Central Florida Water Initiative

WATER FOR TOMORROW

FINAL DRAFT

ENVIRONMENTAL MEASURES TEAM
2018 ASSESSMENT OF CLASS 1 WETLANDS

AUGUST 6, 2018

INTRODUCTION AND BACKGROUND

The Environmental Measures Team (EMT) is a technical support group consisting of scientists from three water management districts – South Florida Water Management District (SFWMD), St. Johns River Water Management District (SJRWMD), and Southwest Florida Water Management District (SFWMD) – and public supply utility representatives which performs environmental assessments of wetlands and surface waters and other related work in support of determining sustainable groundwater withdrawals in the Central Florida Water Initiative (CFWI) area. The EMT currently consists of the following members:

- Kym Rouse Holzwart – EMT Chair and SWFWMD representative
- David MacIntyre – EMT Co-Chair and environmental consultant (AquaSciTech Consulting) representing St. Cloud, TOHO Water Authority, Orange County, Polk County, and Reedy Creek Improvement District (STOPR)
- Shirley Denton – Environmental consultant (Cardno) representing Orlando Utilities Commission (OUC)
- Kristian Holmberg – SJRMWD Representative
- Lisa Prather – SFWMD Representative

For the 2015 CFWI Regional Water Supply Plan (RWSP), the EMT's evaluation of lakes and wetlands, most without adopted minimum flows and levels (MFLs), within the CFWI region was an integral component. The EMT was tasked with determining the current status of isolated wetlands and lakes with respect to hydrologic stress and alteration and to develop tools to evaluate modeled future wetland conditions within the CFWI region. Between 2007 and 2012, over 350 isolated wetlands and lakes within and near the CFWI area were visited and assessed by the EMT (CFWI 2013). The wetlands and lakes were divided into three classes based on the amount of information available; each wetland class is described below.

- Class 1 Wetlands: These 44 wetlands and lakes were studied in detail. The hydrologic conditions were known (long-term water level data and wetland edge elevation), and they were assessed to determine whether they were stressed or unstressed.
- Class 2 Wetlands: This class includes approximately 200 wetlands and lakes where the environmental condition of the wetland was known, but there was insufficient water level data to assess the hydrologic conditions.
- Class 3 Wetlands: Thousands of isolated and hydrologically unaltered wetlands and lakes within the CFWI area are included in this class; neither the water levels nor the stress conditions were known.

For the 2015 CFWI RWSP, two methods were used to evaluate wetlands under future modeled water level conditions. The first method utilized a statistical evaluation of isolated lake and wetland systems, which are considered to be inherently more vulnerable to impacts from lowered groundwater levels. The statistical method evaluated the probability of change in stress status based upon the observed ecologic and hydrologic conditions

of the 44 Class 1 wetlands. The second approach was based on an analysis of water level data from the Class 1 wetlands to compute a statistical relationship between observed stress and observed water level variations. The statistical relationship was used to estimate the probability (or risk) of future changes in wetland stress occurring, based on modeled water level changes between the reference condition and a future groundwater withdrawal scenario. This risk assessment was applied separately to isolated wetlands in plains and ridges physiographic settings because wetland hydrologic conditions in these wetlands are substantially different. Statistical analyses were performed, which indicated that the characteristics of the Class 1 wetlands were representative of all isolated wetlands in the CFWI region and that the data used were appropriate for their application. This set of tools was used by the Groundwater Availability Team to predict likely effects of groundwater withdrawals, as predicted by modeled water levels, on wetland resources.

Once the 2015 CFWI RWSP was completed, the EMT became inactive. However, it was reactivated in late 2016 to assess groundwater withdrawals on non-MFL isolated wetlands and lakes and to evaluate modeled future wetland conditions in support of the 2020 update to the CFWI RWSP. As a first step, the EMT was asked by the Water Resource Assessment Team (WRAT) to develop a scope of work to re-evaluate a statistically valid subset of the approximately 200 Class 2 wetlands to determine if their environmental conditions had changed since the original evaluation. The EMT received approval in early 2017 to conduct the first phase of the work, which was to perform a power analysis to determine the number of wetlands that needed to be re-evaluated for a statistically valid or representative sample. The results of the power analysis indicated that a population greater than the original sample pool of Class 2 wetlands would need to be evaluated for a statistically valid, representative sample and reliable answer. These results were presented to the WRAT in May 2017, and the WRAT requested that the EMT develop options for determining the current status of isolated wetlands and lakes with respect to hydrological stress resulting from groundwater withdrawals and to evaluate modeled future wetlands conditions in support of the 2020 CFWI RWSP.

The EMT presented various options to the WRAT in late 2017 and in January 2018. The options approved by the WRAT and Steering Committee included using the same methodology that was used for the 2015 CFWI RWSP to evaluate modeled future wetland conditions within the CFWI region for the 2020 CFWI RWSP and conducting field visits to assess the current stress status of the 44 Class 1 wetlands. In addition, 11 new wetlands were added to the Class 1 wetland dataset, increasing the Class 1 wetland dataset to 55 wetlands and lakes, and field work was conducted to evaluate the stress status of the 11 new Class 1 wetlands. This report presents the results of the stress status evaluations of the 55 Class 1 wetlands.

METHODS

Key changes were made to the methodology used for the 2018 assessments, which are described in the following bullets, as compared to the methodology used for the assessments conducted from 2007 through 2012.

- The original assessments were performed by a large number of consultants with varying skill levels. To ensure consistency and minimize variability, three expert wetland scientists on the EMT from each water management district (Kristian Holmberg, Kym Rouse Holzwart, and Lisa Prather) with at least 20 years of experience assessing wetlands conducted all the assessments. As an additional measure to ensure consistency, a joint field day was held by the three EMT expert wetland scientists on April 19, 2018, and stress status assessments of eight Class 1 wetlands and lakes were conducted collaboratively.
- The original assessments were based on change from historical conditions, which was highly variable. For the current assessments, historical changes that occurred prior to the 1980s which were not consistent with current conditions were ignored.
- The original field form required the collection of much information that was not related to hydrologic stress. The field form used for the original assessments was revised, simplified, and field tested by EMT wetland scientists to collect data related only to hydrologic stress (Appendix A).

The Class 1 wetlands include four original sites and two new wetlands in the SFWMD, 14 original and two new sites in the SJRWMD, and 26 original wetlands and lakes and seven new wetlands in the SWFWMD (Table 1 and Figure 1). The new wetlands in the SFWMD portion of the CFWI area consist of two additional wetlands at Walker Ranch. The two new sites in the SJRWMD are not actually new sites since they were originally assessed (Lake Louisa and Prairie Lake); however, for some reason (e.g., data quality issues), they were not included in the original Class 1 wetland dataset. The seven new wetlands in the SWFWMD portion of the CFWI area include two additional wetlands in the Green Swamp, one wetland in the SWFWMD's Alston Tract of the Upper Hillsborough Preserve, three wetlands in the City of Lakeland's Northeast Wellfield, and one wetland in the Florida Fish and Wildlife Conservation Commission's Lake Wales Ridge Wildlife and Environmental Area, Mountain Lake Cutoff Tract.

Field work assessing the 55 Class 1 wetlands and lakes was completed on June 4, 2018. The EMT expert wetland scientists met on June 12, 2018 to finalize the results of the stress status assessments by reviewing the field forms, photographs, water level data, a time series of aerial photographs, and previous assessment results. Discussion during the June 12th meeting focused on sites for which the stress status changed since the original assessment; however, sites that remain unchanged were also discussed for consensus.

Table 1. Site descriptions of the original 44 and 11 new Class 1 wetlands and lakes.

District	EMT ID	Site Name	Physiographic Region	Wetland Hydroclass	Longitude	Latitude
SFWMD	SF-YK	Tibet Butler	Plain	1A Depressional Mesic	-81.537112	28.446165
SFWMD	SF-LA	Walker Ranch - WR11	Plain	1A Depressional Mesic	-81.404507	28.083626
SFWMD	SF-LB	Walker Ranch - WR6	Plain	1A Depressional Mesic	-81.412562	28.113903
SFWMD	SF-XZ	Walker Ranch - WR9	Plain	1A Depressional Mesic	-81.418795	28.109258
SFWMD	NA	Walker Ranch WR-16	Plain	1A Depressional Mesic	-81.392284	28.077793
SFWMD	NA	Walker Ranch WR-15	Plain	1A Depressional Mesic	-81.390062	28.082236
SJRWMD	SJ-AJ	Lake Gem	Plain	1E Flatland Lakes	-81.207313	28.645854
SJRWMD	SJ-LA	Unnamed Cypress	Plain	1A Depressional Mesic	-81.119700	28.566632
SJRWMD	SJ-LB	Unnamed Wetland Nr SR 46	Ridge	1F Xeric Lakes	-81.360359	28.810519
SJRWMD	SJ-LC	Boggy Marsh	Plain	1A Depressional Mesic	-81.697514	28.396950
SJRWMD	SJ-LD	Hopkins Prairie	Ridge	1F Xeric Lakes	-81.693251	29.274910
SJRWMD	SJ-LE	Lake Avalon	Ridge	1F Xeric Lakes	-81.642740	28.510180
SJRWMD	SJ-LF	Lake Apshawa	Ridge	1F Xeric Lakes	-81.773330	28.599640
SJRWMD	SJ-LH	Island Lake	Plain	2A-M Large Isolated	-81.363091	28.696596
SJRWMD	SJ-LI	Lake Sylvan	Plain	1E Flatland Lakes	-81.379811	28.803797
SJRWMD	SJ-LL	City of Cocoa, Well 9T	Plain	1A Depressional Mesic	-81.053314	28.394303
SJRWMD	SJ-QA	Church Lake	Ridge	1F Xeric Lakes	-81.841699	28.644937
SJRWMD	SJ-QB	Johns Lake	Ridge	1F Xeric Lakes	-81.657585	28.531825
SJRWMD	SJ-QC	Trout Lake	Ridge	1F Xeric Lakes	-81.712212	28.447999

Table 1. Site descriptions of the original 44 and 11 new Class 1 wetlands and lakes (cont.).

SJRWMD	SJ-QD	Long Lake	Ridge	1F Xeric Lakes	-81.469958	28.617014
SJRWMD	SJ-LJ	Lake Louisa	Ridge	1F Xeric Lakes	-81.74695	28.46346
SJRWMD	SJ-GA	Prairie Lake	Ridge	1F Xeric Lakes	-81.5113	28.59775
SWFWMD	SW-LE	Cypress Creek #199, W17 Sentry Wetland	Plain	1A Depressional Mesic	-82.394478	28.286128
SWFWMD	SW-LF	Cypress Creek #190 E Marsh	Plain	2A-M Large Isolated	-82.378218	28.304856
SWFWMD	SW-LG	Cypress Creek #223 B W46	Plain	1A Depressional Mesic	-82.391208	28.290439
SWFWMD	SW-LH	Cypress Creek #211 W33	Plain	2A-M Large Isolated	-82.411773	28.259297
SWFWMD	SW-AA	Green Swamp #7	Plain	1A Depressional Mesic	-81.911111	28.312611
SWFWMD	SW-LI	Green Swamp Marsh #304	Plain	1A Depressional Mesic	-82.017890	28.354863
SWFWMD	SW-LJ	Green Swamp #6, #303	Plain	1A Depressional Mesic	-81.971260	28.394560
SWFWMD	SW-LK	Green Swamp #5, #302	Plain	1A Depressional Mesic	-82.018658	28.368859
SWFWMD	SW-LM	Green Swamp #1, #298	Plain	1A Depressional Mesic	-81.946755	28.361410
SWFWMD	SW-JJ	Lake Garfield	Ridge	1A Depressional Mesic	-81.723410	27.900860
SWFWMD	SW-MM	Lake Wales	Ridge	1F Xeric Lakes	-81.578690	27.903910
SWFWMD	SW-QA	Big Gum Lake	Ridge	1F Xeric Lakes	-81.492193	27.928229
SWFWMD	SW-QB	Bonnet Lake	Ridge	1F Xeric Lakes	-81.658534	28.142372
SWFWMD	SW-QC	Buck Lake	Ridge	1F Xeric Lakes	-81.332671	27.234785
SWFWMD	SW-QD	Gator Lake	Ridge	1F Xeric Lakes	-81.686616	27.841225
SWFWMD	SW-QE	Lake Annie	Ridge	1F Xeric Lakes	-81.351758	27.205947
SWFWMD	SW-QF	Lake Apthorpe	Ridge	1F Xeric Lakes	-81.362716	27.344290

Table 1. Site descriptions of the original 44 and 11 new Class 1 wetlands and lakes (cont.).

| SWFWMD	SW-QH	Lake Leonore	Ridge	1F Xeric Lakes	-81.512255	27.793753
SWFWMD	SW-QI	Lake Placid	Ridge	1F Xeric Lakes	-81.364219	27.244505
SWFWMD	SW-QJ	Lake Streety	Ridge	1F Xeric Lakes	-81.569989	27.678406
SWFWMD	SW-QK	Lake Van	Ridge	1F Xeric Lakes	-81.768938	28.107150
SWFWMD	SW-QL	Lake Walker	Ridge	1F Xeric Lakes	-81.717885	27.853656
SWFWMD	SW-QM	Polecat Lake	Ridge	1F Xeric Lakes	-81.699882	27.843913
SWFWMD	SW-QN	Surveyors Lake	Ridge	1F Xeric Lakes	-81.691552	27.833970
SWFWMD	SW-QO	Parks Lake	Ridge	1F Xeric Lakes	-81.468410	27.915700
SWFWMD	SW-QQ	Crooked Lake	Ridge	1E Flatland Lakes	-81.553030	27.827970
SWFWMD	NA	Green Swamp Bay	Plain	2A-M Large Isolated	-81.9537	28.4218
SWFWMD	NA	Green Swamp #4	Plain	1A Depressional Mesic	-81.9311	28.3919
SWFWMD	NA	Alston Bay	Plain	2A-M Large Isolated	-82.0906	28.1804
SWFWMD	NA	NE Lakeland Wellfield G	Plain	2A-M Large Isolated	-81.9027796	28.170354
SWFWMD	NA	NE Lakeland Wellfield J	Plain	2A-M Large Isolated	-81.8883	28.1652
SWFWMD	NA	NE Lakeland Wellfield K	Plain	1A Depressional Mesic	-81.8962	28.161
SWFWMD	NA	Lake Wales Ridge WEA #2	Ridge	1B Depressional Xeric	-81.595412	27.923136

Class 1 Wetlands Assessed
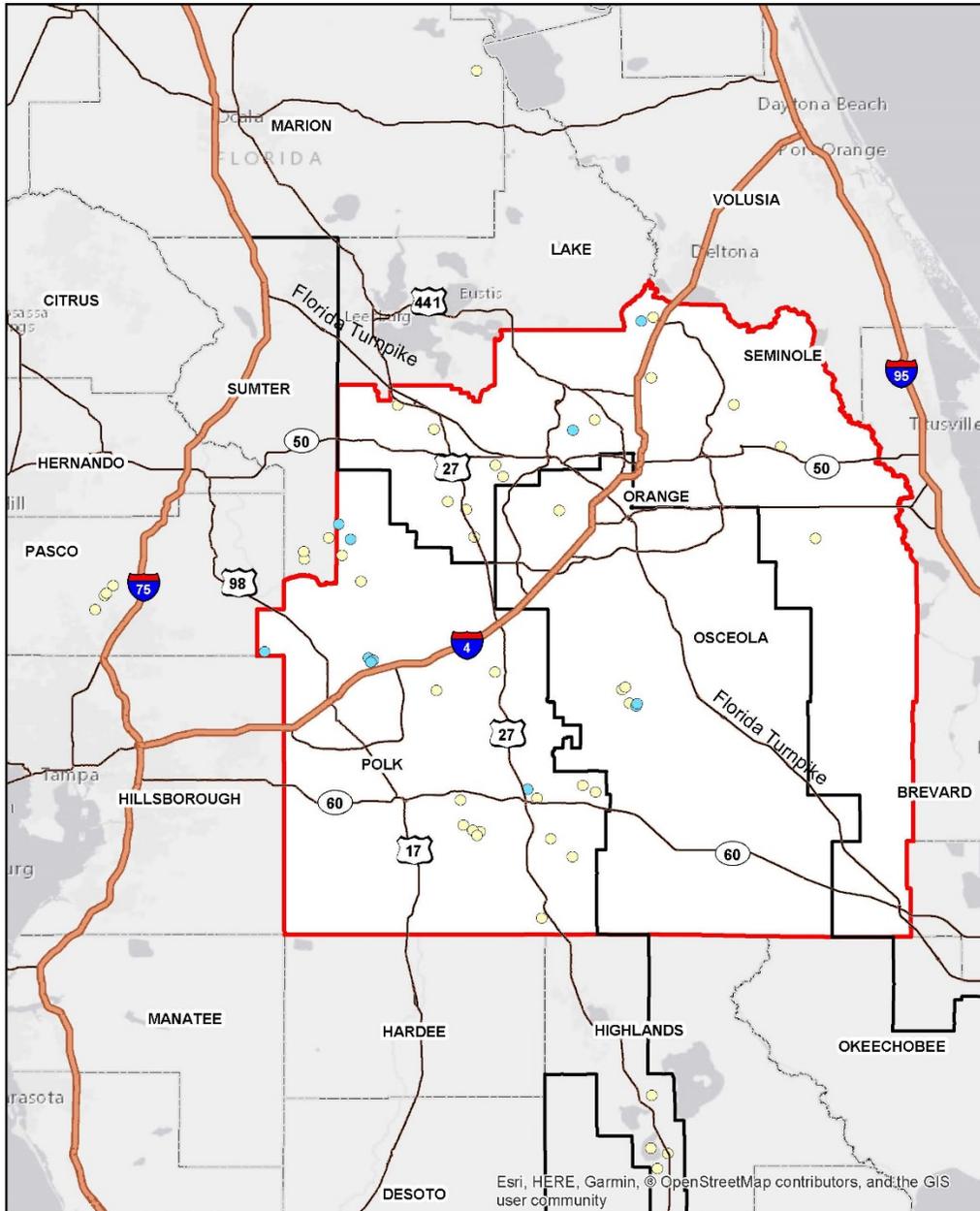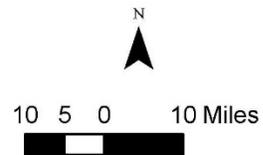
Figure 1. Locations of the original 44 and 11 new Class 1 wetlands and lakes.

RESULTS

The stress status determination for 11 of the original 44 Class 1 wetlands was different than that determined during the original evaluation, representing 25% of the original dataset (Appendix B). The status of five Plain wetlands changed from Stressed to Not Stressed, and one Plain lake changed status from Not Stressed to Stressed. Four Ridge wetlands changed status from Stressed to Not Stressed, while one Ridge lake changed status from Not Stressed to Stressed. Note that these changes may not be due to a change in the condition of the site but rather to a change in what was considered to be stress.

The 11 Class 1 wetlands that changed stress status included Tibet Butler, Lake Gem, Island Lake, Lake Sylvan, Cypress Creek #190 E Marsh, Cypress Creek #211 W33, Lake Wales, Big Gum Lake, Gator Lake, Polecat Lake, and Crooked Lake. Details regarding the change in stress status are described below.

TIBET BUTLER

Tibet Butler is a Plain wetland that changed stress status from Stressed to Not Stressed. The review of the period-of-record staff gage data indicates that water levels appear to be on an increasing trend since 2012 (Figure 2). The field inspection indicated that this wetland is in recovery and not hydrologically stressed (Figure 3).
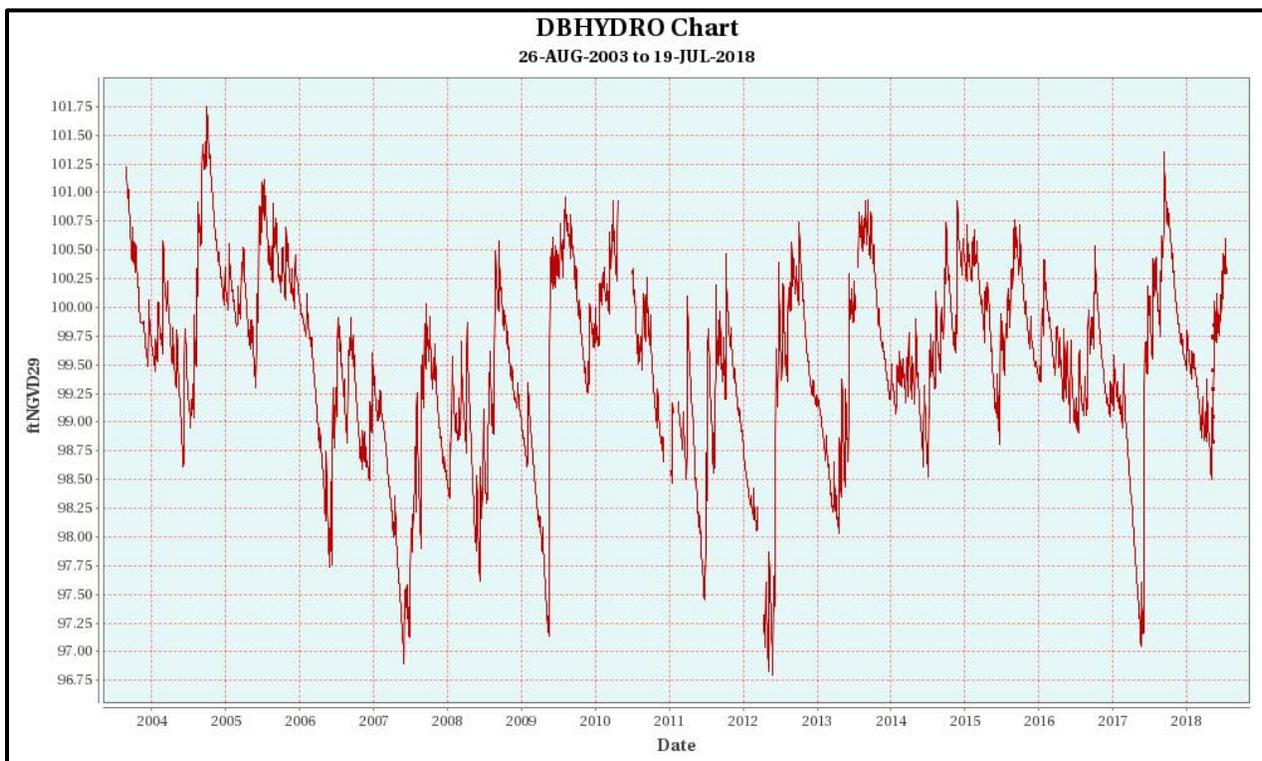
Figure 2. Period-of-record water level data for Tibet Butler.
NOTE: FINAL GRAPH WILL BE IN NAVD 88

Figure 3. Tibet Butler, January 30, 2018.

LAKE GEM

Lake Gem is Plain lake that changed stress status from Stressed to Not Stressed (Figure 4). Previous and current evaluations did not reveal ecological indicators of hydrologic stress. The original determination of Stressed appears to be based on the presence of a ditch along the western side of the lake which discharges offsite when the lake reaches higher water levels. However, the hydrology within the lake appears to be stable and consistent with expected regional hydrologic conditions (Figure 5).

Figure 4. Lake Gem, May 16, 2018.
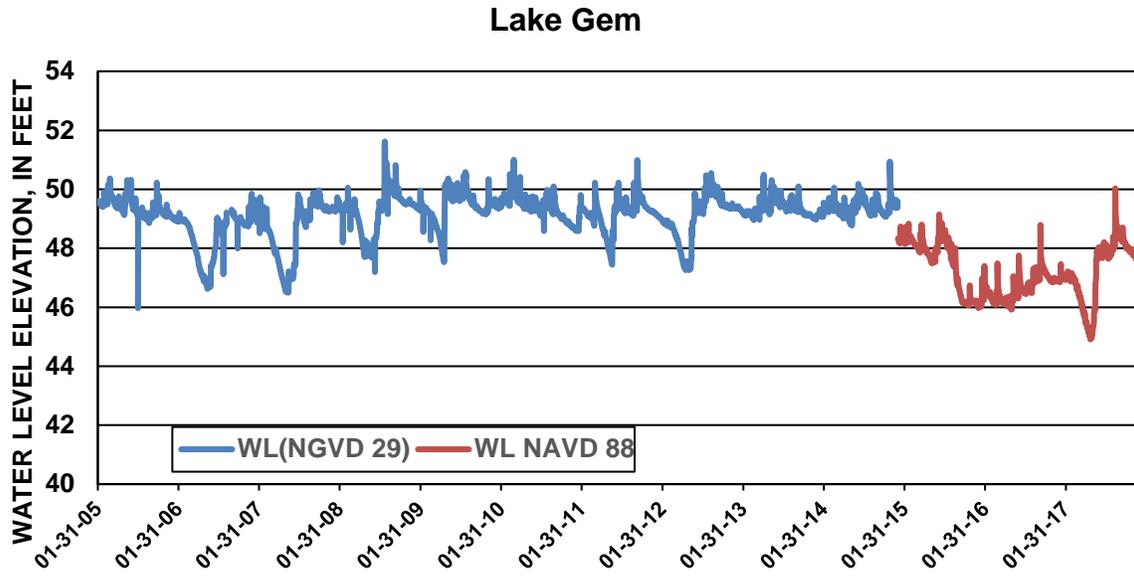
Figure 5. Period-of-record water level data for Lake Gem.
NOTE: FINAL GRAPH WILL BE IN NAVD 88

ISLAND LAKE

Island Lake is a Plain wetland that changed stress status from Stressed to Not Stressed. Previous and current evaluations did not reveal ecological indicators of hydrologic stress. The original determination of Stressed was based on the observation that islands within the marsh system appeared to expand over time based on review of historic aerials dating back to the 1950s. Water levels within the highly urbanized system appear to be stable and consistent with regional climactic conditions, and as indicated by the review of water level monitoring data, surficial aquifer levels have shown an overall increase since 2005 (Figure 6). With the exception of edge effects resulting from the adjacent developments, the marsh system is currently healthy (Figure 7).
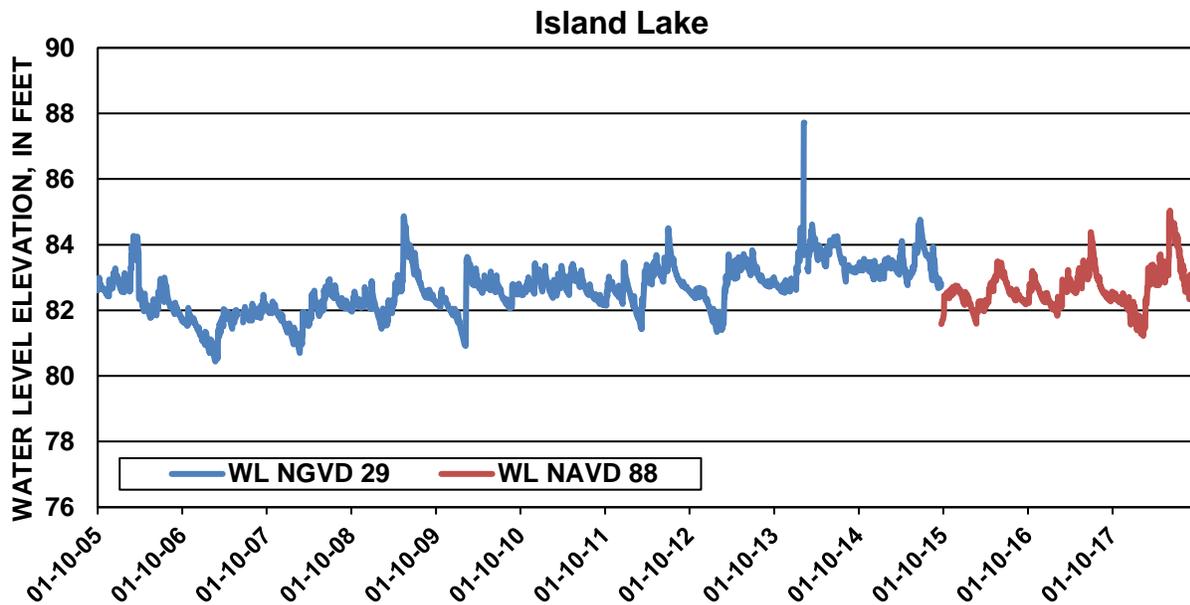
Figure 6. Period-of-record water level data for Island Lake.
NOTE: FINAL GRAPH WILL BE IN NAVD 88

Figure 7. Island Lake, July 23, 2018.

LAKE SYLVAN

Lake Sylvan is a Plain lake that changed stress status from Not Stressed to Stressed. Since the EMT determined the lake to be Not Stressed during the original evaluation, the lake has been visited multiple times. Indicators of hydrologic stress observed during low water periods within the system include the presence of soil fissures within exposed lower reaches of marsh areas, encroachment of pines and invasive species into the wetland

areas, exposed tree roots, and the absence of regeneration of wetland tree species along the wetland boundaries (Figure 8). The review of water level monitoring data collected since 2005 has shown an overall downward trend in surficial aquifer levels for the system (Figure 9).

Figure 8. Lake Sylvan, May 29, 2018.
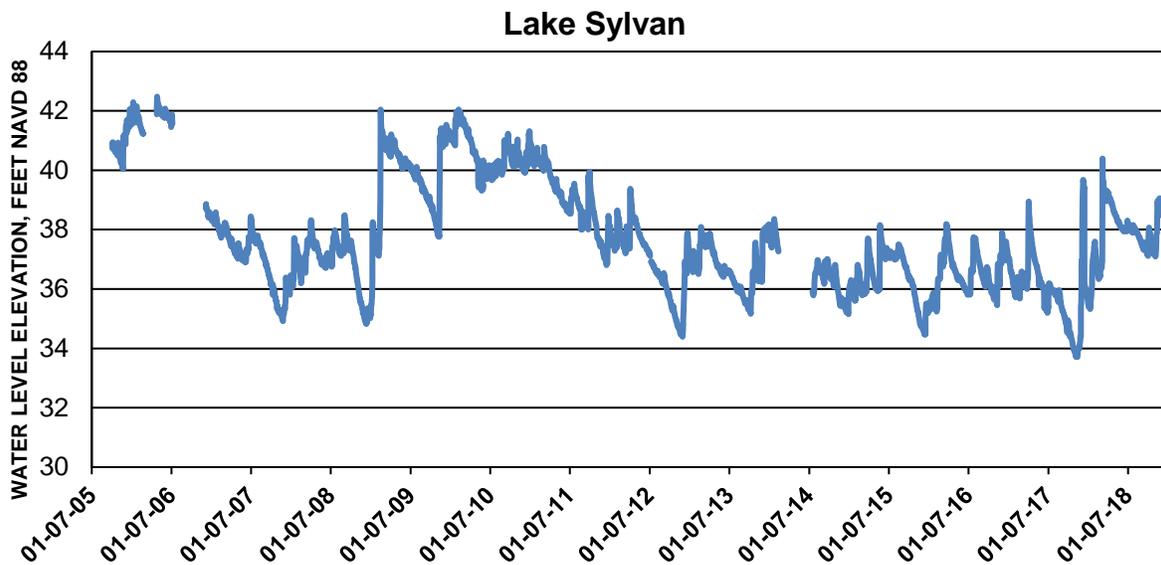
Figure 9. Period-of-record water level data for Lake Sylvan.

CYPRESS CREEK #190 E MARSH

Cypress Creek #190 E Marsh is a Plain wetland that changed stress status from Stressed to Not Stressed. This wetland is located in Tampa Bay Water's Cypress Creek Wellfield. Groundwater pumping at the wellfield has been reduced in recent years, and as indicated by the review of water level monitoring data, the surficial aquifer levels have increased since 2011 (Figure 10). The field inspection indicated that this wetland is not hydrologically stressed and is recovering (Figure 11).
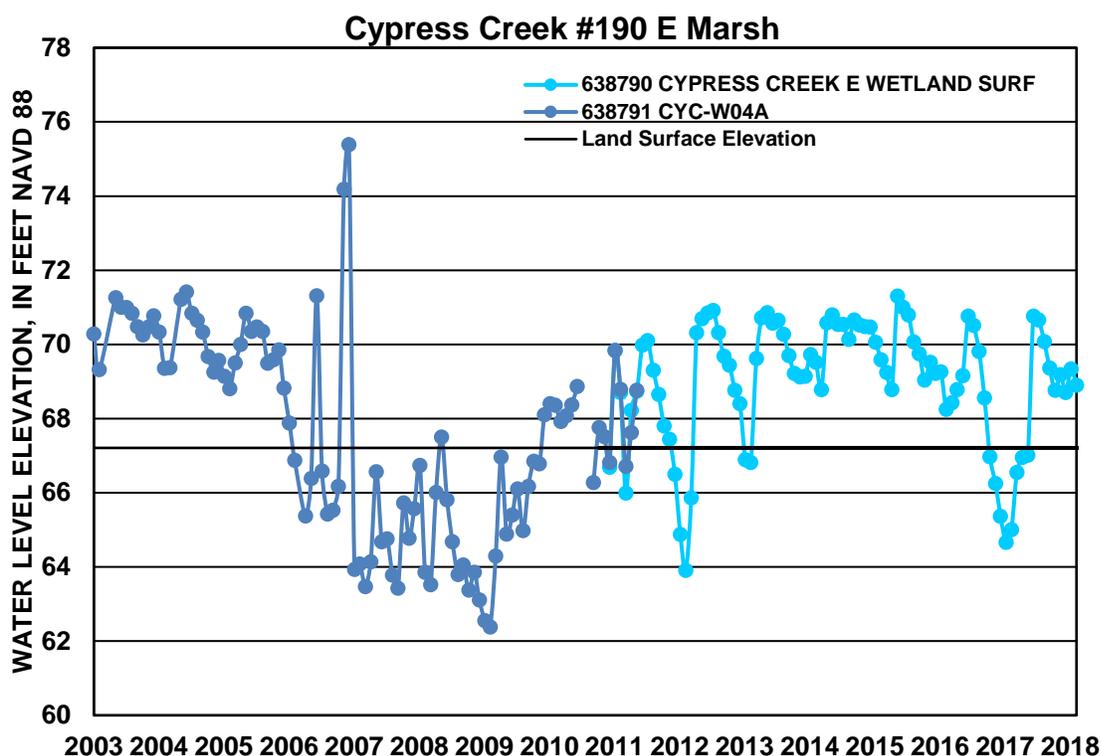
Figure 10. Period-of-record water level data for Cypress Creek #190 E Marsh.

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Figure 11. Cypress Creek #190 E Marsh, June 1, 2018.

CYPRESS CREEK #211 W33

This wetland is a Plain wetland that changed stress status from Stressed to Not Stressed. Cypress Creek #211 W33 is located in Tampa Bay Water's Cypress Creek Wellfield. Groundwater pumping at the wellfield has been reduced in recent years, and as indicated by the review of water level monitoring data, with the exception of the early 2017 drought, the surficial aquifer levels have increased in recent years (Figure 12). The field inspection indicated that this wetland is not hydrologically stressed (Figure 13).
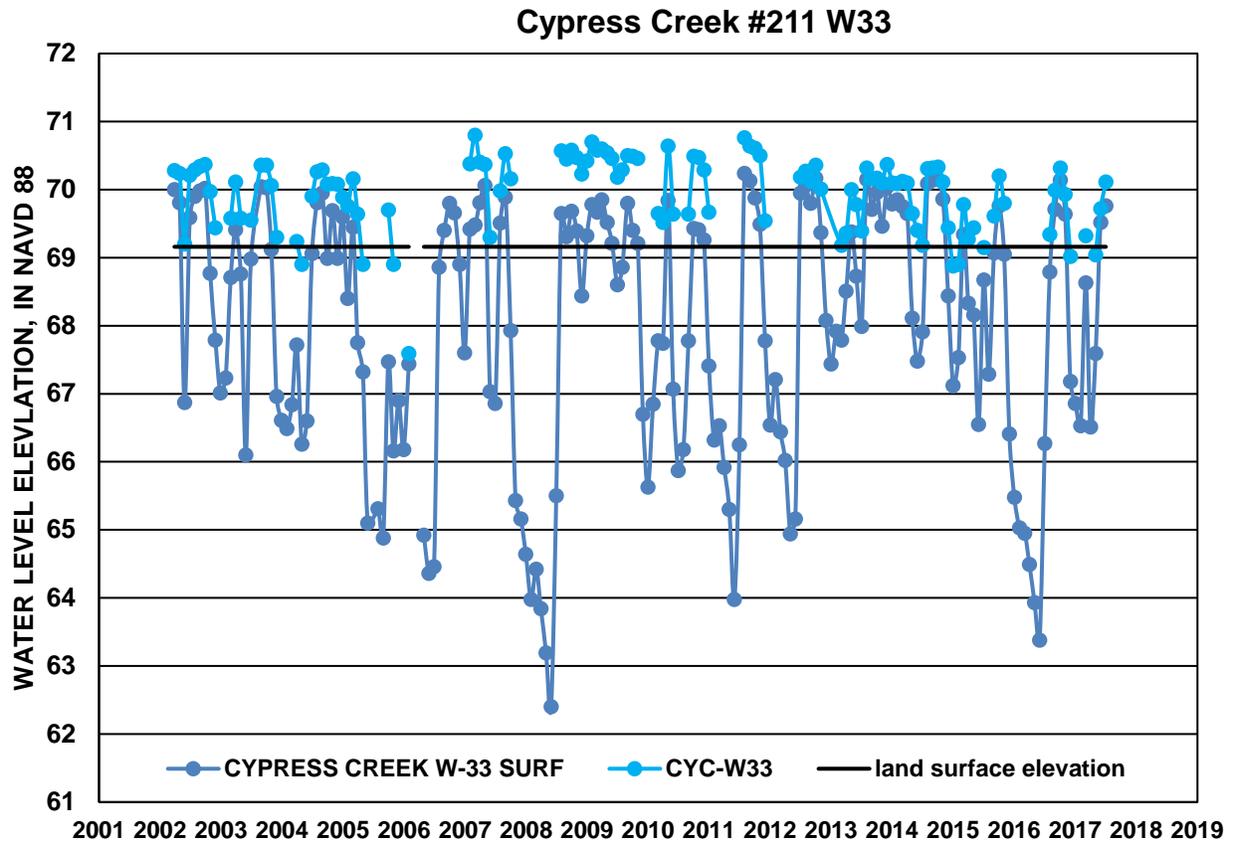
Figure 12. Period-of-record water level data for Cypress Creek #211 W33.

Figure 13. Cypress Creek #211 W33, June 1, 2018.

LAKE WALES

Lake Wales (also known as Lake Wailes) is a Ridge lake that changed stress status from Stressed to Not Stressed. The review of the period-of-record staff gage data indicates that lake levels have been stable since 2002, with levels after 2002 typically higher than before 2002 (Figure 14). In addition to the stable water levels for many years, a review of historical aerials and the field inspection indicated that the lake is not hydrologically stressed (Figure 15).
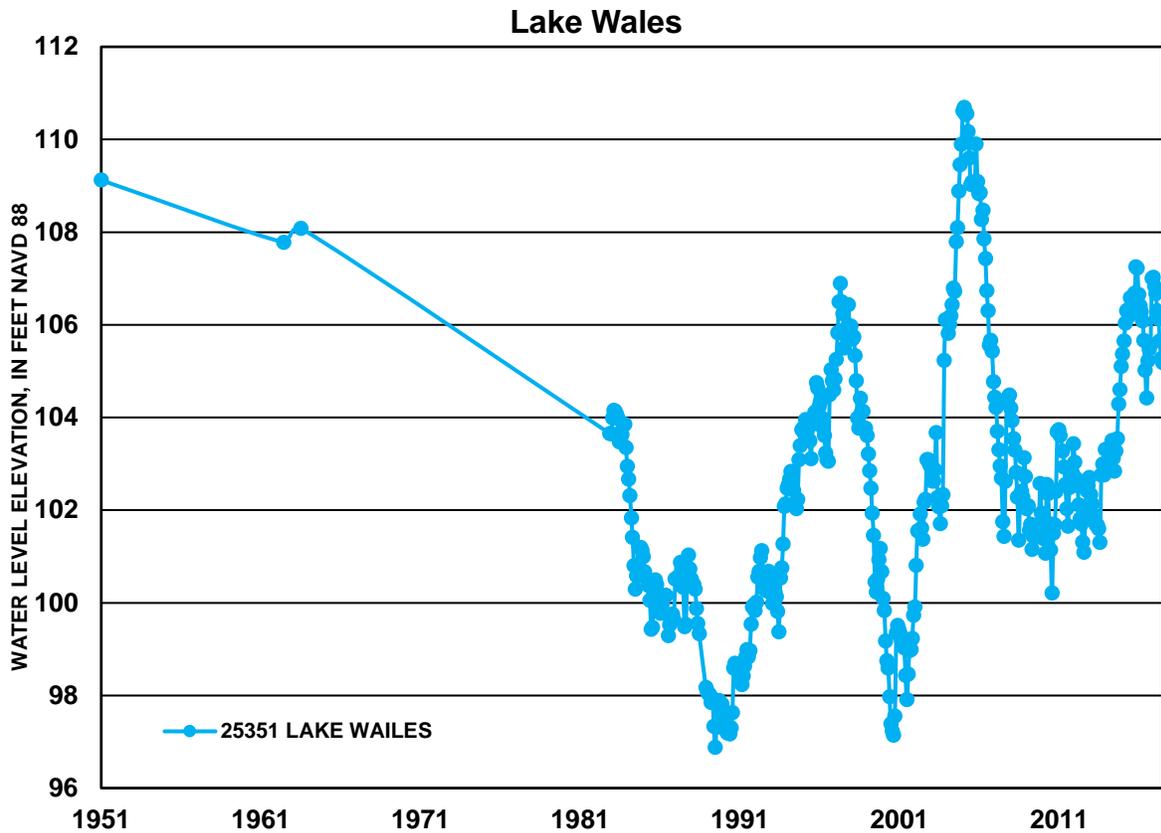
Figure 14. Period-of-record water level data for Lake Wales.

Figure 15. Lake Wales, April 19, 2018.

BIG GUM LAKE

Big Gum Lake is a Ridge lake that changed stress status from Stressed to Not Stressed. The staff gage data for this lake indicates stable water levels since about 2010 (Figure 16). As shown on historical aerial photographs, a large ditch was constructed in the northern portion of the lake some time during the 1940s; however, since the 1970s, lake levels have been relatively stable. Combined with the period-of-record water level data and the review of historical aerials, the field inspection indicated that the lake is not hydrologically stressed (Figure 17).
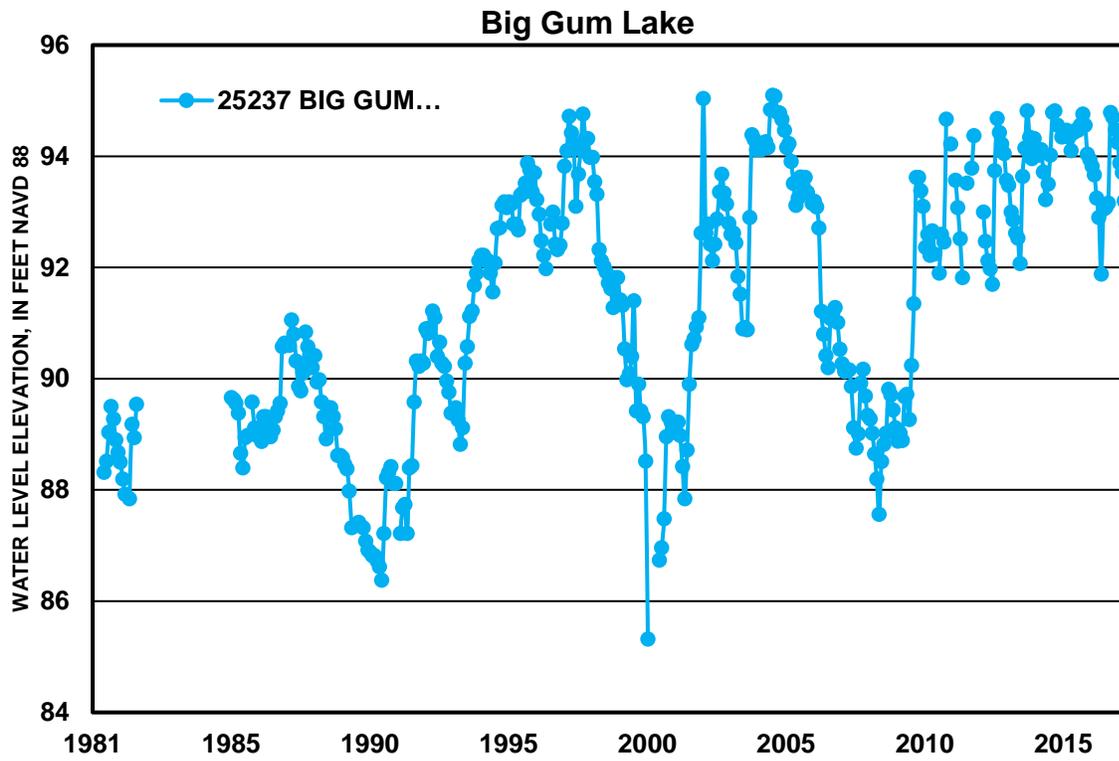
Figure 16. Period-of-record water level data for Big Gum Lake.

Figure 17. Big Gum Lake, April 19, 2018.

GATOR LAKE

Gator Lake is a Ridge lake that changed stress status from Not Stressed to Stressed. While the review of the historical aerials from the 1940s through the present indicates no change in the lake level, the field visit indicated hydrologic stress in the wetlands along the lake shore on the site where the staff gage is accessed (Figures 18 and 19). A review of the staff gage data from the mid-1990s through the present indicates more fluctuation in lake levels prior to 2010 as compared to after 2010; the lowest lake levels were recorded before 2010, and levels since 2010 have been more stable (Figure 20).

Figure 18. Gator Lake, April 19, 2018.

Figure 19. Shoreline Wetlands Along Gator Lake, April 19, 2018.
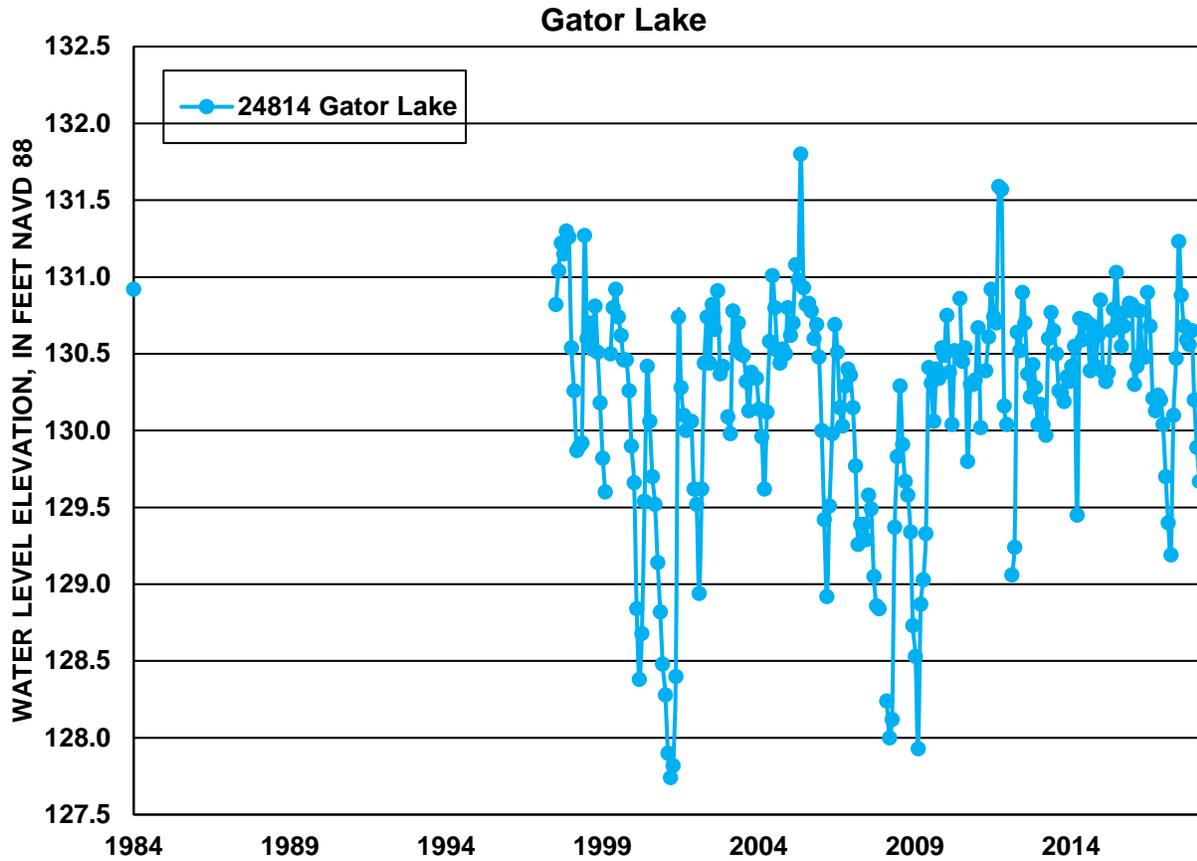
Figure 20. Period-of-record water level data for Gator Lake.

POLECAT LAKE

Polecat Lake is a Ridge lake that changed stress status from Stressed to Not Stressed. The review of the historical aerials indicated stable lake levels. Since about 1991, lake water levels have been stable, with lowest levels recorded during the mid-1980s (Figure 21). The field inspection indicated that the lake was of poor quality because of water quality issues but not hydrologically stressed (Figure 22).
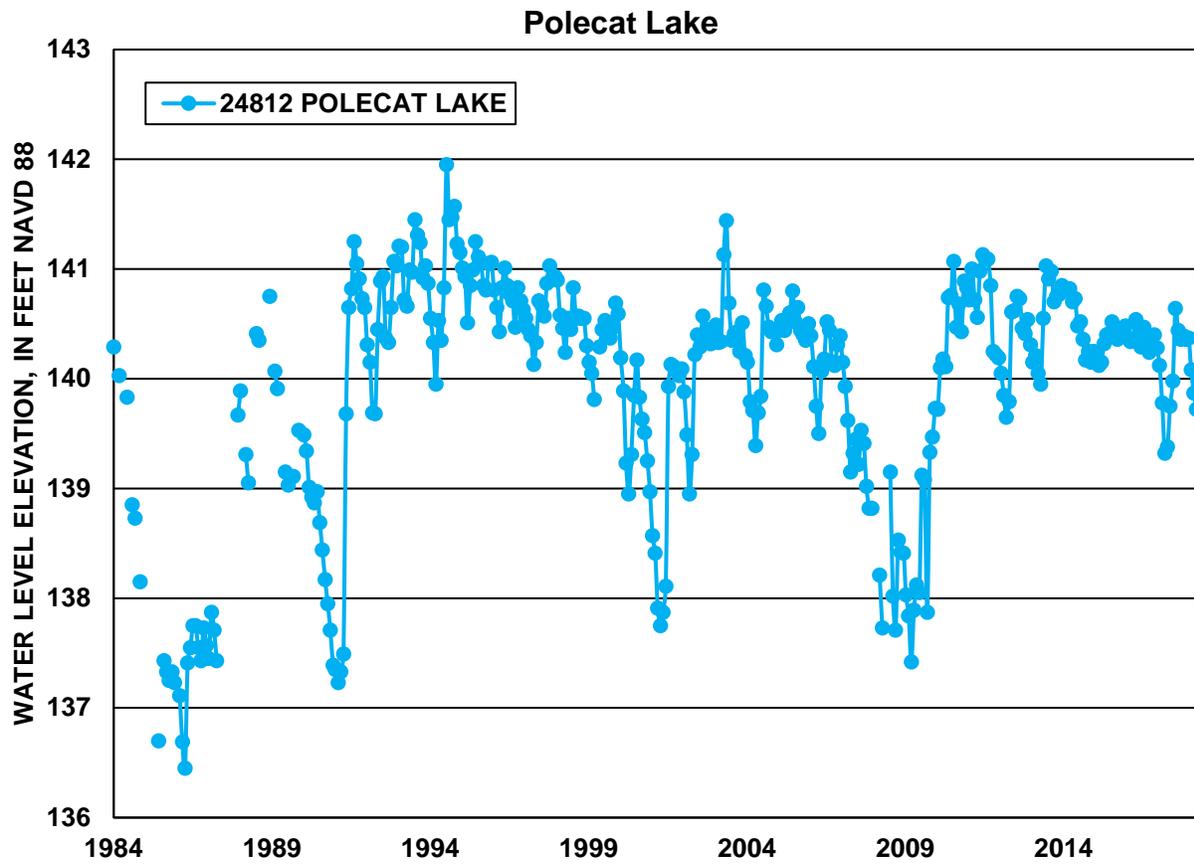
Figure 21. Period-of-record water level data for Polecat Lake.

Figure 22. Polecat Lake, April 19, 2018.

CROOKED LAKE

Crooked Lake is a Ridge lake that changed stress status from Stressed to Not Stressed. The review of the historical aerials indicated a stable lake over time with levels varying from low to high depending on rainfall conditions. The period-of-record staff gage data indicates that lake levels have increased in recent years (Figure 23). There is historical evidence that water was pumped directly from the lake for irrigation; removal of this stressor may have contributed to the recent increased lake levels. The lake was not hydrologically stressed during the field inspection (Figure 24). Crooked Lake is meeting its high minimum level and was 0.1' from meeting its low minimum level in 2016.
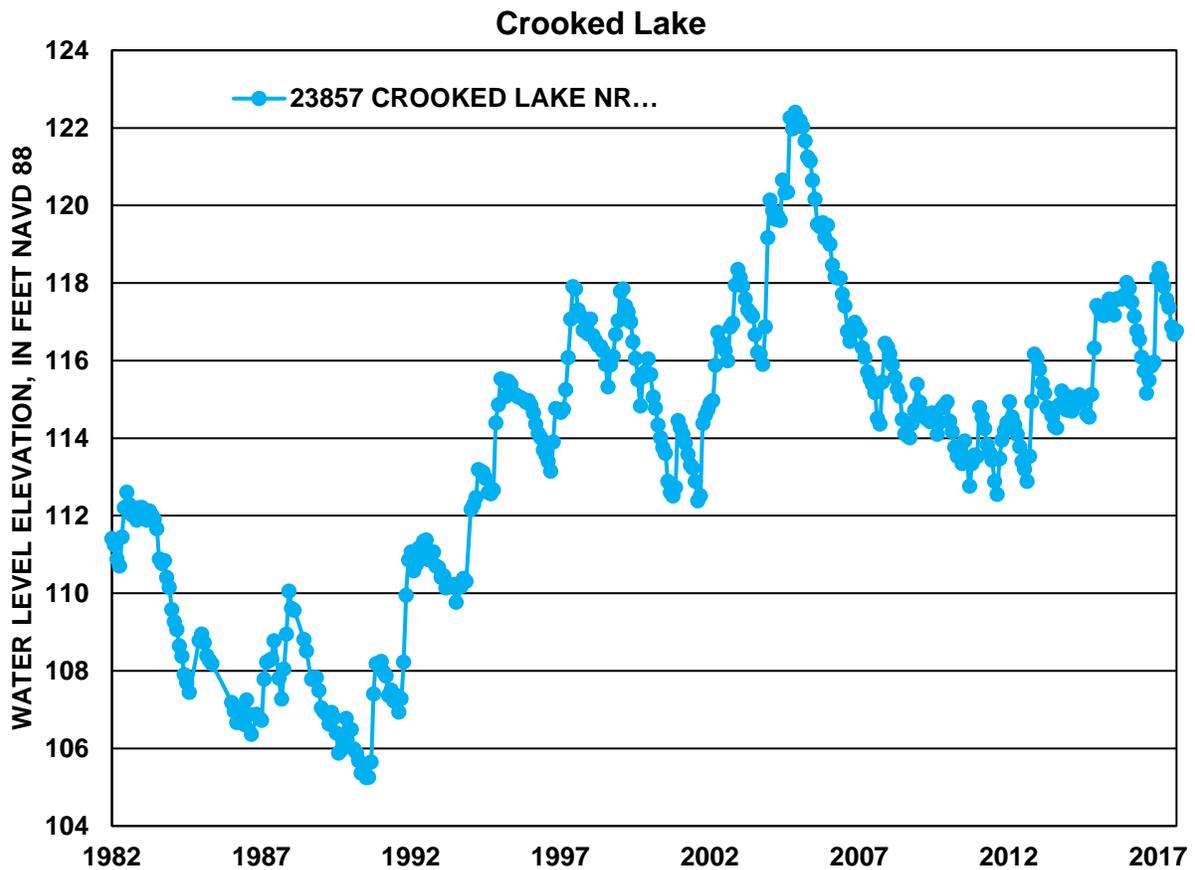
Figure 23. Period-of-record water level data for Crooked Lake.

Figure 24. Crooked Lake, February 27, 2018.

Nine of the new Class 1 wetlands are Plain wetlands; the assessments indicated that eight are currently Not Stressed, while one is Stressed. The two new Ridge Class 1 wetlands were determined to be Stressed.

The Class 1 wetlands dataset used for the analysis in support of the 2015 CFWI RWSP included 18 Plain wetlands (10 Not Stressed, 8 Stressed) and 26 Ridge wetlands (15 Not Stressed, 11 Stressed). For the 2020 update to the RWSP, the Class 1 wetlands dataset that will be used for the analysis includes 27 Plain wetlands (23 Not Stressed, 4 Stressed) and 28 Ridge wetlands (18 Not Stressed, 10 Stressed).

SUMMARY AND DISCUSSION

The majority of Class 1 wetlands (9 of eleven) that changed stress status changed from Stressed to Not Stressed. Some of these wetlands are indeed recovering from hydrologic stress, which is good news. However, for some of the wetlands, the change in stress status is due to a change in what is considered to be stress (e.g., the original assessors may have considered historical aerials that were too old to be representative of current conditions). For example, if conditions of a wetland or lake have been stable for the last 20 or 30 years, the current assessment did not consider conditions before that time. For some of the wetlands, it was not possible to determine the reason for the Stressed determination in the original assessment.

Two lakes changed stress status from Not Stressed to Stressed, most likely as a result of a change in what is considered to be stress. It is not clear why Lake Sylvan was classified as Not Stressed during the original assessment; however, visible signs of hydrologic stress (e.g., pines encroaching well into the lake, soil subsidence) were observed during the 2018 assessment. For Gator Lake, the original assessment may

have occurred in a location where the adjacent wetlands could not be evaluated or the determination was made without a field visit (e.g., reviewing aerials).

While the sample size of the Class 1 wetlands dataset has increased, from 44 to 55, for the analysis that will be done for the 2020 CFWI RWSP, the distribution of the dataset has changed, particularly for Plain wetlands. For the 2015 analysis, the Class 1 wetlands dataset include 10 Not Stressed and 8 Stressed Plain wetlands, and the dataset that will be used for the 2020 CFWI RWSP includes 23 Not Stressed and 4 Stressed Plain Wetlands. The distribution of Ridge wetlands in the Class 1 wetland dataset that will be used for the 2020 CFWI RSWP analysis is similar to that used in the 2015 analysis (18 Not Stressed and 10 Stressed vs. 15 Not Stressed and 11 Stressed).

REFERENCES

CFWI (Central Florida Water Initiative). 2013. Development of Environmental Measures for Assessing Effects of Water Level Changes on Lakes and Wetlands in the Central Florida Water Initiative Area. Central Florida Water Initiative's Environmental Measures Team, Final Report, November 2013.

APPENDICES

APPENDIX A:
FIELD FORM USED FOR THE
2018 CLASS 1 WETLANDS ASSESSMENTS

WETLAND ASSESSMENT FIELD FORM – CFWI
Revised 02-13-18

Date: _____ Evaluators: _____

Site Name/ID: _____

Wetland Type: Class 1   Class 2   Class 3   District: SFWMD   SJRWMD   SWFWMD

GPS Coordinates or Lat/Long: _____

Wetland/Lake Characteristics (Take Multiple Representative Photos)
Lacustrine or Palustrine   Isolated   Interconnected   Seepage Slope   Sandhill

Topographic Relief: Relatively Flat (0-2')   Moderate (3-5')   Extreme (>5')

Vegetation Zonation: Well Defined   Somewhat Defined   Poorly Defined

Zones Present: Transitional Zone   Outer Deep Zone   Deep Zone

Presence of Water in Wetland: Dry   Saturated   Inundated   Center   Throughout

If Lake, Description of Water Level: Normal   Above Normal   Below Normal

Habitat Characteristics (Circle Those Present and Take Representative Photos)
Shifts and Change in Plant Communities   Invasion by Upland Species

Presence of Nuisance or Invasive Species   Dead or Dying Vegetation/Trees

Premature Leaf Falls   Discolored Foliage   Leaning Trees   Tree Falls

Absence of Regeneration of Wetland Species   Exposed Tree Roots

Age Class Differences of Trees   Evidence of Recruitment of Wetland Tree Species

Fire Scars   Evidence of Logging   Cattle

Overall Habitat Condition: Excellent   Good   Fair   Poor

Justification of Condition (Based on Characteristics): _____

_____

_____

_____

Soil Characteristics at Wetland Boundary (Take Representative Photos)
Soil Type: Sand/Mineral   Peat   Muck   Hydric   Inundated   Saturated   Moist   Dry

Soil Subsidence/Oxidation: None   Yes   Measured Depth: _____

Soil Fissures: None   Yes   Measured Depth: _____

Soil Compaction: None   Yes   Measured Depth: _____

Hydrologic Indicators (Circle Those Present and Take Photos of Each)
Pine Edge   Saw Palmetto Edge   Saw Palmetto "Horses" (Elevated Trunks)

Moss Collars   Lichen Lines   Stain Lines   Adventitious Roots

Buttressed Tree Trunks   Cypress Inflection Points   Algal Mats   Water Marks   Rafted

Debris   Crayfish Burrows   Water Lines on Docks/Pilings   None

Drainage Alteration in Wetland: None   Yes   Description: _____

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Drainage Alteration of Surrounding Lands: None   Yes

Approx. Distance and Description: _____

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Stormwater Inflows: None   Yes   Description: _____

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Overall Condition of Wetland: Stressed   Not Stressed

Photograph Information:

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Additional Comments:

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APPENDIX B:
CLASS 1 WETLANDS INFORMATION
AND ASSESSMENT RESULTS

Table B1. Class 1 Wetlands Information and Assessment Results.

CFCA/EMT ID	Site Name	Assessment Date	Lake or Wetland	Topographic Relief	Vegetation Zonation	Zones Present	Presence of Water in Wetland	If Lake, Description of Water Level	List of Habitat Characteristics	Overall Habitat Condition	Soil Type at Wetland Boundary	Soil Subsidence /Oxidation	Soil Fissures	Soil Compaction	List of Hydrologic Indicators	Drainage Alteration in Wetland/Lake	Drainage Alteration of Surrounding Lands	Stormwater Inflows	Status in 2018	Status During Previous Assessment	Reason for Change in Stress Status	Physiographic Region	Ridge	Longitude	Latitude	Hydroclass
SF-LA	Walker Ranch - WR11	5/18/208	W	Flat	Well Defined	Transitional, Outer Deep	Saturated, Throughout	NA	Leaning Trees, Tree Falls, Age Class Differences of Trees, Evidence of Recruitment of Wetland Tree Species,	Excellent	Muck	None	None	None	Pine Edge, Saw Palmetto Edge, Adventitious Roots, Moss Collars, Lichen Lines, Stain Lines, Buttressed Tree Trunks, Cypress Inflection Points, Algal Mats, Water Marks, Water Lines on Docks/Pilings	None	None	None	Not Stressed	Not Stressed	NA	Plain	No	-81.404507	28.083626	A Depressional Mesic
SF-LB	Walker Ranch - WR6	5/18/208	W	Flat	Well Defined	Transitional, Outer Deep, Deep	Saturated, Throughout	NA	Fire Scars	Excellent	Sand/Mineral	None	None	None	Pine Edge, Saw Palmetto Edge, Adventitious Roots, Lichen Lines, Stain Lines, Buttressed Tree Trunks, Cypress Inflection Points, Algal Mats, Water Marks, Water Lines on Docks/Pilings	None	None	None	Not Stressed	Not Stressed	NA	Plain	No	-81.412562	28.113903	A Depressional Mesic
SF-XZ	Walker Ranch - WR9	5/18/208	W	Flat	Well Defined	Transitional, Outer Deep, Deep	Saturated, Throughout	NA	Fire Scars	Excellent	Sand/Mineral	None	None	None	Saw Palmetto Edge, Stain Lines, Water Lines on Pilings	None	None	None	Not Stressed	Not Stressed	NA	Plain	No	-81.418795	28.109258	A Depressional Mesic
NA	Walker Ranch WR-16	5/18/208	W	Flat	Well Defined	Transitional, Outer Deep	Saturated, Throughout	NA	Age Class Difference of Tree, Evidence of Recruitment of Wetland Tree Species, Fire Scars	Excellent	Sand/Mineral	None	None	None	Saw Palmetto Edge, Stain Lines, Water Lines on Pilings, Pine Edge, Lichen Lines, Moss Collars, Adventitious Roots, Cypress Inflection Points, Water Marks	None	None	None	Not Stressed	NA	NA	Plain	No	-81.392284	28.077793	A Depressional Mesic
NA	Walker Ranch WR-15	5/18/208	W	Flat	Well Defined	Transitional, Outer Deep, Deep	Saturated, Throughout	NA	Dead/Dying Trees, Leaning Trees, Tree Falls, Age Class Difference of Tree, Fire Scars	Good	Sand/Mineral	None	None	None	Saw Palmetto Edge, Stain Lines, Water Lines on Pilings, Pine Edge, Lichen Lines, Moss Collars, Adventitious Roots, Cypress Inflection Points, Water Marks	None	None	None	Not Stressed	NA	NA	Plain	No	-81.390062	28.082236	A Depressional Mesic
SF-YK	Tibet Butler	1/30/2018	W	Flat	Somewhat defined	Transitional, Outer Deep, Deep	Center	NA	Leaning Trees, Absence of Regeneration, Evidence of Logging, Fire Scars	Good	Sand/Mineral	None	None	None	Moss Collars, Elevated Lichen Lines, Adventitious Roots, Buttressed Tree Trunks, Water Marks, Rafted Debris, Cypress Inflection Points	None	None	None	Not Stressed	Stressed	Review of the period of record staff gage data, historical aerials, and the field inspection indicated system in recovery from a period of	Plain	No	-81.537112	28.446165	A Depressional Mesic
SJ-AJ	Lake Gem	4/20/2018	L	Moderate	Somewhat defined	Transitional	Dry	Normal	Presence of Nuisance or Invasive Species	Good	Sand/Mineral	None	None	None	Lichen Lines, Stain Lines, Buttressed Tree Trunks	Yes	Yes	Yes	Not Stressed	Stressed	Previous and current field evaluations did not reveal stress indicators. "Stressed" determination was based on history from District staff.	Plain	No	-81.207313	28.645854	1E Flatland Lakes
SJ-LA	Unnamed Cypress	5/29/2018	W	Flat	Somewhat defined	Transitional	Throughout	Above Normal	Presence of Nuisance or Invasive Species, Dead or Dying Vegetation, Exposed Tree Roots, Evidence of Recruitment of Wetland Tree	Good	Sand/Mineral	Yes	None	None	Saw Palmetto "Horses", Moss Collars, Lichen Lines, Buttressed Tree Trunks, Cypress Inflection Points, Water Marks	Yes	Yes	Yes	Not Stressed	Not Stressed	NA	Plain	No	-81.119700	28.566632	A Depressional Mesic
SJ-LB	Unnamed Wetland Nr SR 46	5/31/2018	L	Moderate	Somewhat defined	Transitional, Outer Deep, Deep	Throughout	Above Normal	Shifts and Change in Plant Communities, Invasion by Upland Species, Presence of Nuisance or Invasive Species, Dead or Dying	Fair	Sand/Mineral	None	None	None	Lichen lines, Adventitious roots	Yes	Yes	Yes	Stressed	Stressed	NA	Ridge	Yes	-81.360359	28.810519	1F Xeric Lakes
SJ-LC	Boggy Marsh	5/31/2018	W	Flat	Somewhat defined	Transitional, Outer Deep, Deep	Throughout	Above Normal	Invasion by Upland Species, Presence of Nuisance or Invasive Species, Absence of Regeneration of Wetland Species	Good	Sand/Mineral	None	None	None	Lichen lines, Adventitious roots	None	Yes	Yes	Stressed	Stressed	NA	Plain	No	-81.697514	28.396950	A Depressional Mesic
SJ-LD	Hopkins Prairie	6/6/2018	W	Flat	Well	Transitional, Outer Deep, Deep	Throughout	Normal	Invasive Species	Excellent	Sand/Mineral	None	None	None	Pine Edge, Saw Palmetto Edge, Adventitious Roots	None	None	None	Not Stressed	Not Stressed	NA	Ridge	Yes	-81.693251	29.274910	1F Xeric Lakes
SJ-LE	Lake Avalon	5/4/2018	L	Moderate	Well	Transitional, Outer Deep, Deep	Throughout	Normal	Invasion by Upland Species, Presence of Nuisance or Invasive Species	Good	Sand/Mineral	None	None	None	Stain Lines, Adventitious Roots, Algal Mats, Rafted Debris	None	Yes	Yes	Stressed	Stressed	NA	Ridge	Yes	-81.642740	28.510180	1F Xeric Lakes
SJ-LF	Lake Apshawa	6/1/2018	L	Moderate	Poor	Transitional, Outer Deep, Deep	Center	Above Normal	Presence of Nuisance or Invasive species, Absence of regeneration of wetland species	Fair	Sand/Mineral	None	None	None	None	None	None	None	Stressed	Stressed	NA	Ridge	Yes	-81.773330	28.599640	1F Xeric Lakes
SJ-LH	Island Lake	4/20/2018	W	Flat	Somewhat defined	Transitional, Outer Deep, Deep	Dry	Normal	Presence of Nuisance or Invasive Species	Good	Sand/Mineral	None	None	None	Lichen Lines, Buttressed Tree Trunks	None	Yes	Yes	Not Stressed	Stressed	Previous and current field evaluations did not reveal stress indicators. "Stressed" determination was based on aerial history and possible increase in size of "islands" within the marsh.	Plain	No	-81.363091	28.696596	2A-M Large Isolated
SJ-LI	Lake Sylvan	5/29/2018	L	Flat	Somewhat defined	Transitional, Outer Deep, Deep	Center	Below Normal	Shifts and Change in Plant Communities, Invasion by Upland Species, Presence of Nuisance or Invasive Species, Dead or Dying Vegetation/Trees, Discolored Foliage, Absence of Regeneration of Wetland Species, Exposed Tree Roots	Fair	Sand/Mineral	Yes	None	None	Lichen Lines, Stain Lines, Adventitious Roots	Yes	Yes	Yes	Stressed	Not Stressed	Encroachment of pines well into wetland, visible signs of soil subsidence	Plain	No	-81.379811	28.803797	1E Flatland Lakes

ID	Name	Date	Type	Slope	Edge	Wetland	Location	Water Level	Biological Indicators	Condition	Soil				Hydrologic Indicators				Status 1	Status 2	Comment	Landscape	Wellfield	Longitude	Latitude	Classification
SJ-LL	City of Cocoa, Well 9T	5/29/2018	W	Flat	Somewhat defined	Transitional, Outer Deep, Deep	Throughout	Above Normal	Shifts and Change in Plant Communities, Invasion by Upland Species, Presence of Nuisance or Invasive Species, Age Class Difference of Trees, Evidence of Recruitment of Wetland Tree Species, Evidence of Logging, Cattle	Excellent	Sand/Mineral	None	None	None	Saw Palmetto "Horses", Lichen Lines, Buttressed Tree Trunks, Cypress Inflection Points	None	None	None	Not Stressed	Not Stressed	NA	Plain	No	-81.053314	28.394303	1A Depressional Mesic
SJ-QA	Church Lake	6/1/2018	L	Flat	Somewhat defined	Transitional, Outer Deep, Deep	Throughout	Above Normal	Shifts and Change in Plant communities, Invasion by Upland Species, Dead or Dying vegetation/trees	Good	Sand/Mineral	None	None	None	Pine Edge, Stain Lines, Adventitious roots	None	Yes	Yes	Stressed	Stressed	NA	Ridge	Yes	-81.841699	28.644937	1F Xeric Lakes
SJ-QB	Johns Lake	5/4/2018	L	Flat	Somewhat defined	Transitional, Outer Deep, Deep	Throughout	Normal	Presence of Nuisance or Invasive Species, Dead or Dying Vegetation	Good	Sand/Mineral	None	None	None	Lichen Lines, Stain Lines, Adventitious Roots, Rafted Debris, Water Lines on Docks/Pilings	None	Yes	None	Not Stressed	Not Stressed	NA	Ridge	Yes	-81.657585	28.531825	1F Xeric Lakes
SJ-QC	Trout Lake	5/31/2018	L	Moderate	Somewhat defined	Transitional, Outer Deep, Deep	Throughout	Above Normal	None	Good	Sand/Mineral	None	None	None	None	Yes	Yes	Yes	Not Stressed	Not Stressed	NA	Ridge	Yes	-81.712212	28.447999	1F Xeric Lakes
SJ-QD	Long Lake	5/4/2018	L	Flat	Somewhat defined	Transitional, Outer Deep, Deep	Center	Below Normal	Invasion by Upland Species, Presence of Nuisance or Invasive Species, Evidence of Recruitment of Wetland Tree Species	Good	Sand/Mineral	None	None	None	Adventitious Roots, Buttressed Tree Trunks, Cypress Inflection Points, Rafted Debris	None	Yes	Yes	Stressed	Stressed	NA	Ridge	Yes	-81.469958	28.617014	1F Xeric Lakes
SJ-LJ	Lake Louisa	5/31/2018	L	Flat	Somewhat defined	Transitional, Outer Deep, Deep	Center	Normal	Shifts and Change in Plant Communities, Invasion by Upland Species, Presence of Nuisance or Invasive Species, Leaning Trees, Tree Falls, Absence of regeneration of Wetland Species, Age class difference of trees, Evidence of recruitment	Good	Sand/Mineral, Dry	Yes	None	None	Lichen Lines, Stain Lines, Adventitious Roots, Buttressed Tree Trunks, Cypress Inflection Points, Rafted Debris, Water Lines on Docks and Pilings	Yes	Yes	Yes	Stressed	Stressed	NA	Ridge	Yes	-81.74695	28.46346	1F Xeric Lakes
SJ-GA	Prairie Lake	5/4/2018	L	Moderate	Somewhat defined	Transitional, Outer Deep, Deep	Throughout	Normal	Invasion by Upland Species, Presence of Nuisance or Invasive Species	Fair	Sand/Mineral	None	None	None	Stain Lines, Water Marks, Rafted Debris, Water Lines on Docks/Pilings	None	Yes	Yes	Stressed	Stressed	NA	Ridge	Yes	-81.5113	28.59775	1F Xeric Lakes
SW-AA	Green Swamp #7	02/09/18	W	Flat	Somewhat Defined	Transitional, Outer Deep, Deep	Inundated, Throughout	NA	Fire Scars	Excellent	Sand/Mineral, Hydric, Moist	None	None	None	Moss Collars, Lichen Lines, Stain Lines, Pine Edge, Adventitious Roots, Buttressed Tree Trunks, Cypress Inflection Points, Saw Palmetto Horses	None	None	None	Not Stressed	Not Stressed	NA	Plain	No	-81.911111	28.312611	1A Depressional Mesic
SW-JJ	Lake Garfield	04/24/18	L	Flat	Well Defined	Transitional, Outer Deep, Deep	Throughout	Normal	Shifts/Changes in Plant Communities, Invasion by Upland Species, Presence of Nuisance/Invasive	Fair	Sand/Mineral, Muck, Hydric, Dry	Yes	None	None	Pine Edge, Adventitious Roots, Rafted Debris	Yes	None	Yes	Not Stressed	Not Stressed	NA	Ridge	Yes	-81.723410	27.900860	1A Depressional Mesic
SW-LE	Cypress Creek #199, W17 Sentry Wetland	06/01/18	W	Flat	Somewhat Defined	Transitional, Outer Deep, Deep	Inundated, Throughout	NA	Invasion by Upland Species, Leaning Trees, Tree Falls, Absence of Regeneration of Wetland Species, Exposed Tree Roots	Fair	Sand/Mineral, Hydric, Saturated	Yes	None	None	Pine Edge, Saw Palmetto Edge, Moss Collars, Lichen Lines, Stain Lines, Cypress Inflection Points	None	None	None	Stressed	Stressed	NA	Plain	No	-82.394478	28.286128	1A Depressional Mesic
SW-LF	Cypress Creek #190 E Marsh	06/01/18	W	Flat	Well Defined	Transitional, Outer Deep, Deep	Inundated, Throughout	NA	Shifts/Changes in Plant Communities, Invasion by Upland Species	Good	Sand/Mineral, Hydric, Saturated	None	None	None	Pine Edge, Lichen Lines, Stain Lines, Buttressed Tree Trunks, Water Marks	None	None	None	Not Stressed	Stressed	Due to reduced pumping at the wellfield, SA water levels have improved; the field inspection indicated that the wetland was not hydrologically stressed and is	Plain	No	-82.378218	28.304856	2A-M Large Isolated
SW-LG	Cypress Creek #223 B W46	06/01/18	W	Flat	Poorly Defined	Transitional, Outer Deep, Deep	Inundated, Throughout	NA	Shifts/Changes in Plant Communities, Invasion by Upland Species, Dead/Dying Vegetation/Trees, Tree Falls, Absence of Regeneration of Wetland Species	Poor	Sand/Mineral, Hydric, Moist	None	None	None	Saw Palmetto Edge, Buttressed Tree Trunks, Algal Mats, Hummocks, No Distinct Indicators	None	None	None	Stressed	Stressed	NA	Plain	No	-82.391208	28.290439	1A Depressional Mesic
SW-LH	Cypress Creek #211 W33	06/01/18	W	Flat	Somewhat Defined	Transitional, Outer Deep, Deep	Inundated, Throughout	NA	Dead/Dying Vegetation/Trees, Leaning Trees, Tree Falls	Good	Muck, Hydric	Yes	None	None	Saw Palmetto Edge, Buttressed Tree Trunks, No Distinct Indicators	None	None	None	Not Stressed	Stressed	Due to reduced pumping at the wellfield, SA water levels have improved; the field inspection indicated that the wetland was not hydrologically stressed and is	Plain	No	-82.411773	28.259297	2A-M Large Isolated
SW-LI	Green Swamp Marsh #304	06/04/18	W	Flat	Well Defined	Transitional, Outer Deep, Deep	Inundated, Throughout	NA	Evidence of Recruitment of Wetland Tree Species, Fire Scars	Excellent	Sand/Mineral, Hydric, Inundated	None	None	None	Pine Edge, Saw Palmetto Edge, Adventitious Roots, Buttressed Tree Trunks	None	None	None	Not Stressed	Not Stressed	NA	Plain	No	-82.017890	28.354863	1A Depressional Mesic
SW-LJ	Green Swamp #6, #303	2/16/18 and 6/4/18	W	Flat	Somewhat Defined	Transitional, Outer Deep, Deep	Inundated, Throughout	NA	Age Class Differences of Trees	Excellent	Sand/Mineral, Hydric, Moist	None	None	None	Saw Palmetto Edge, Moss Collars, Lichen Lines, Buttressed Tree Trunks, Cypress Inflection Points	None	None	None	Not Stressed	Not Stressed	NA	Plain	No	-81.971260	28.394560	1A Depressional Mesic
SW-LK	Green Swamp #5, #302	2/16/18 and 6/4/18	W	Flat	Somewhat Defined	Transitional, Outer Deep, Deep	Inundated, Center	NA	None	Excellent	Sand/Mineral, Moist	None	None	None	Saw Palmetto Edge, Moss Collars, Adventitious Roots, Cypress Inflection Points	None	None	None	Not Stressed	Not Stressed	NA	Plain	No	-82.018658	28.368859	1A Depressional Mesic

ID	Name	Date	W/L	Topo	Basin	Depth Zone	Condition	Normal	Indicator	Quality	Soil				Field Indicators				Stress 1	Stress 2	Review	Phys	Y/N	Long	Lat	Category
SW-LM	Green Swamp #1, #298	2/16/18 and 6/4/18	W	Flat	Poorly Defined	Outer Deep, Deep	Dry	NA	Evidence of Recruitment of Wetland Tree Species	Good	Muck, Hydric, Moist	None	None	None	Moss Collars, Adventitious Roots, Buttressed Tree Trunks, Cypress Infection	None	None	None	Not Stressed	Not Stressed	NA	Plain	No	-81.946755	28.361410	A Depressional Mesic
SW-MM	Lake Wales	04/19/18	L	Moderate	Poorly Defined	Outer Deep, Deep	Throughout	Normal	Presence of Nuisance/Invasive Species	Poor	Sand/Mineral, Hydric, Dry	None	None	None	Water Lines on Docks/Pilings	Yes	Yes	Yes	Not Stressed	Stressed	Review of the period of record staff gage data, historical aerials, and the field inspection indicated that the lake is not hydrologically stressed.	Ridge	Yes	-81.578690	27.903910	1F Xeric Lakes
SW-QA	Big Gum Lake	04/19/18	L	Moderate	Somewhat Defined	Transitional, Outer Deep, Deep	Throughout	Normal	Presence of Nuisance/Invasive Species, Dead or Dying Vegetation/Trees	Fair	Sand/Mineral, Hydric, Dry	None	None	None	Stain Lines, Adventitious Roots, Water Lines on Docks/Pilings	None	None	Yes	Not Stressed	Stressed	Review of the period of record staff gage data, historical aerials, and the field inspection indicated that the lake is not hydrologically stressed.	Ridge	Yes	-81.492193	27.928229	1F Xeric Lakes
SW-QB	Bonnet Lake	02/12/18	L	Flat	Somewhat Defined	Outer Deep, Deep	Throughout	Normal	Presence of Nuisance/Invasive	Good	Sand/Mineral, Hydric, Moist	None	None	None	Buttressed Tree Trunks, Adventitious Roots	None	None	Yes	Not Stressed	Not Stressed	NA	Ridge	Yes	-81.658534	28.142372	1F Xeric Lakes
SW-QC	Buck Lake	04/24/18	L	Moderate	Poorly Defined	Outer Deep, Deep	Throughout	Normal	Presence of Nuisance/Invasive	Fair	Sand/Mineral, Hydric, Moist	None	None	None	Water Lines on Docks/Pilings	None	None	Yes	Not Stressed	Not Stressed	NA	Ridge	Yes	-81.332671	27.234785	1F Xeric Lakes
SW-QD	Gator Lake	04/19/18	L	Flat	Well Defined	Transitional, Outer Deep, Deep	Throughout	Normal	Shifts/Change in Plant Communities	Fair	Muck, Hydric, Moist	None	None	None	Lichen Lines, Water Marks, Buttressed Tree Trunks, Water Marks, Rafted Debris, Hummocks	None	None	Yes	Stressed	Not Stressed	Review of the historical aerials indicates no change in the lake level; review of the period of record staff gage data indicates less variability in the water level fluctuation in recent years (highs not as high and lows not as low); field inspection indicated hydrologic stress in the wetlands along the lake shore on the site where the staff gage is accessed.	Ridge	Yes	-81.686616	27.841225	1F Xeric Lakes
SW-QE	Lake Annie	04/24/18	L	Flat	Somewhat Defined	Outer Deep, Deep	Throughout	Above Normal	Presence of Nuisance/Invasive Species	Good	Sand/Mineral, Hydric, Moist	None	None	None	Pine Edge, Saw Palmetto Edge, Stain Lines, Adventitious Roots, Buttressed Tree Trunks, Water Marks, Water Lines on	None	None	None	Not Stressed	Not Stressed	NA	Ridge	Yes	-81.351758	27.205947	1F Xeric Lakes
SW-QF	Lake Apthorpe	04/24/18	L	Moderate	Somewhat Defined	Outer Deep, Deep	Throughout	Normal	Presence of Nuisance/Invasive	Good	Muck, Hydric, Moist	None	None	None	Water Lines on Docks/Pilings	None	None	None	Not Stressed	Not Stressed	NA	Ridge	Yes	-81.362716	27.344290	1F Xeric Lakes
SW-QH	Lake Leonore	02/27/18	L	Extreme	Somewhat Defined	Outer Deep, Deep	Throughout	Normal		Good	Peat, Hydric, Inundated	None	None	None	Stain Lines	None	None	None	Not Stressed	Not Stressed	NA	Ridge	Yes	-81.512255	27.793753	1F Xeric Lakes
SW-QI	Lake Placid	04/24/18	L	Moderate	Somewhat Defined	Outer Deep, Deep	Throughout	Normal	Presence of Nuisance/Invasive	Fair	Sand/Mineral, Hydric, Moist	None	None	None	Adventitious Roots, Water Lines on Docks/Pilings	None	None	None	Not Stressed	Not Stressed	NA	Ridge	Yes	-81.364219	27.244505	1F Xeric Lakes
SW-QJ	Lake Streety	04/24/18	L	Moderate	Somewhat Defined	Deep Zone	Throughout	Normal	Presence of Nuisance/Invasive Species	Good	Sand/Mineral, Muck, Hydric, Moist	None	None	None	Stain Lines, Adventitious Roots, Buttressed Tree Trunks, Cypress Inflection Points, Algal Mats	None	None	None	Not Stressed	Not Stressed	NA	Ridge	Yes	-81.569989	27.678406	1F Xeric Lakes
SW-QK	Lake Van	04/24/18	L	Moderate	Somewhat Defined	Outer Deep, Deep	Throughout	Normal	Presence of Nuisance/Invasive	Fair	Sand/Mineral, Hydric, Moist	None	None	None	Water Lines on Docks/Pilings	None	Yes	Yes	Not Stressed	Not Stressed	NA	Ridge	Yes	-81.768938	28.107150	1F Xeric Lakes
SW-QL	Lake Walker	04/19/18	L	Extreme	Somewhat Defined	Transitional, Outer Deep, Deep	Throughout	Below Normal	Shifts/Change in Plant Communities, Invasion by Upland Species, Presence of Nuisance/Invasive	Poor	Sand/Mineral, Hydric, Dry	None	None	Yes	Adventitious Roots, Algal Mats	None	None	Yes	Stressed	Stressed	NA	Ridge	Yes	-81.717885	27.853656	1F Xeric Lakes
SW-QM	Polecat Lake	04/19/18	L	Moderate	Poorly Defined	Transitional, Outer Deep, Deep	Throughout	Normal	Invasion by Upland Species, Presence of Nuisance/Invasive Species	Poor	Muck, Hydric, Moist	None	None	None	None	None	None	Yes	Not Stressed	Stressed	Review of historical aerials and period of record staff gage data indicates stable water levels, field inspection indicated a poor quality lake but not due to hydrologic	Ridge	Yes	-81.699882	27.843913	1F Xeric Lakes
SW-QN	Surveyors Lake	04/19/18	L	Moderate	Poorly Defined	Transitional	Throughout	Normal	Presence of Nuisance/Invasive	Poor	Muck, Hydric, Moist	None	None	None	Adventitious Roots, Rafted Debris	None	None	None	Not Stressed	Not Stressed	NA	Ridge	Yes	-81.691552	27.833970	1F Xeric Lakes
SW-QO	Parks Lake	04/19/18	L	Moderate	Well Defined	Transitional, Outer Deep, Deep	Throughout	Normal	Shifts/Change in Plant Communities, Presence of Nuisance/Invasive	Fair	Sand/Mineral, Hydric, Dry	None	None	None	Stain Lines, Water Lines on Docks/Pilings	None	None	Yes	Not Stressed	Not Stressed	NA	Ridge	Yes	-81.468410	27.915700	1F Xeric Lakes
SW-QQ	Crooked Lake	02/27/18	L	Flat	Well Defined	Transitional, Outer Deep, Deep	Throughout	Normal	None	Good	Muck, Hydric, Dry	None	None	None	Adventitious Roots, Algal Mats, Rafted Debris	None	None	Yes	Not Stressed	Stressed	Review of historical aerials and period of record staff gage data indicates increased water levels in recent years, the lake was not hydrologically stressed during the field inspection, lake meeting its high minimum level and 0.1' from meeting its low minimum level in 2016.	Ridge	Yes	-81.553030	27.827970	1E Flatland Lakes
NA	Green Swamp Bay	2/16/18 and 6/4/18	W	Flat	Somewhat Defined	Transitional, Outer Deep, Deep	Inundated, Center	NA	Age Class Differences of Trees	Excellent	Muck, Hydric, Moist	None	None	None	Pine Edge, Saw Palmetto Edge, Moss Collars, Lichen Lines, Buttressed Tree Trunks, Cypress Infection Points, Hummocks	None	None	None	Not Stressed	NA	NA	Plain	No	-81.9537	28.4218	2A-M Large Isolated
NA	Green Swamp #4	06/04/18	W	Flat	Well Defined	Transitional, Outer Deep, Deep	Inundated, Center	NA	Evidence of Recruitment of Wetland Tree Species	Excellent	Sand/Mineral, Muck, Hydric, Moist	None	None	None	Pine Edge, Saw Palmetto Edge, Moss Collars, Lichen Lines, Stain Lines, Adventitious Roots, Buttressed Tree Trunks, Cypress Infection Points,	None	None	None	Not Stressed	NA	NA	Plain	No	-81.9311	28.3919	A Depressional Mesic
NA	Alston Bay	06/04/18	W	Flat	Poorly Defined	Outer Deep, Deep	Inundated, Center	NA	Fire Scars	Good	Sand/Mineral, Muck, Hydric, Moist	None	None	None	Moss Collars, Lichen Lines, Stain Lines, Adventitious Roots, Buttressed Tree Trunks, Cypress Infection	None	None	None	Not Stressed	NA	NA	Plain	No	-82.0906	28.1804	2A-M Large Isolated
NA	NE Lakeland Wellfield G	06/01/18	W	Flat	Well Defined	Transitional, Outer Deep, Deep	Inundated, Throughout	NA	Dead/Dying Vegetation/Trees, Evidence of Recruitment of Wetland Tree	Good	Sand/Mineral, Hydric, Moist	None	None	None	Pine Edge, Saw Palmetto Edge, Moss Collars, Lichen Lines, Stain Lines, Adventitious Roots,	Yes	None	None	Not Stressed	NA	NA	Plain	No	-81.9027796	28.17035396	2A-M Large Isolated

NA	NE Lakeland Wellfield J	06/01/18	W	Flat	Well Defined	Transitional, Outer Deep, Deep	Inundated, Throughout	NA	Dead/Dying Vegetation/Trees, Age Class Difference of Trees, Evidence of Recruitment of Wetland	Good	Sand/Mineral, Hydric, Inundated	None	None	None	Pine Edge, Moss Collars, Buttressed Tree Trunks	Yes	None	None	Not Stressed	NA	NA	Plain	No	-81.8883	28.1652	2A-M Large Isolated
NA	NE Lakeland Wellfield K	06/01/18	W	Flat	Somewhat Defined	Transitional, Outer Deep, Deep	Inundated, Throughout	NA	Dead/Dying Vegetation/Trees	Good	Sand/Mineral, Hydric, Inundated	None	None	None	Pine Edge, Stain Lines, Buttressed Tree Trunks, Hummocks, Indicators Weak	Yes	None	None	Not Stressed	NA	NA	Plain	No	-81.8962	28.161	A Depressional Mesic
NA	Lake Wales Ridge Wildlife and Environmental Area, Mountain Lake Cutoff Tract #2	04/19/18	W	Flat	Somewhat Defined	Transitional, Outer Deep, Deep	Saturated, Center	NA	Shifts/Change in Plant Communities, Invasion by Upland Species, Presence of Nuisance/Invasive Species, Exposed Tree Roots	Poor	Sand/Mineral, Hydric, Dry	Yes	None	None	Lichen Lines, Stain Lines, Adventitious Roots, Buttressed Tree Trunks, Water Marks	None	Yes	Yes	Stressed	NA	NA	Ridge	Yes	-81.595412	27.923136	1B Depressional Xeric