



Update on High Water Emergency Operations, After-Action Report and South Dade Investigations

WRAC Monthly Meeting

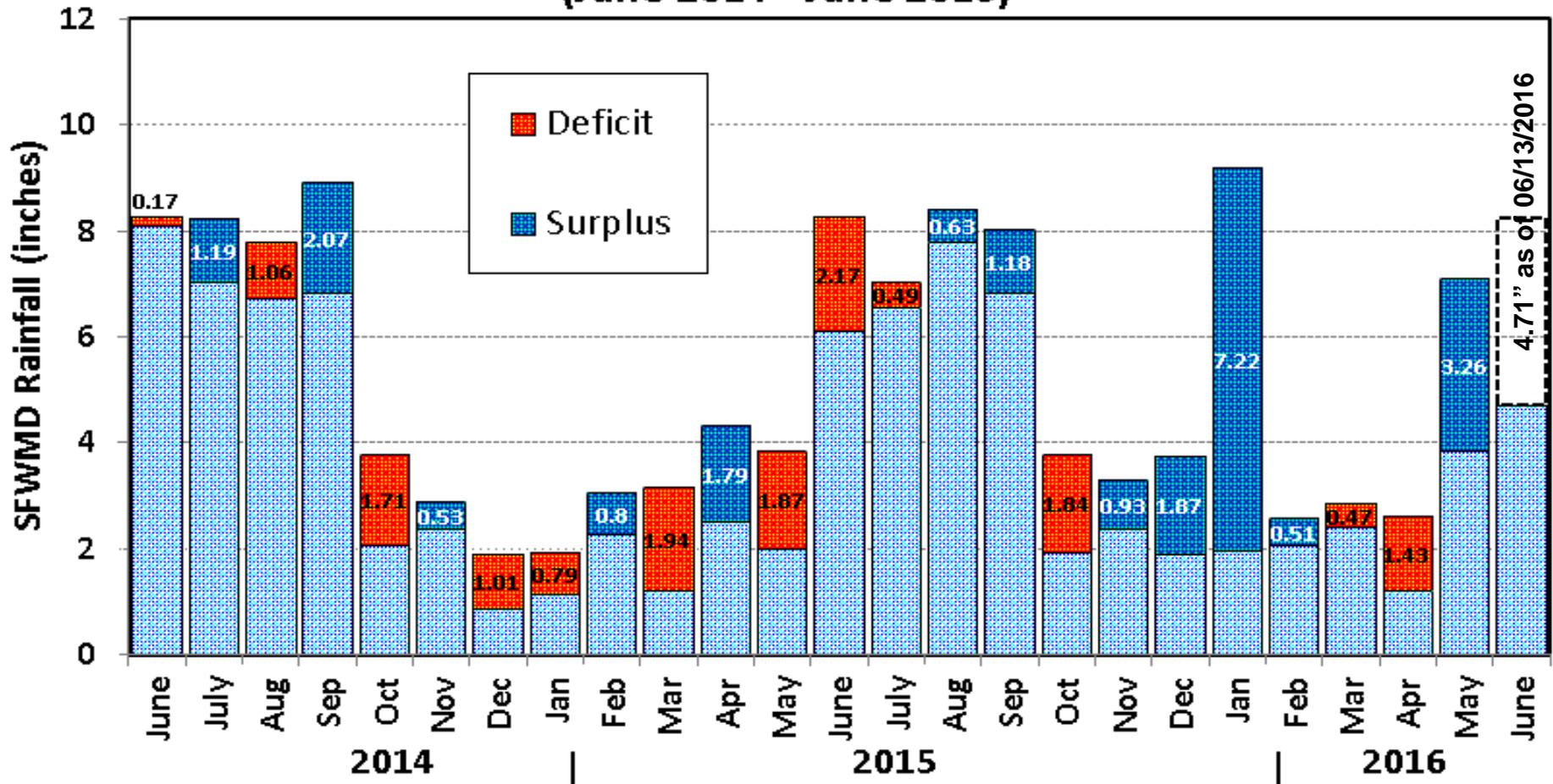
A) WATER OPERATIONS

John P. Mitnik, PE, Division Director

Operations, Engineering & Construction Division

SFWMD Rainfall Distribution Comparison

(June 2014 - June 2016)



2014 WET SEASON:

- May 26th – Oct 4th
- Near average (108%)

2014-15 DRY SEASON:

- May was 51% below average
- Dry Season 86% of average

2015 WET SEASON:

- Driest May-July since 2004
- Ended below average

2015-16 DRY SEASON:

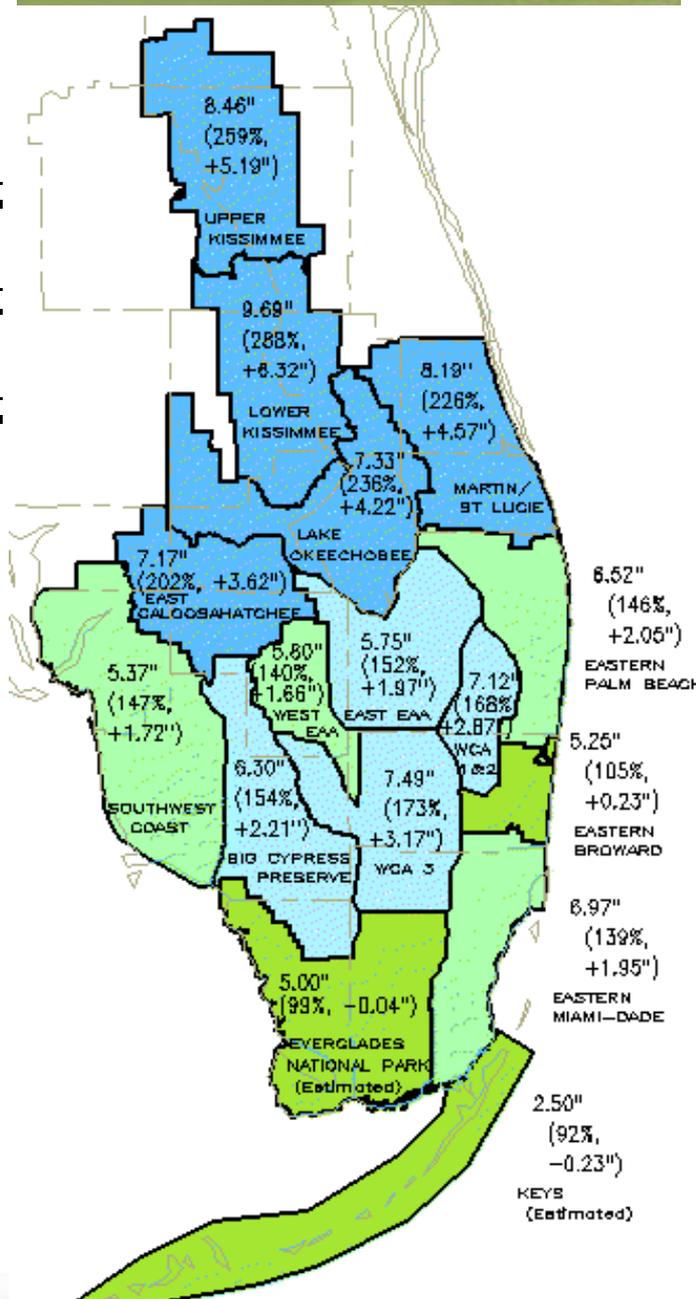
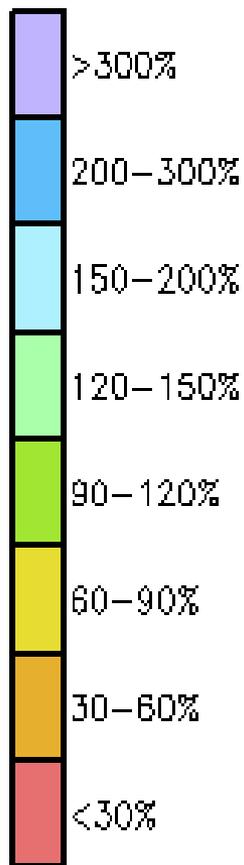
- Nov 2015-Jan 2016 wettest since 1932
- Jan 2016 wettest since 1932
- Dry Season 168% of average

SFWMD

May 2016 Rainfall

(02-May to 01-June-2016)

**DISTRICT-WIDE: 7.11"
187% of Avg, or +3.30"**



- Second wettest month for the 2015-2016 dry season
- All areas, with exception of Everglades National Park and the Florida Keys were above average for the month of May
- Lower Kissimmee was 288% (wettest since 1923), Upper Kissimmee 259% (second wettest since 1976) and Lake Okeechobee 236%

Measured
(% of Avg,
Diff From Avg)

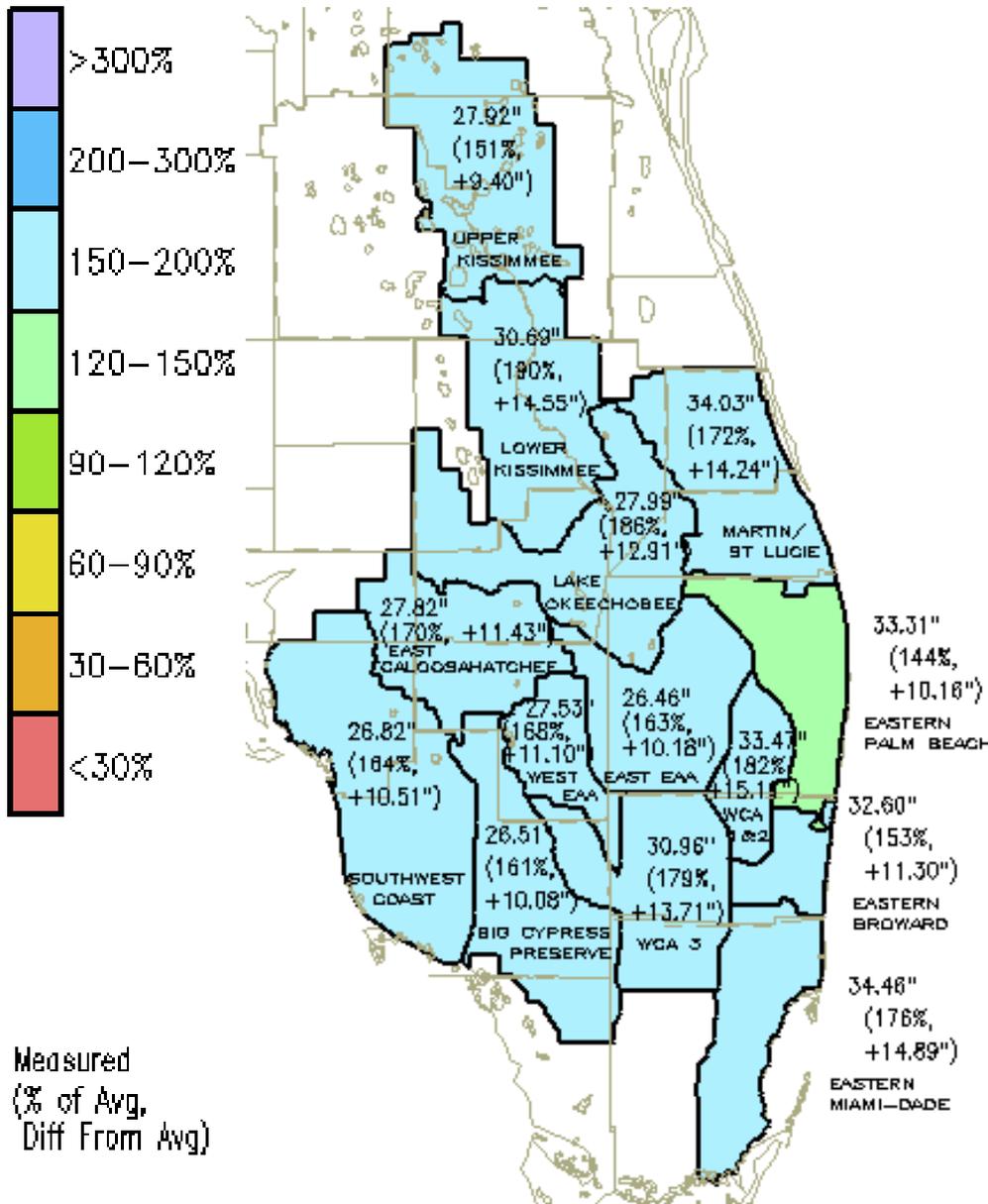
SFWMD

2015-2016 Dry Season Rainfall

(02-Nov 2015 to 01-Jun-2016)

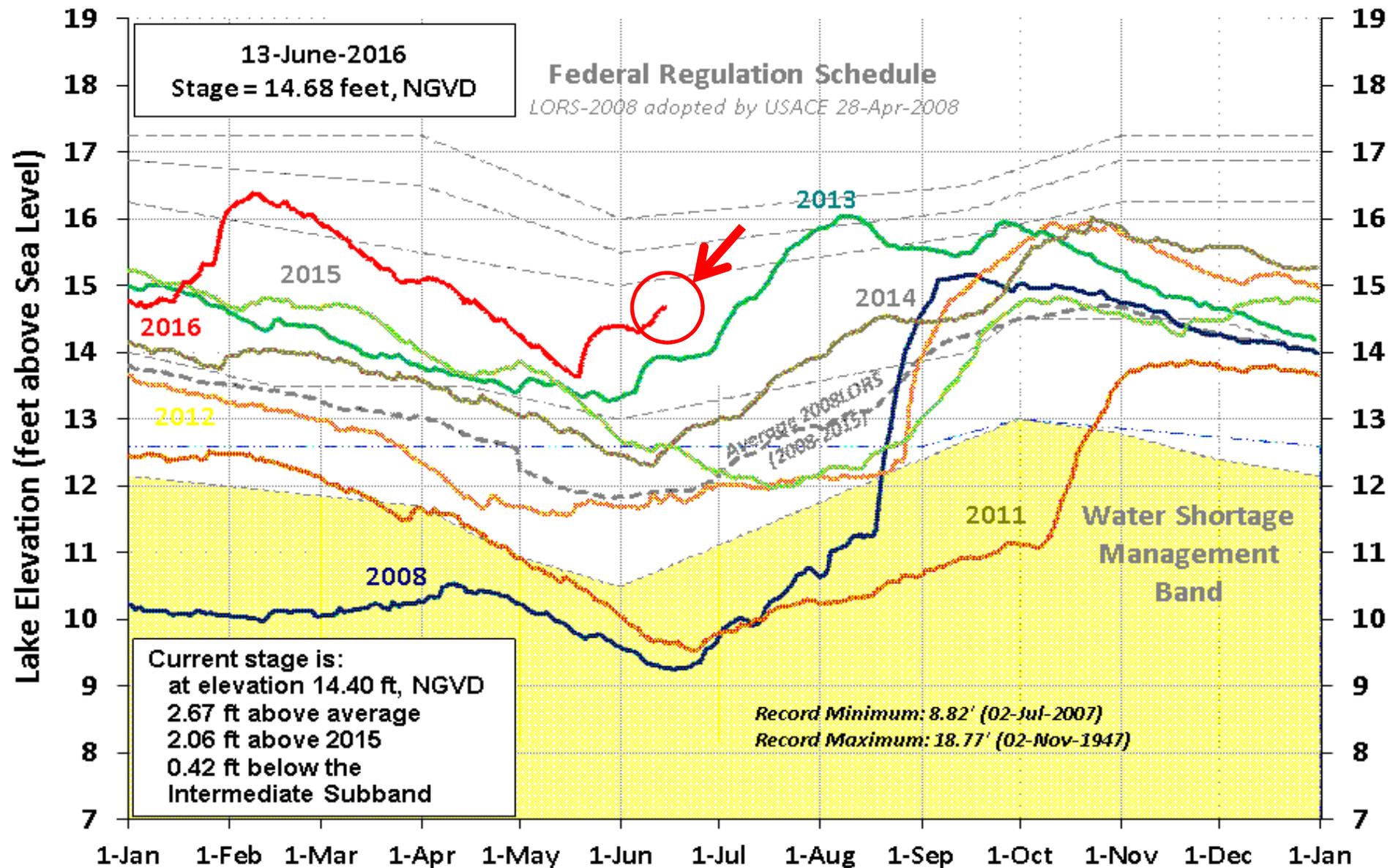
**DISTRICT-WIDE: 29.49"
168% of Avg, or +11.98"**

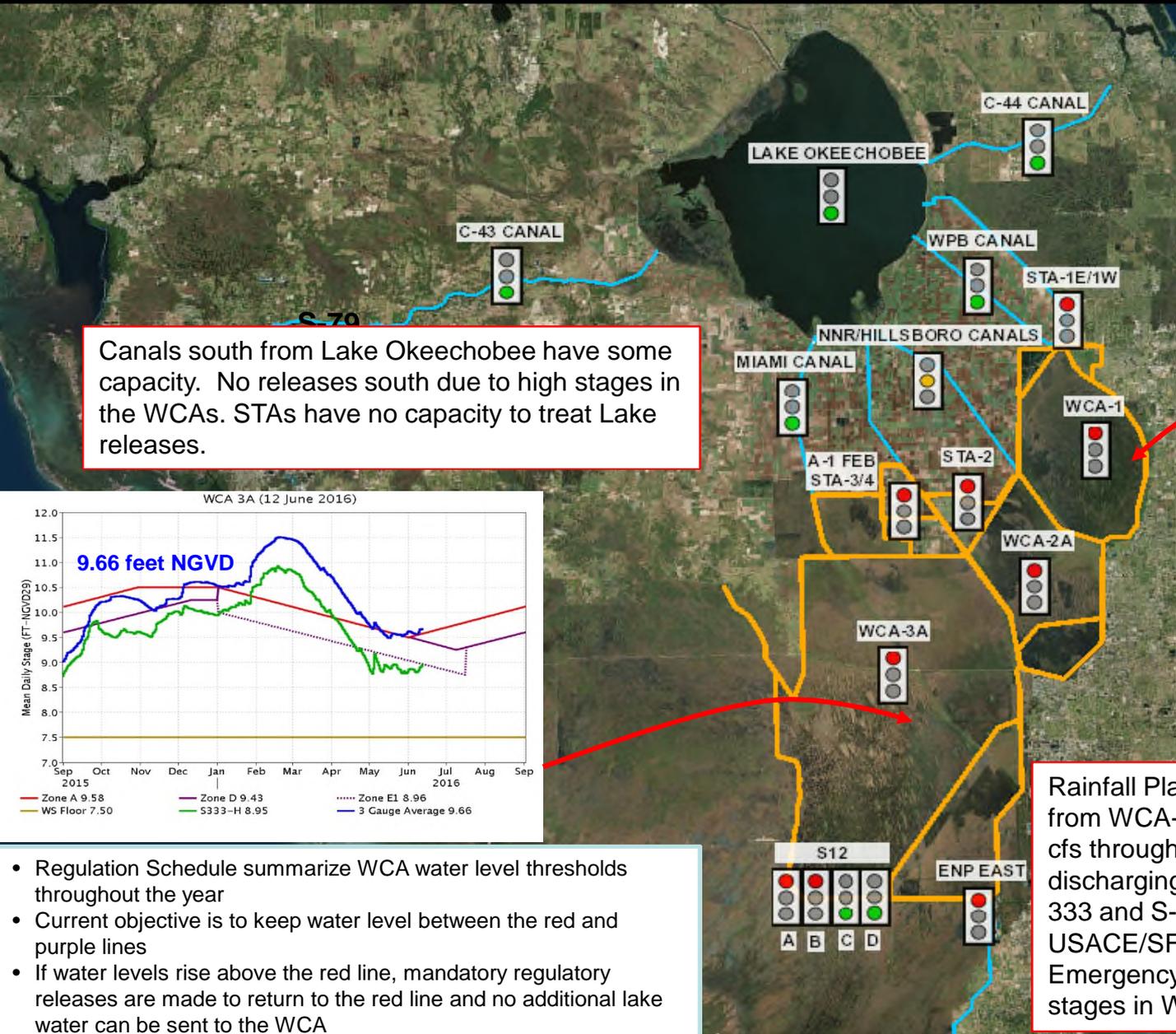
- District rainfall for the 2016 dry season closed above average
- All basins are 150% to 200% above average, with exception of Eastern Palm Beach County with 144%
- November, December and January, was the wettest for this period since record keeping began in 1932
- Wettest Nov-May (dry season) since 1957-58 and second wettest since records began in 1932



Measured
(% of Avg,
Diff From Avg)

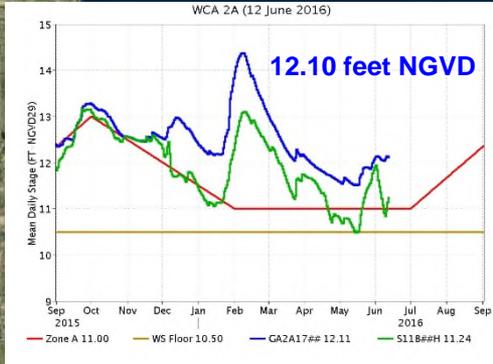
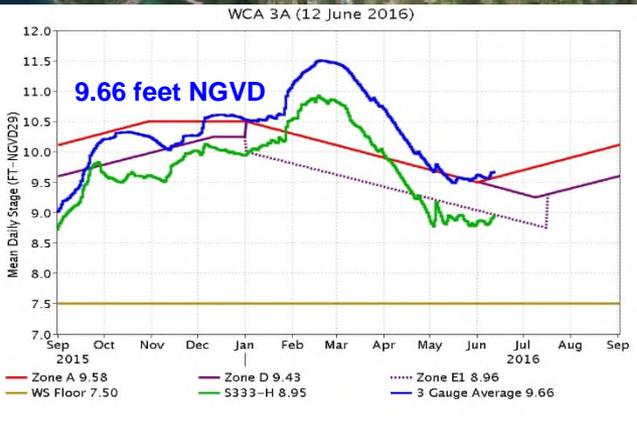
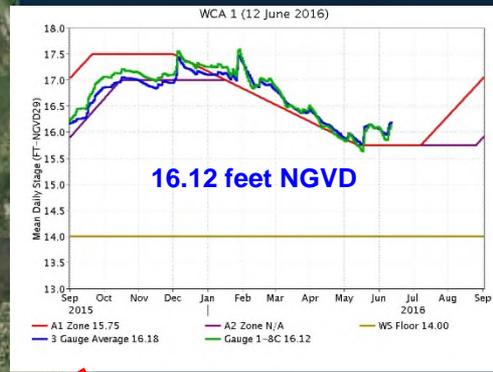
Lake Okeechobee Water Level Comparison





Canals south from Lake Okeechobee have some capacity. No releases south due to high stages in the WCAs. STAs have no capacity to treat Lake releases.

S-80

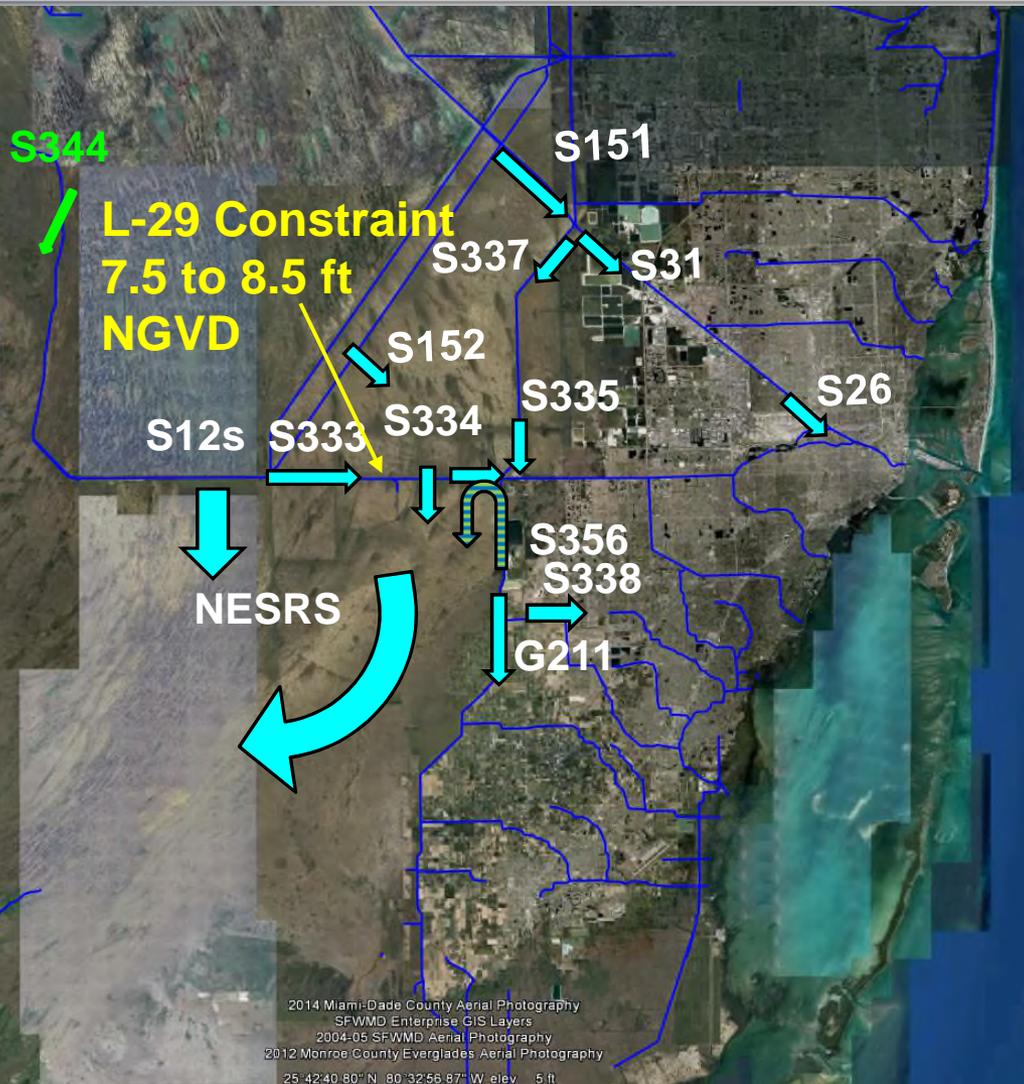


Rainfall Plan calls for maximum releases from WCA-3A. Currently discharging ~ 550 cfs through S-12C, S-12D and S-333 is discharging ~ 500 cfs. Matching flows at S-333 and S-334 so no inflows into ENP. USACE/SFWMD are transitioning out of the Emergency Temporary Deviation to lower stages in WCA-3A

- Regulation Schedule summarize WCA water level thresholds throughout the year
- Current objective is to keep water level between the red and purple lines
- If water levels rise above the red line, mandatory regulatory releases are made to return to the red line and no additional lake water can be sent to the WCA

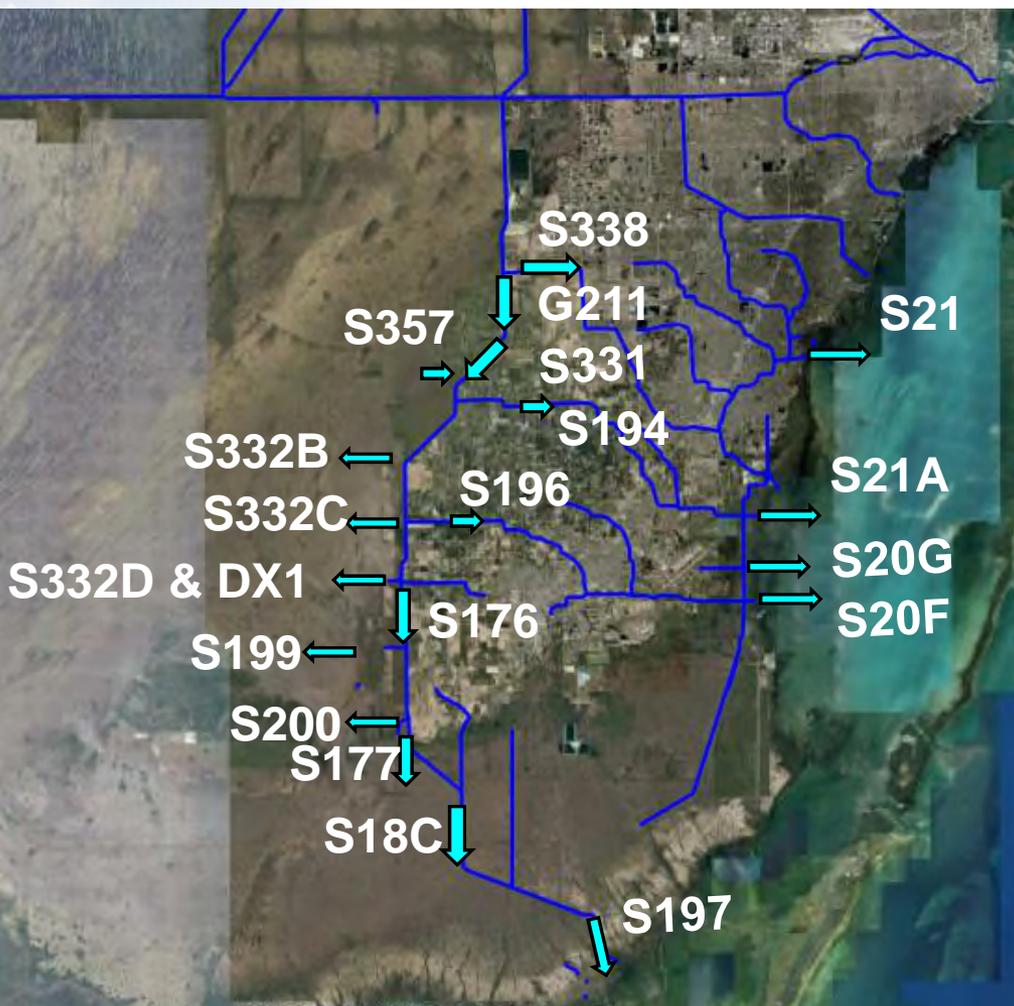
System considerations for sending water south for the period 05/31/2016-06/06/2016

High Water Stages in Water Conservation Area 3A



- Water Conservation Area 3A releases through the L-30 canal (S-337, S-335)
- Raise L-29 stage limit from 7.5 to 8.5 feet
- Higher flows through S-333 into L-29
- Increase flows to Northeast Shark River Slough
- Use S-334 to moderate L-29
- Temporary pumps at S-355B
- District requested and was approved by U.S. Army Corps of Engineers for deviation to increase discharge through the L-28 at S-344

Flood Protection in South Dade Conveyance System



- Canals maintained at lower stages
- Flow diversions to the coast through canals such as C-1, C-102 and C-103 have been reduced
- Pumping towards Everglades National Park and the headwaters of Taylor Slough using the S-332s and S-199
- S-197 has been operated as necessary to provide additional flow getaway capacity

Release through L-28 at S-344

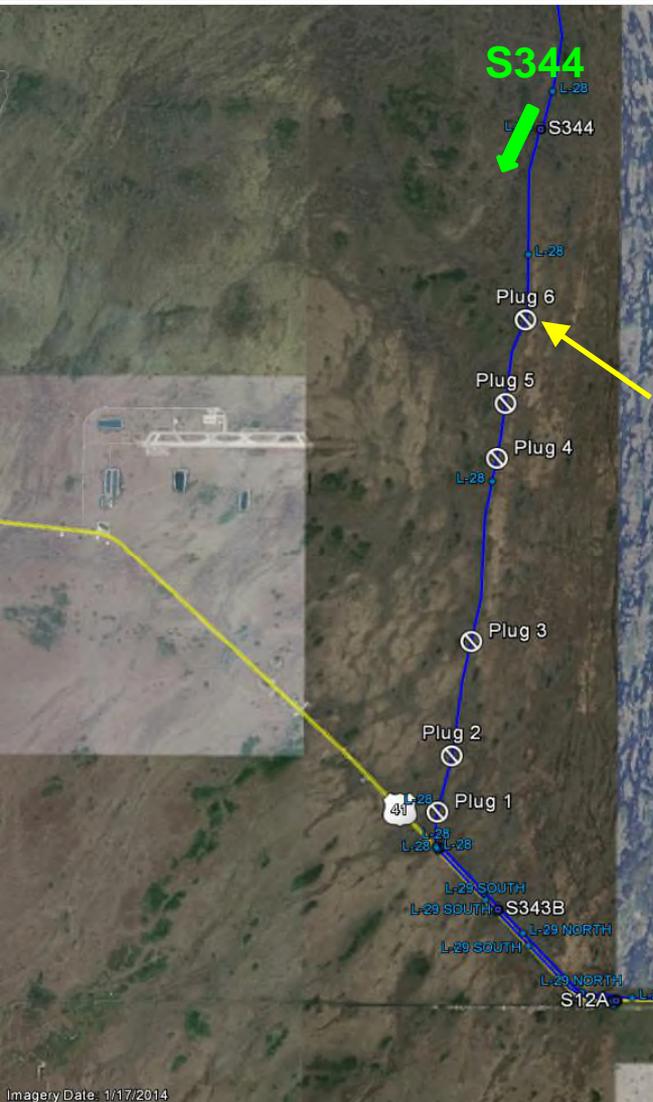


Photo #1: Plug #6, complete, aerial view from the north.



Photo #2: Plug #6, view from the southeast.

- District requested and was approved by U.S. Army Corps of Engineers for a deviation to increase discharge from Water Conservation Area 3A through the L-28 at S-344 during the Everglades Restoration Transition Plan closing period
- Requires the rehabilitation of 6 canal plugs in the L-28
- Construction work is substantially complete
- S-344 is currently open

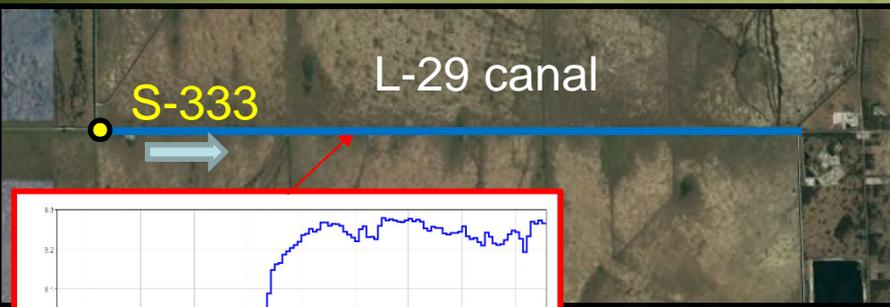
2012 Monroe County Everglades Aerial Photography
 SFWMD Enterprise GIS Layers
 2014 Miami-Dade County Aerial Photography
 2014 Miami-Dade County Aerial Photography
 25° 50' 31.72" N 80° 44' 20.67" W elev 6 ft



S-355B Temporary Pumps



Water Levels



S-357 helps to maintain stage in the C-357 canal

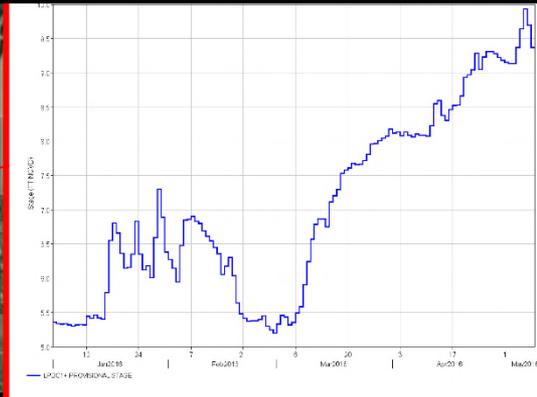
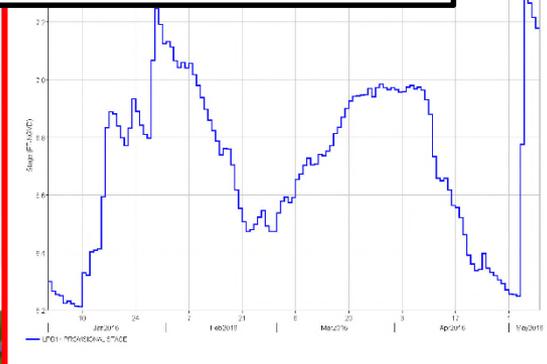
Las Palmas



L-29 stage allowed up to 8.3 feet

LPG1 experience higher stages due to storm event and high waters in the Everglades National Park

Sustained pumping at S-357 resulted in higher but acceptable stages in the detention area



Airboat Concessionaires



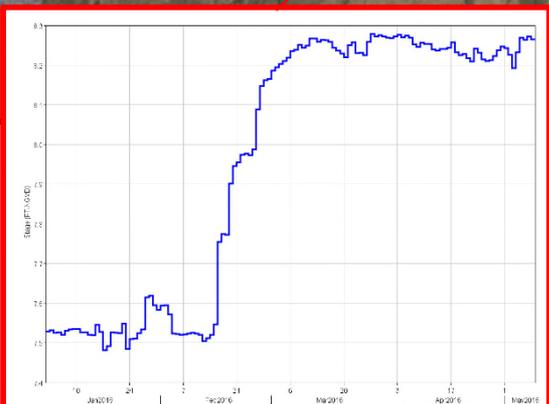
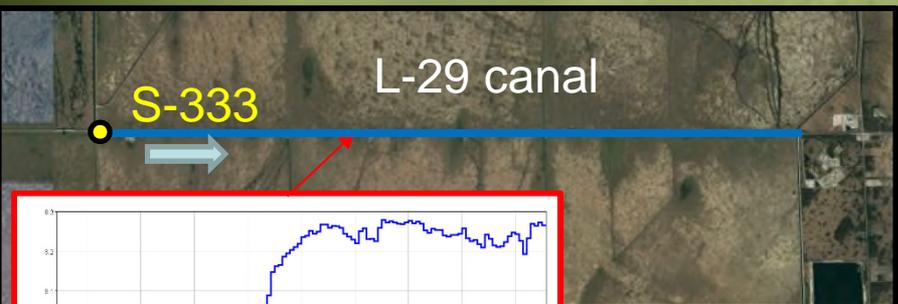
Airboat Concessionaires



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Water Levels

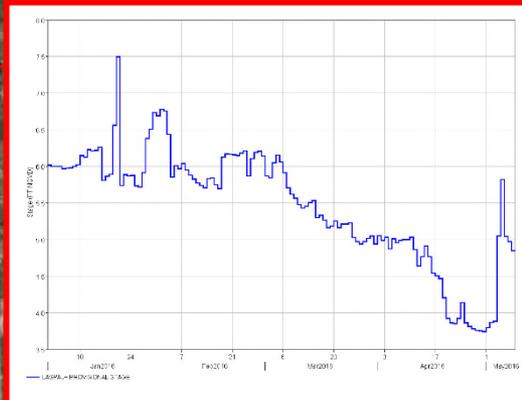


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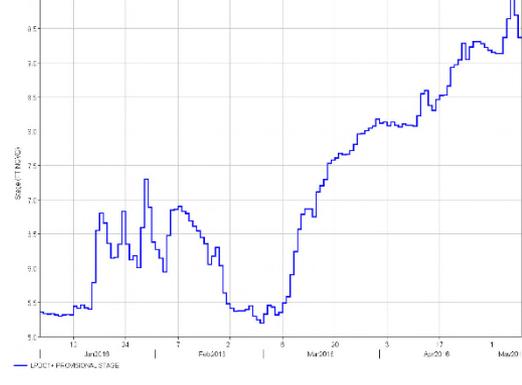
LPG1 experience higher stages due to storm event and high waters in the Everglades National Park



S-357 helps to maintain stage in the C-357 canal



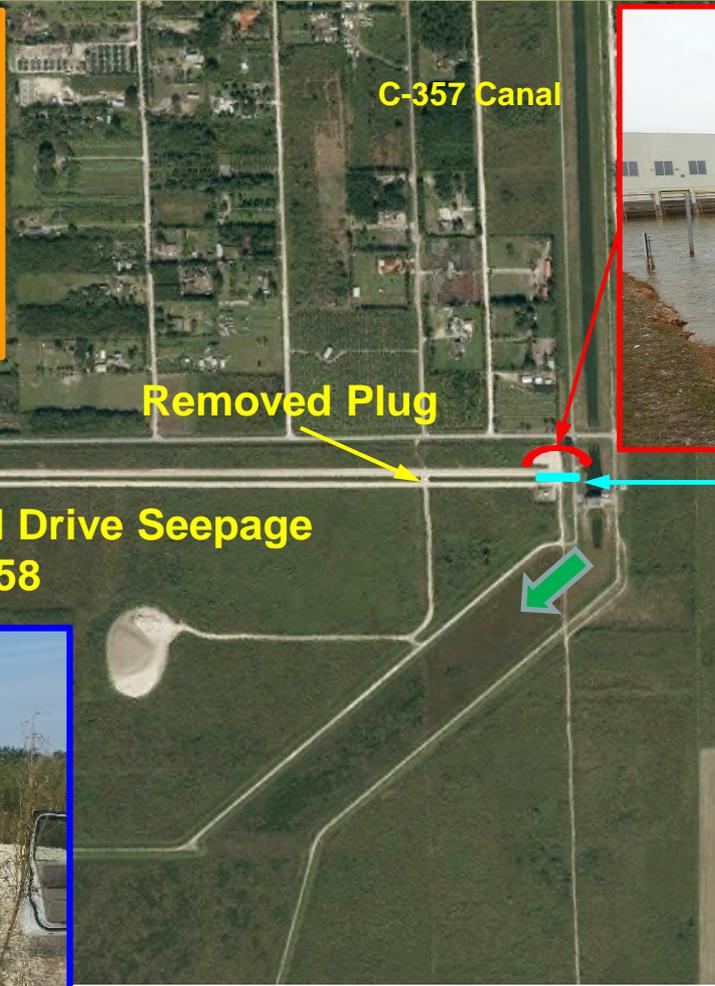
Sustained pumping at S-357 resulted in higher but acceptable stages in the detention area



Water Conditions in 8.5 Square Mile Area



S-357N Temporary Mitigations in Place



Culverts at 8.5 Square Mile Detention Area



Three 36-inch Corrugated metal pipes with raisers



Existing Weir

Culverts

8.5 Square Mile Area Groundwater Condition Along Richmond Drive

