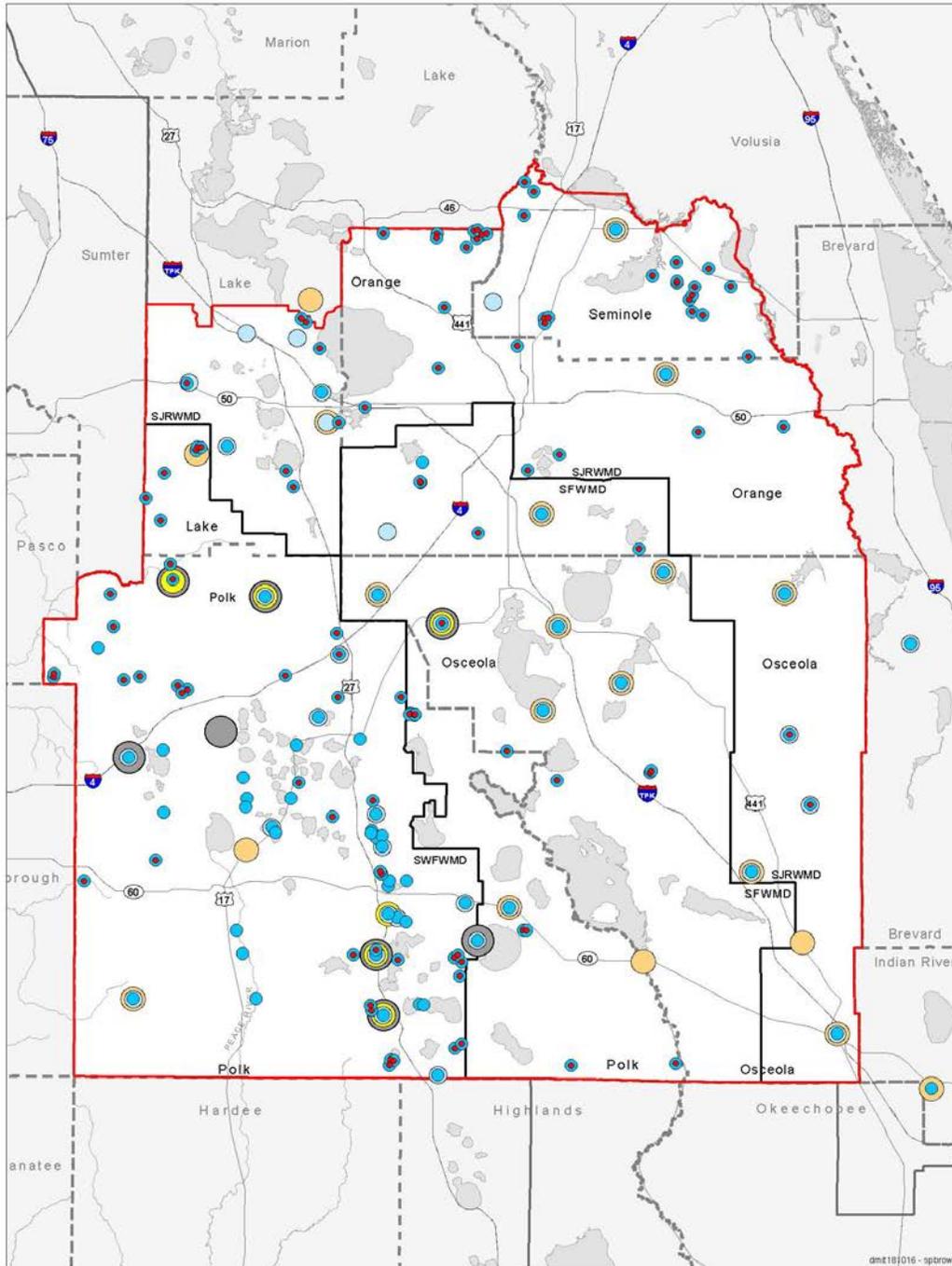


Figure 2: DMIT Sites by Monitored Resource (November 2018)



## 2.1 FY2018 Well Construction

The Summary Report identified regional water resource monitoring data gaps in the CFWI area. The wells constructed pursuant to the work plans are designed to fill these data gaps. Forty wells were planned for construction throughout the CFWI area in FY2018 and 21 wells were completed including five wetland surficial aquifer (SA), eight general SA/intermediate aquifer (IA), six Upper Floridan aquifer (UFA), and two Lower Floridan aquifer (LFA) wells. The remaining wells were not constructed during FY2018 due to difficulties with site access authorization, decisions to delay site development until a later date, or technical drilling challenges. Well sites not completed in FY2018 will be incorporated into the FY2019 Work Plan, as appropriate. Following construction, all monitor wells were instrumented for water level monitoring and, where applicable, incorporated into water quality monitoring. The status of well completion progress can be found in **Figure 1** and **Appendix A**.

## 2.2 FY2019 Well Construction

This section identifies wells to be completed in FY2019 and those wells planned for FY2020 through FY2025 per well type in the following sections and shown on **Figures 1 and 2**. A detailed list of wells, planned dates for completion, and other information can be found in **Appendix A**. Two placeholders have been included in the table for wetland sites not yet identified. Sites requiring exploratory coring prior to well construction are listed in multiple years. Following construction, all well sites will be instrumented for long-term water level measurement and, where applicable, incorporated into existing water quality monitoring plans.

### 2.2.1 Wetland SA Wells

Construction of wetland SA wells is ongoing. Prior to construction, wetland sites are evaluated by wetland specialists from each WMD to ascertain if they meet the requirements of the Summary Report and the Minimum Standards Document, including whether an existing SA monitoring well can be used in lieu of constructing a new well to support the wetland monitoring effort. Vegetative assessments and transects are completed for each of the wetland sites consistent with the data collection requirements of the Minimum Standards Document. Construction of 17 wetland SA wells are planned for FY2019, and 53 wells are planned for FY2020 through FY2025.

### 2.2.2 General SA/IA Wells

Construction of general SA/IA wells is ongoing to compliment monitoring of the Floridan Aquifer System. Wells included in this section do not include wetland wells.

Construction of six general SA/IA wells are planned in FY2019, and 31 wells are planned for FY2020 through FY2025.

### 2.2.3 UFA Wells

Construction of UFA wells is ongoing to support regional groundwater resource monitoring efforts. Generally, these sites are located near minimum flows and levels lakes. Currently, construction of four UFA wells are planned in FY2019, and 23 wells are planned for FY2020 through FY2025.

### 2.2.4 LFA Wells

Construction of LFA wells is ongoing to support regional water resource monitoring efforts. Construction of eight LFA wells are planned for FY2019, and 20 wells are planned for FY2020 through FY2025.

## 2.3 FY2018 Wetland Transects

Staff completed 9 wetland sites (one more than the targeted 8 wetland monitoring sites) in FY2018. Work completed includes construction of SA monitoring wells (where needed), establishing transects, and conducting the vegetative assessment work. A total of 30 wetland monitoring sites have been completed since implementation of DMIT with a total of 16 SA monitoring wells constructed to support wetland monitoring efforts. The remaining 14 completed wetland monitoring sites utilized existing SA monitoring wells that met the minimum standards for the wetland monitoring program.

In the Summary Report, DMIT presented recommendations for a minimum and optimum amount of monitoring for each of the aquifer systems and for wetlands. The SC's guidance on plan implementation included identifying priority site locations for the DMIT minimum option. For wetland locations, this is defined as one monitoring location per wetland type per physiographic region. DMIT's approach to developing a minimum recommendation was to start with the monitoring sites that meet a specific, urgent need and fit within DMIT recommendations for regional monitoring improvement and efficiency. For the Wetland Minimum, DMIT recommended that a minimum number of wetland monitoring sites should be set so that there is at least one monitoring site per hydroclass of wetland within each of the identified physiographic regions. This would result in the addition of 107 wetland monitoring sites to meet a minimum of wetland sites that are monitored.

Based on the Summary Report, DMIT produced the 2015 Work Plan which fulfills directives set forth by the SC. The 2015 Work Plan was approved by the SC in January 2015 and DMIT moved forward with implementing the minimum option directives.

Since approval of the first work plan, DMIT has identified that the minimum method of establishing one wetland monitoring site in each hydroclass wetland type per physiographic region cannot be implemented as recommended in the DMIT 2014 Summary Report and as subsequently approved by the Steering Committee. There are practical, logistical and safety reasons that cause the approved minimum method to not be feasible. The DMIT sub-team has identified the need to modify wetland site location selection criteria due to this infeasibility.

DMIT coordinated with stakeholders including the WRAT sub-teams, WRAT and MOC and obtained comments regarding the proposed site selection. Based on comments received, DMIT modified the approach for locating wetland monitoring sites that meets the data needs for the CFWI teams. DMIT is proposing to still establish a total of 107 wetland monitoring sites, but distribute sites to provide long-term protection while taking into consideration geographical representation of hydrologically sensitive hydroclass wetland types that occur in large physiographic regions (e.g., Lake Upland, Lake Wales Ridge, Osceola Plain, etc.), and on sites that may have a higher ecological value than other potential sites selected under the current site select methodology.

This modification will result in multiple monitoring sites being located in the same wetland type in some physiographic region while other wetland types will not be monitored at all. Finally, this modification will result in cost savings in implementation. Based on the comments received from the coordination meetings, this approach meets the data needs of the WRAT sub-teams.

## 2.4 FY2019 Wetland Transects

Staff is working towards completion of the wetland monitoring program as identified in the 2014 Summary Report. A total of 77 wetland sites remain to be established during FY2019-FY2025 to meet the monitoring goals established in the 2014 Summary Report. Twenty wetland monitoring sites are scheduled for completion in FY2019. The remaining 57 wetland sites will be completed during FY2020-FY2025.

## 3.0 FY2019-FY2025 Work Plan Funding

Funding for planned sites is dependent on approvals and priorities for each WMD and varies each fiscal year. A breakdown of the current and estimated funding to complete the planned well construction is included in **Table 1** below. Total implementation costs are a combination of construction, real estate, and consulting costs. WMD staff salaries are not included in the costs. The budget for FY2019 is based on estimated costs, however, actual construction costs may be lower. Costs for FY2020-FY2025 are estimated for the six-year period and are subject to availability of Legislative appropriation or State funding.

Table 1: Implementation Costs by Fiscal Year

Fiscal Year	Total Implementation Costs (in millions)
2015	\$0.63
2016	\$0.70
2017	\$3.05
2018	\$3.53
2019 <sup>1</sup>	\$10.90 <sup>1</sup>
2020-2025 <sup>2</sup>	\$20.45 <sup>2</sup>
Total	\$39.26

<sup>1</sup>Budgeted amount. Actual cost for construction may be lower

<sup>2</sup>Cost is estimated for the six-year period. Project implementation and timeline is subject to availability of Legislative appropriation or State funding.

## 4.0 DMIT Ongoing Activities

Activity	Status
Identify and acquire legal access to future monitoring locations.	This task is ongoing. Improvements have been made in the efficiency and process of obtaining access, particularly with state lands.
Coordinated with CFWI teams and sub-teams and developed modified approach for wetland site location selection.	Complete.
Develop and update a uniform electronic database for storing field reports and digital media associated with each wetland site.	The creation of an electronic database and incorporating data into the forms for uploading for all WMDs is nearing completion. A template for the data collection forms was completed in December 2017. Development of a common database between the WMDs that will be available on the CFWI website is approximately 80 percent complete and will be completed by December 2019.
Update the annual work plan to report progress of ongoing activities, changes in construction activities and costs to the MOC and SC.	The work plan is updated annually and includes changes in construction activities and costs. The next update will be completed in December 2019.
Update and expand the number of sources in the current CFWI Inventory.	Inventory is updated annually. The next update will be completed by the end of 2019.
Provide other support services to the CFWI effort as requested.	DMIT continues to provide support to other entities as needed.

## 5.0 Summary and Recommendations

Forty wells were planned for construction in FY2018 and 21 wells were completed including five wetland surficial aquifer (SA), eight general SA/intermediate aquifer (IA), six Upper Floridan aquifer (UFA), and two Lower Floridan aquifer (LFA) wells. The remaining wells were not constructed during FY2018 due to difficulties with site access authorization, decisions to delay

site development until a later date, or insurmountable technical drilling challenges. However, development of 46 sites are currently in progress. Eight wetland sites were planned for completion in FY2018 and nine wetland sites were completed. Wells sites not completed in FY2018 will be incorporated into the FY2019 Work Plan as appropriate. Thirty-five wells are planned to be constructed during FY2019. This includes 17 wetland SA, six general SA/IA, four UFA, and eight LFA wells. Twenty wetland sites are planned for completion during FY2019. The estimated cost for DMIT construction for FY2019 is \$10.90 million dollars. Wells constructed pursuant to the DMIT work plan (see Appendix A) are for monitoring and not for water supply production.

DMIT updated the CFWI well inventory for all WMD, state agency, county, city, and permittee wells within the CFWI area. ArcGIS Online map viewers were created to provide easy access to the inventory. Site acquisition continued throughout FY2018. Development of a new wetlands electronic database is ongoing, and completion is anticipated by the end of 2019. An Excel form was completed and the WMDs will be uploading wetland data following the new process. Once completed, the database will be available on the CFWI website.

## 6.0 Appendices

### Appendix A: DMIT Site Status (October 2018)

[Green - Complete, Blue - In Progress, Red - Proposed, Brown - Deleted]

ID	Site Name	WMD	Site Type	Estimated Construction FY	Number New Well(s)	Well Type(s)	Status/Completion FY
1	Alston Bay	SWF	Wetlands	2016	0		Complete/2016
2	Alston New Cypress	SWF	Wetlands	2017	1	1 Wetland SA	Complete/2017
3	Bay Lake-Walker Middle School (SJ-KH1)	SJR	Wetlands	2023	1	1 wetland SA	Proposed
4	Econ SF South	SJR	Wetlands	2017	1	1 wetland SA	Complete/2017
5	Econ SF North	SJR	Wetlands	2017	1	1 wetland SA	Complete/2017
6	Bull Creek WMA North	SJR	Wetlands /WL/WQ	2016	3	Core, 1 wetland SA, 1 general SA/IA, 1 UFA/APPZ	Complete/2016
7	Bull Creek WMA South	SJR	Wetlands /WL/WQ	2016	3	1 wetland SA, 1 general SA/IA, 1 UFA/APPZ	Complete/2016
8	C-33	SF	WL/WQ	2021-2022	4	1 SA, 2 UFA, 1 LFA	Proposed
9	Camp Lonesome 1	SF	Wetlands	2019	1	1 SA	Proposed
10	Campbell Rch	SJR	WL/WQ	2017	1	Core, 1 LFA	Complete/2017
11	City of Lakeland Wellfield G	SWF	Wetlands	2016	0		Complete/2016
12	City of Lakeland Wellfield J	SWF	Wetlands	2016	0		Complete/2016
13	City of Lakeland Wellfield K	SWF	Wetlands	2016	0		Complete/2016
14	Clinch Lake	SWF	WL	2018	1	1 General SA	Complete/2018
15	Coley Deep	SWF	WL	2022	1	1 General SA	Proposed
16	Crooked Lake	SWF	WL/WQ	2017	5	1 General SA, 1 UFA, 1 LFA I, 2 LFA II	In Progress
17	Crooked Lake (Orange Co)	SJR	Wetlands	2017	0	N/A	Deleted
18	Crystal Lake	SWF	WL and Wetlands	2019	1	1 General SA	Complete/2019

ID	Site Name	WMD	Site Type	Estimated Construction FY	Number New Well(s)	Well Type(s)	Status/Completion FY
19	Deseret Ranch/Lk Myrtle	SF	WL/WQ	2018	3	1 UFA; 1 LFA, 1 SA	Complete/2018
21	Lake Louisa State Park - Dixie Lk Wetland	SJR	Wetlands	2017	1	1 wetland SA	Complete/2017
22	Duda-Whittle Wells	SJR	WL/WQ	2015	1	Core, 1 LFA	Complete/2016
23	Eagle Lake	SWF	WL	2020	2	1 General SA, 1 UFA	Proposed
24	East Pine Island - Shingle Creek Basin	SF	Wetlands	2018	1	1 SA wetlands	Complete/2018
24	Dinner Lake	SWF	WL	2019	1	1 General SA	In Progress
25	Econ Sandhills Rt420	SJR	WL/WQ	2015	5	2 general SA/IA, 2 UFA/APPZ, 1 LFA, Core	Complete/2017
26	Fish Lake Deep NR Lakeland	SWF	WL	2018	1	1 General SA	Complete/2018
27	Frostproof	SWF	WL/WQ	2018	4	1 General SA, 1 UFA, 1 LFA I, 1 LFA II	In Progress
28	Green Swamp 4	SWF	Wetlands	2016	0		Complete/2016
29	Green Swamp 7	SWF	Wetlands	2016	1	1 Wetland SA	Complete/2016
30	Green Swamp Bay	SWF	Wetlands	2016	0		Complete/2016
31	Groveland Sunshine Water Plant	SJR	WL/WQ	2015	1	1 UFA/APPZ, Core	Complete/2015
32	<del>Hal Scott Preserve - floodplain</del>	<del>SJR</del>	<del>Wetlands</del>	<del>-</del>	<del>4</del>	<del>4 wetland SA</del>	<del>Deleted</del>
33	HH-2-IC	SF	WL/WQ	2020-2021	5	1 SA, 2 UFA, 2 LFA	Proposed
34	Homeland DEP 9	SWF	WL	2024	1	1 General SA	Proposed
35	Intercession City	SF	Wetlands	2018	0	0	Complete/2018
36	Intercession City - UFA monitoring start	SF	WL/WQ	2019	1	1 UFA to be instrumented	In Progress
37	<del>Island Lake</del>	<del>SJR</del>	<del>Wetlands</del>	<del>2017</del>	<del>0</del>	<del>N/A</del>	<del>Deleted</del>
38	Scrub Point South	SJR	WL/WQ	2017	2	1 UFA/APPZ, 1 LFA	In Progress

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39	Keene's Pt Park	SF	Wetlands	2020	1	1 SA	Deleted
40	Turnpike	SJR	WLWQ	2017	2	1 general SA/IA, 1 UFA/APPZ	Complete/2017
41	Lake Alfred Deep at Lake Alfred	SWF	WL	2022	1	1 General SA	Proposed
42	Lake Amoret	SWF	WL	2017	2	1 General SA, 1 UFA	Complete/2017
43	Lake Annie	SWF	WL	2022	2	1 General SA, 1 UFA	Proposed
44	Lake Aurora	SWF	WL	2021	2	1 General SA, 1 UFA	Proposed
45	Lake Bonnie	SWF	WL	2025	1	1 General SA	Proposed
46	Lake Brantley	SJR	MFL	2019	1	1 UFA/APPZ	In Progress
47	Lake Easy	SWF	WL	2018	1	1 General SA	In Progress
48	Lake Eva	SWF	WL	2021	2	1 General SA, 1 UFA	Proposed
49	Lake Lee	SWF	WL	2025	1	1 General SA	Proposed
50	Lake Louisa State Park - Isolated Wetland	SJR	Wetlands	2017	1	1 wetland SA	Complete/2017
51	Lake Lowery	SWF	WL	2024	2	1 General SA, 1 UFA	Proposed
52	Lake Mabel	SWF	WL	2023	1	1 General SA	Proposed
53	Lake Marion Creek - East	SF	Wetlands	2018	1	1 SA wetlands	In Progress
54	Lake McLeod	SWF	WL	2018	1	1 General SA	Complete/2018
55	Wekiva Springs State Park—Lake Prevatt	SJR	Wetlands	-	0	-	Deleted
56	Lk Proctor	SJR	Wetlands	2016	1	1 wetland SA	Complete/2016
57	Lake Starr	SWF	WL	2020	2	1 General SA, 1 UFA	Proposed
58	Lake Sunset	SJR	WLWQ	2020	1	1 UFA/APPZ	In Progress

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59	Sylvan Lk Wells	SJR	Wetlands /MFL	2016	0		Complete/2016
60	Lake Trout	SWF	WL	2018	2	1 General SA, 1 UFA	Complete/2018
61	Lake Venus	SWF	WL	2019	1	1 General SA	In Progress
62	Lake Wales (formerly Waverly)	SWF	WLWQ	2019	4	1 General SA, 1 UFA, 1 LFA I, 1 LFA II	In Progress
63	Lake Wales Ridge State Forest Arbuckle 1	SWF	Wetlands	2022	1	1 Wetland SA	In Progress
64	Lake Wales Ridge State Forest Arbuckle 2	SWF	Wetlands	2022	1	1 Wetland SA	In Progress
65	Lake Wales Ridge State Forest Walk in the Water 1	SWF	Wetlands	2022	1	1 Wetland SA	In Progress
66	Lake Wales Ridge State Forest Walk in the Water 2	SWF	Wetlands	2022	1	1 Wetland SA	In Progress
67	Lake Wales Ridge Wildlife and Environmental Area Mountain Lake Cutoff 1	SWF	Wetlands	2017	0		Complete/2017
68	Lake Wales Ridge Wildlife and Environmental Area Mountain Lake Cutoff 2	SWF	Wetlands	2020	1	1 Wetland SA	In Progress
69	Lake Wales Ridge Wildlife and Environmental Area Mountain Lake Cutoff 3	SWF	Wetlands	2017	0	1 SA	Deleted
70	Lake Wales Ridge Wildlife and Environmental Area Mountain Lake Cutoff 4	SWF	Wetlands	2017	0	1 SA	Deleted
71	Long Branch	SJR	Wetlands	2020	4	4 wetland SA	Deleted
72	LW4P	SWF	WL	2018-2020	-	1 SA	Deleted
73	Minneola	SJR	WLWQ	2016	1	1 UFA/APPZ	Complete/2016
74	North Hilochee WMA (fka North Boggy Marsh)	SJR	Wetlands /MFL	-	4	4 wetland SA	Proposed
75	North Lake Wales	SWF	WL	2020	1	1 General SA	Proposed

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76	North Osceola	SJR	WL/WQ	2024	4	Core / 2 general SA/IA, 1 UFA/APPZ, 1 LFA	Proposed
77	ORF-60	SF	WL/WQ	2023	2	1 UFA, 1 APPZ	Proposed
78	OSF-52	SF	WL/WQ	2019-2022	2	2 LFA	In Progress
79	OSF-53 - rehabilitation	SF	WL/WQ	2018-2020	3	1 APPZ; 1 UFA; LFA core-hole and testing; 1 LFA-upper	In Progress
80	OSF-70 - St Cloud	SF	WL/WQ	2024	0	Existing SA, UFA, APPZ, LFA	Proposed
81	OUC - Air 19	SF	WL/WQ	2019	1	1 UFA	Proposed
82	Pasture Reserve	SJR	WL/WQ	2015	1	1 LFA	Complete/2015
83	Peace River at Bartow	SWF	WL	2024	1	1 General SA	Proposed
84	Peace River at Fort Meade	SWF	WL	2024	1	1 General SA	Proposed
85	Pine Island Well	SJR	WL/WQ	2017	2	1 general SA/IA, 1 UFA/APPZ	Complete/2017
86	Prairie Lake	SJR	Wetlands	2017	0		Complete/2017
87	Prince Parcel Wells	SJR	WL/WQ	2025	4	1 general SA/IA, 1 UFA, 1 APPZ constructed; 1 LFA planned FY2025	In Progress
88	River Lakes Cnsrv A.	SJR	WL/WQ	2016	3	2 general SA/IA, 1 UFA/APPZ	Complete/2016
89	Rock Springs Run Park	SJR	Wetlands	-	4	4 wetland SA	Deleted
90	Rock Springs Run State Reserve (SJ-FB4)-forested strand	SJR	Wetlands	2019	1	1 wetland SA	Proposed
91	Rock Springs Run State Reserve Site #1- isolated forest	SJR	Wetlands	2019	0		Proposed
92	Rock Springs Run State Reserve Site #2 - isolated marsh	SJR	Wetlands	2019	1	1 wetland SA	Proposed

ID	Site Name	WMD	Site Type	Estimated Construction FY	Number New Well(s)	Well Type(s)	Status/Completion FY
93	ROMP 46 - Baird	SWF	WLWQ	2021	4	1 General SA, 2 UFA, 1 LFA, Coring/ Testing	In Progress
94	ROMP 73 - Winterhaven	SWF	WL	2021	1	1 General SA	In Progress
95	ROMP 75 - Auburndale	SWF	WLWQ	2016	1	1 LFA II	Complete/2016
96	ROMP 87 - Green Swamp	SWF	WL	2017	1	1 General SA	Complete/2017
97	ROMP 88 - Rock Ridge (Green Swamp West)	SWF	WLWQ	2017	2	1 LFA I, 1 LFA II, Coring/ Testing	In Progress
98	ROMP 88.5 - Northeast Polk (formerly Green Swamp East)	SWF	WLWQ	2018	4	1 General SA, 1 UFA, 1 LFA I, 1 LFA II, Coring/Testing	In Progress
99	Round Lake	SJR	Wetlands	2017	0		Complete/2017
100	Walk in Water (formerly S.R. 60 near Lake Weo & Rosilie)	SF	WLWQ	2019-2020	4	1 SA, 1 UFA, 1 APPZ, 1 LFA	In Progress
101	Sanlon Ranch	SWF	WL	2024	1	1 General SA	Proposed
102	Thornhill Ranch Replacement	SWF	WL and Wetlands	2018	2	1 General SA, 1 UFA	In Progress
103	<del>Tosohatchee WMA - isolated marsh</del>	<del>SJR</del>	<del>Wetlands</del>	<del>2019</del>	<del>0</del>	<del>4 SA</del>	<del>Deleted</del>
104	<del>Tosohatchee WMA - large isolated forested wetland</del>	<del>SJR</del>	<del>Wetlands</del>	<del>-</del>	<del>4</del>	<del>4 wetland SA</del>	<del>Deleted</del>
105	<del>Wekiva Springs State Park - Wekiva River Swamp</del>	<del>SJR</del>	<del>Wetlands</del>	<del>-</del>	<del>4</del>	<del>4 wetland SA</del>	<del>Deleted</del>
106	Lk Jesup E AP Blvd	SJR	WLWQ	2017	3	Core / 1 general SA/IA, 1 UFA/APPZ constructed, 1 LFA planned FY23	In Progress
107	<del>Far Reach Ranch CA</del>	<del>SJR</del>	<del>WLWQ</del>	<del>2020</del>	<del>3</del>	<del>Core / 2 general SA/IA, 1 UFA/APPZ</del>	<del>Deleted</del>
108	<del>World Gateway</del>	<del>SF</del>	<del>Wetlands</del>	<del>2016</del>	<del>0</del>	<del>4 SA</del>	<del>Deleted</del>
109	Yeehaw Junction Wetland Well	SJR	WLWQ	2022	4	Core / 2 general SA/IA, 1 UFA/APPZ, 1 LFA	Proposed
110	REG	SWF	WL	2023	1	1 General SA	Proposed

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111	Wetland Well REG	SWF	WL	2023	1	1 General SA	Proposed
112	Wetland Well REG	SWF	WL	2023	1	1 General SA	Proposed
113	Rock Springs Run State Reserve - Lake Bartho	SJR	Wetlands	2020	1	1 wetland SA	Proposed
114	Lk Jesup CA Wetland1	SJR	Wetlands	2017	1	1 wetland SA	Complete/2017
115	Three Lakes WMA	SJR	WLWQ	2021	4	Core / 2 general SA/IA, 1 UFA/APPZ, 1 LFA	In Progress
116	Scrub Point North	SJR	Wetlands	2017	1	1 wetland SA	Complete/2017
117	West Polk	SWF	WLWQ	2018	4	1 General SA, 1 UFA, 1 LFA I, 1 LFA II	In Progress
118	SE Wellfield	SWF	WLWQ	2018	3	1 General SA, 1 UFA, 1 LFA II	In Progress
119	CRWPF (Bartow)	SWF	WLWQ	2017	1	Core, 1 LFA	Complete/2017
120	Snell Creek - East	SF	Wetlands	2018	1	1 SA wetlands	Complete/2018
121	Tibet Butler 1	SF	Wetlands	2018	0	0	Complete/2018
122	Walk in the Water 1	SF	Wetlands	2019	1	1 SA wetlands	In Progress
123	London-Creek	SF	Wetlands	2019	4	4 SA wetlands	Deleted
124	Hatchineha	SF	Wetlands	2019	4	4 SA wetlands	Deleted
125	Gardner Cobb	SF	Wetlands	2019	1	1 SA wetlands	In Progress
126	Moss Park/Split Oak	SF	Wetlands	2020	1	1 SA wetlands	Proposed
127	Bombing Range	SF	Wetlands	2020	1	1 SA wetlands	Proposed
128	Okeechobee Plain	SF	Wetlands	2020	1	1 SA wetlands	Proposed
129	Lake Sunset-wetland	SJR	Wetlands	2016	0		Completed/2016
130	Lake Marion Creek - West	SF	Wetlands	2018	1	1 SA wetlands	In Progress

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131	Tibet Butler 2	SF	Wetlands	2018	0	0	Complete/2018
132	Snell Creek - West	SF	Wetlands	2018	1	1 SA wetlands	Complete/2018
133	<del>Hal Scott Preserve - Isolated Forested</del>	<del>SJR</del>	<del>Wetlands</del>	-	4	4 SA wetlands	Deleted
134	Alafia River Reserve	SWF	Wetlands	2023	1	1 Wetland SA	In Progress
135	Bonnet Lake Marsh	SWF	Wetlands	2023	1	1 Wetland SA	Proposed
136	Crooked Lake Prairie	SWF	Wetlands	2020	1	1 Wetland SA	Proposed
137	Crooked Lake West 1	SWF	Wetlands	2020	1	1 Wetland SA	In Progress
138	Crooked Lake West 2	SWF	Wetlands	2020	1	1 Wetland SA	In Progress
139	Crooked Lake Wildlife and Environmental Area 1	SWF	Wetlands	2022	1	1 Wetland SA	Proposed
140	Crooked Lake Wildlife and Environmental Area 2	SWF	Wetlands	2022	1	1 Wetland SA	Proposed
141	Gator Creek Reserve 1	SWF	Wetlands	2019	1	1 Wetland SA	Proposed
142	Gator Creek Reserve 2	SWF	Wetlands	2019	1	1 Wetland SA	Proposed
143	Green Swamp Upper Withlacoochee	SWF	Wetlands	2019	1	1 Wetland SA	In Progress
144	Hampton Colt Creek	SWF	Wetlands	2019	1	1 Wetland SA	In Progress
145	Hampton Gator Creek	SWF	Wetlands	2019	1	1 Wetland SA	In Progress
146	Hilochee Osprey West	SWF	Wetlands	2023	1	1 Wetland SA	Proposed
147	Lake Marie	SWF	Wetlands	2020	1	1 Wetland SA	Proposed
148	Lake Marion Creek Scrub	SWF	Wetlands	2023	0		In Progress
149	Lake Maude	SWF	Wetlands	2020	1	1 Wetland SA	Proposed

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150	Lake Ned (Street Sanctuary)	SWF	Wetlands	2020	1	1 Wetland SA	Proposed
151	Lakeland Highlands Scrub	SWF	Wetlands	2023	1	1 Wetland SA	Proposed
152	Richloam Upper Little Withlacoochee	SWF	Wetlands	2019	0		In Progress
153	Saddle Blanket Scrub 1	SWF	Wetlands	2022	1	1 Wetland SA	Proposed
154	Saddle Blanket Scrub 2	SWF	Wetlands	2022	0		Proposed
155	Saddle Blanket Scrub 3	SWF	Wetlands	2022	1	1 Wetland SA	Proposed
156	The Pasture 1	SWF	Wetlands	2019	1	1 Wetland SA	In Progress
157	The Pasture 2	SWF	Wetlands	2019	1	1 Wetland SA	In Progress
158	The Pasture 3	SWF	Wetlands	2019	1	1 Wetland SA	In Progress
159	Tiger Creek 1	SWF	Wetlands	2022	1	1 Wetland SA	Proposed
160	Tiger Creek 2	SWF	Wetlands	2022	1	1 Wetland SA	Proposed
161	Van Fleet 2	SWF	Wetlands	2023	0		Proposed
162	Lake Apopka Marsh Flow-way Site #1	SJR	Wetlands	2019	1	1 SA wetlands	Proposed
163	Lake Apopka Marsh Flow-way Site #2	SJR	Wetlands	2019	1	1 SA wetlands	Proposed
164	Ferndale Preserve-Lake County BCC	SJR	Wetlands	2023	1	1 SA wetlands	Proposed
165	Black Bear Wilderness Area Site #1	SJR	Wetlands	2020	1	1 SA wetlands	Proposed
166	City of Altamonte-Morse Street Parcel	SJR	Wetlands	2023	1	1 SA wetlands	Proposed
167	Lake McCoy Park-City of Apopka	SJR	Wetlands	2023	1	1 SA wetlands	Proposed
168	Rock Springs Run State Reserve Site #3	SJR	Wetlands	2020	1	1 SA wetlands	Proposed
169	Rock Springs Run State Reserve Site #4	SJR	Wetlands	2020	1	1 SA wetlands	Proposed

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170	Rock Springs Run State Reserve Site #5	SJR	Wetlands	2020	1	1 SA wetlands	Proposed
171	Little-Big Econ State Forest #3	SJR	Wetlands	2021	1	1 SA wetlands	Proposed
172	Little-Big Econ State Forest #4	SJR	Wetlands	2021	1	1 SA wetlands	Proposed
173	Little-Big Econ State Forest #5	SJR	Wetlands	2021	1	1 SA wetlands	Proposed
174	Lower Wekiva State Park #1	SJR	Wetlands	2020	1	1 SA wetlands	Proposed
175	Wekiva Springs State Park Site #2	SJR	Wetlands	2020	1	1 SA wetlands	Proposed
176	Tosohatchee WMA #2	SJR	Wetlands	2021	1	1 SA wetlands	Proposed
177	Hal Scott Regional Park	SJR	Wetlands	2022	1	1 SA wetlands	Proposed
178	Charles H Bronson State Forest Site #3	SJR	Wetlands	2022	1	1 SA wetlands	Proposed
179	FDOT/Florida Turnpike-East Johns Lake Pond: Parcel 27222800000005	SJR	Wetlands	2023	1	1 SA wetlands	Proposed
180	Geneva Wilderness Area Site #1	SJR	Wetlands	2020	1	1 SA wetlands	Proposed
181	Black Hammock Wilderness Area #1	SJR	Wetlands	2021	1	1 SA wetlands	Proposed
182	Shenandoah Park-City of Orlando	SJR	Wetlands	2023	1	1 SA wetlands	Proposed
183	Black Hammock Wilderness Area #2	SJR	Wetlands	2021	1	1 SA wetlands	Proposed
184	Maitland Community Park-Mayo Ave	SJR	Wetlands	2023	1	1 SA wetlands	Proposed
185	Sunny Town Park-City of Casselberry	SJR	Wetlands	2023	1	1 SA wetlands	Proposed
186	City of Sanford-East Lake Jesup Property	SJR	Wetlands	2024	1	1 SA wetlands	Proposed
187	Lake Destiny Soccer Park-City of Maitland	SJR	Wetlands	2025	1	1 SA wetlands	Proposed
188	Camp Lonesome 2	SF	Wetlands	2019	1	1 SA wetlands	Proposed

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189	Walk in the Water 2	SF	Wetlands	2019	1	1 SA wetlands	In Progress
190	Disney Wilderness Preserve	SF	Wetlands	2019	0	Utilizing existing well cluster (1 SA, 1 Stage)	In Progress
-	Unnamed Wetland Placeholders	SF	Wetlands	2020	2	2 SA wetlands	Proposed
Notes WL = water level WQ = water quality SF = South Florida Water Management District SJR = St. Johns River Water Management District SWF = Southwest Florida Water Management District SA = surficial aquifer IA = intermediate aquifer UFA = Upper Floridan aquifer LFA = Lower Floridan aquifer					236		