

# Water Conditions Summary

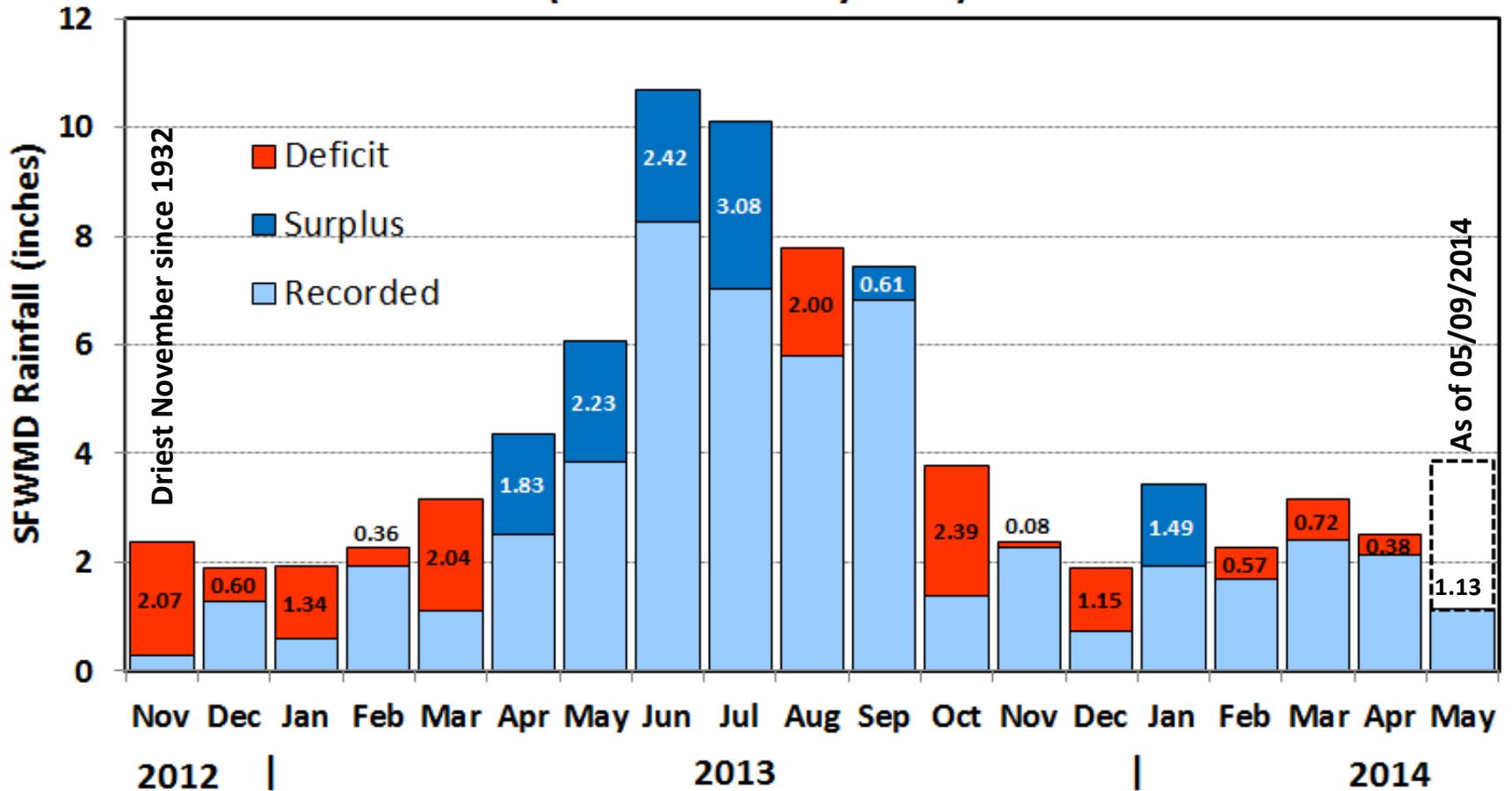
South Florida Water Management District  
Governing Board Meeting

**May 15th, 2014**

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Operations, Engineering & Construction  
South Florida Water Management District

# SFWMD Rainfall Distribution Comparison

(Nov 2012 - May 2014)



## 2012-13 DRY SEASON:

- Driest November since 1932
- Below average despite April/May being above

## 2013 WET SEASON:

- May 18<sup>th</sup> Start
- Oct 8<sup>th</sup> End
- Slightly above average

## 2013-14 DRY SEASON:

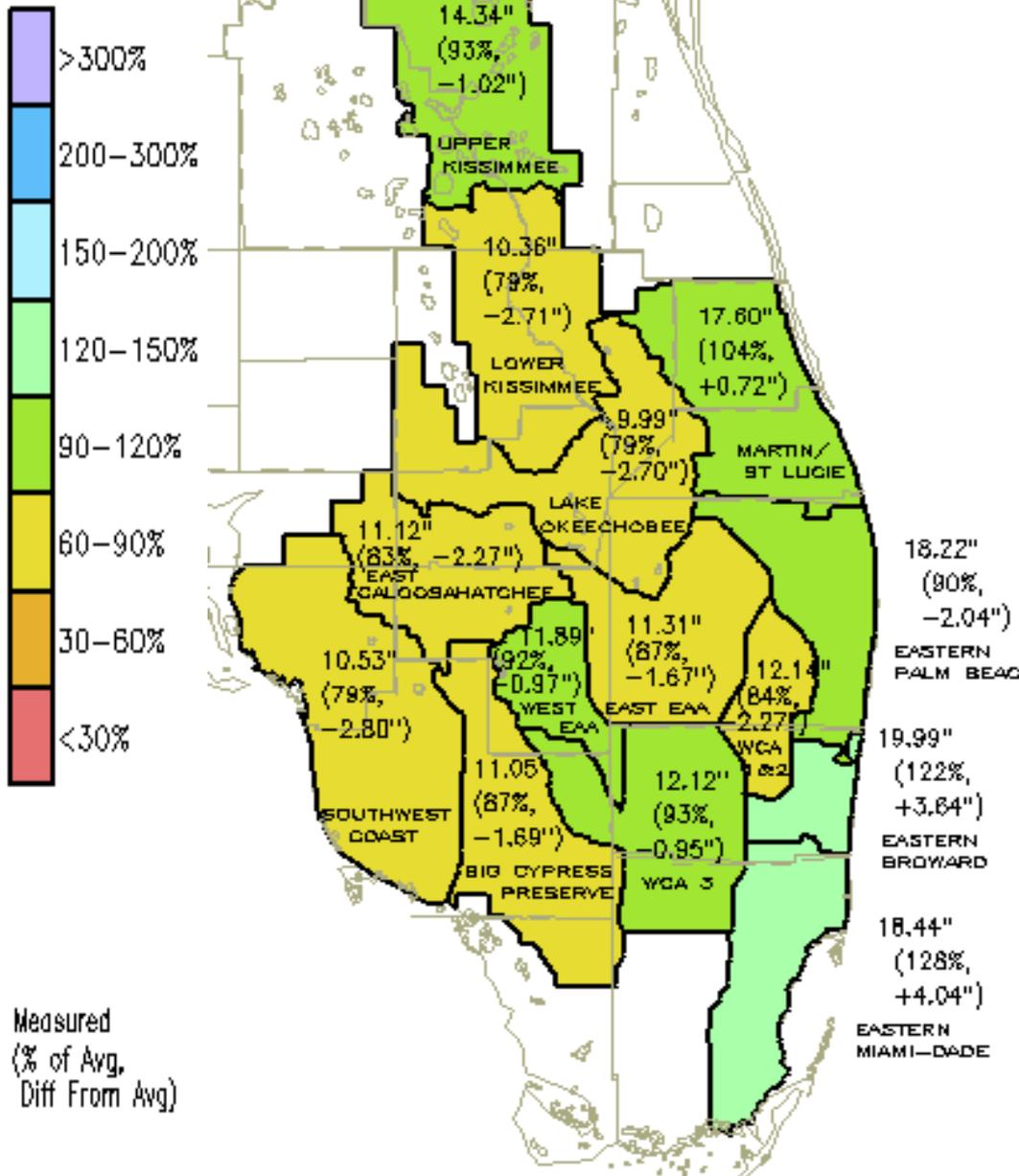
- January above average
- Season 91% of average

# SFWMD

## Dry Season Rainfall

Nov 2, 2013 – May 1, 2014

**DISTRICT-WIDE: 12.9"  
(91% of Avg, or -1.2")**



- **Average Rainfall in:**
  - Upper Kissimmee Basin
  - Upper East Coast
  - Eastern Palm Beach County
  - C-139 Basin
  - WCA-3
- **Above-Average Rainfall in:**
  - Eastern Broward and Miami-Dade Counties
- **Below-Average Rainfall in the rest of the SFWMD basins**
  - Lake O & Kissimmee Basins about 3" (~20%) below-avg

After large rainfall early May, all Kissimmee Lakes are at or below schedule. E. Toho, Toho & Kissimmee are back to and following USFWS Snail Kite recession.

District wide rainfall below average for April 2014

LOK water levels have receded by about 1.0 ft since late Feb. Stage is 0.5 ft lower than this time last year. Base flow 10-day pulse releases of 650 cfs to the Caloosahatchee Estuary began April 9th and continued on April 19th and 29th

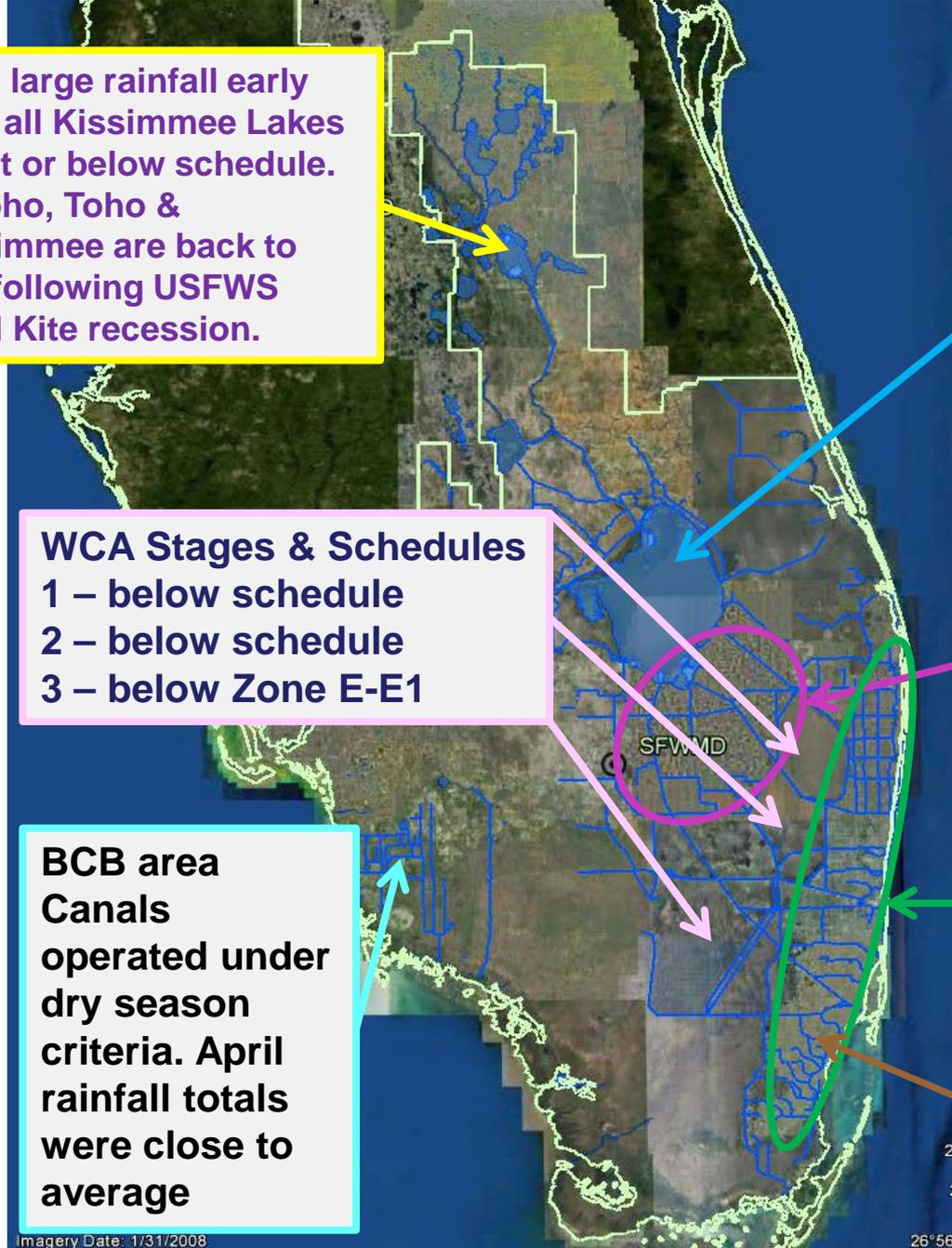
WCA Stages & Schedules  
1 – below schedule  
2 – below schedule  
3 – below Zone E-E1

SFWMD continues to make maximum practicable lake regulatory releases to WCA through STA subject to conditions in the field

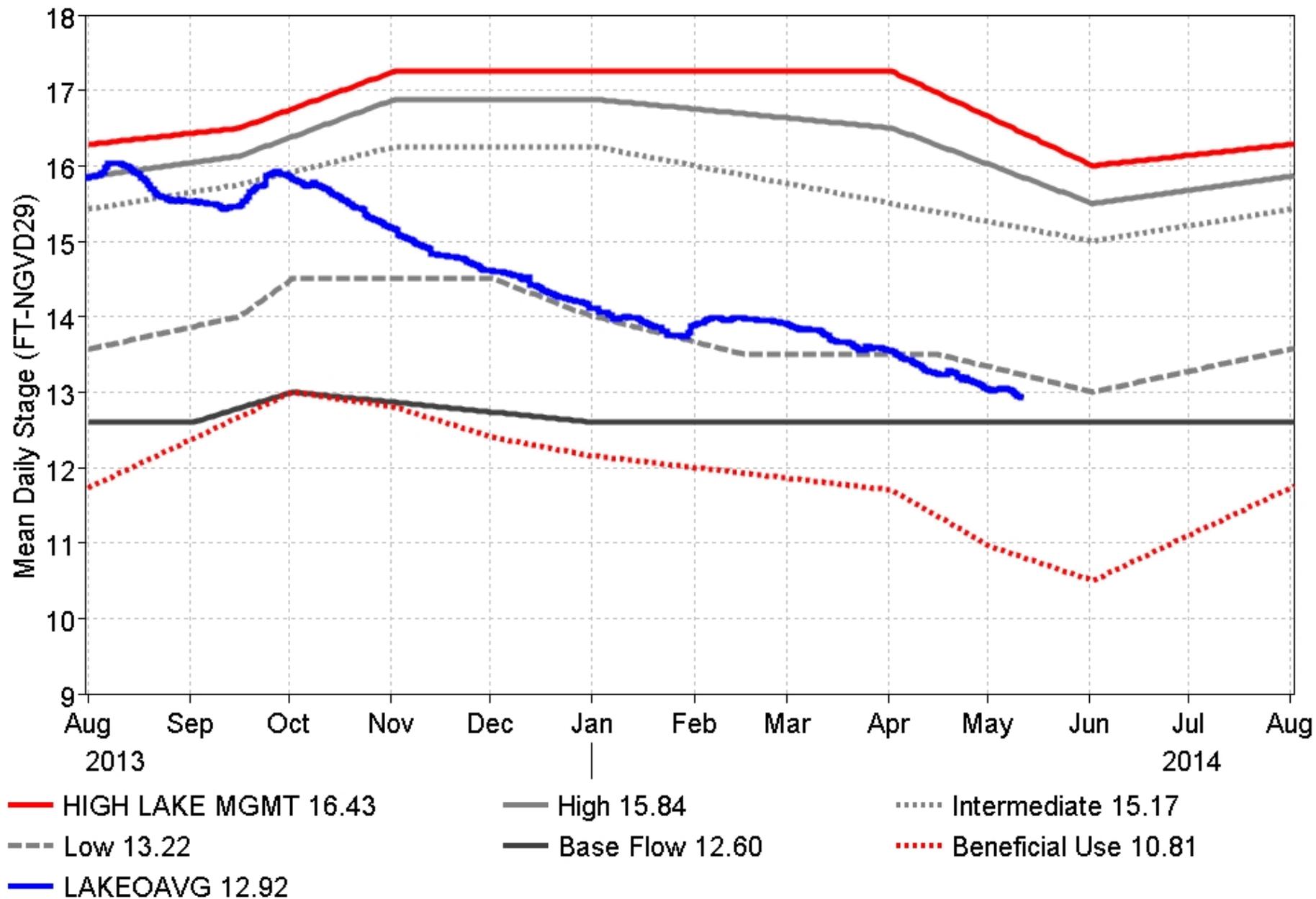
BCB area Canals operated under dry season criteria. April rainfall totals were close to average

With the exception of E Broward, rainfall in urban areas have been consistently below average since February

South Miami-Dade operations to support agricultural operations terminated on April 24 2014



# Lake Okeechobee (11 May 2014)

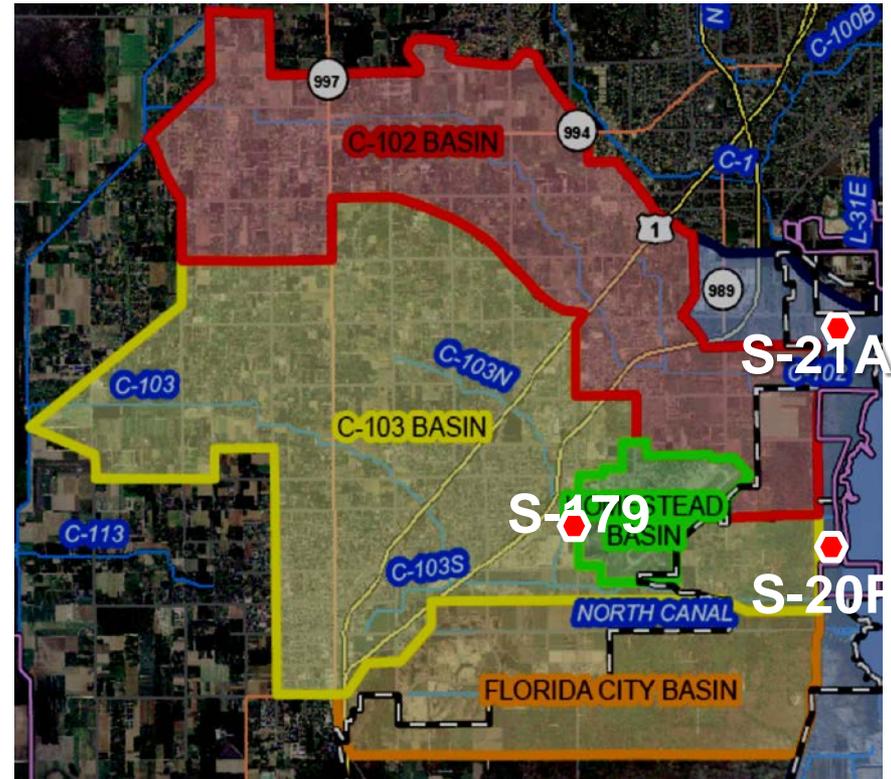
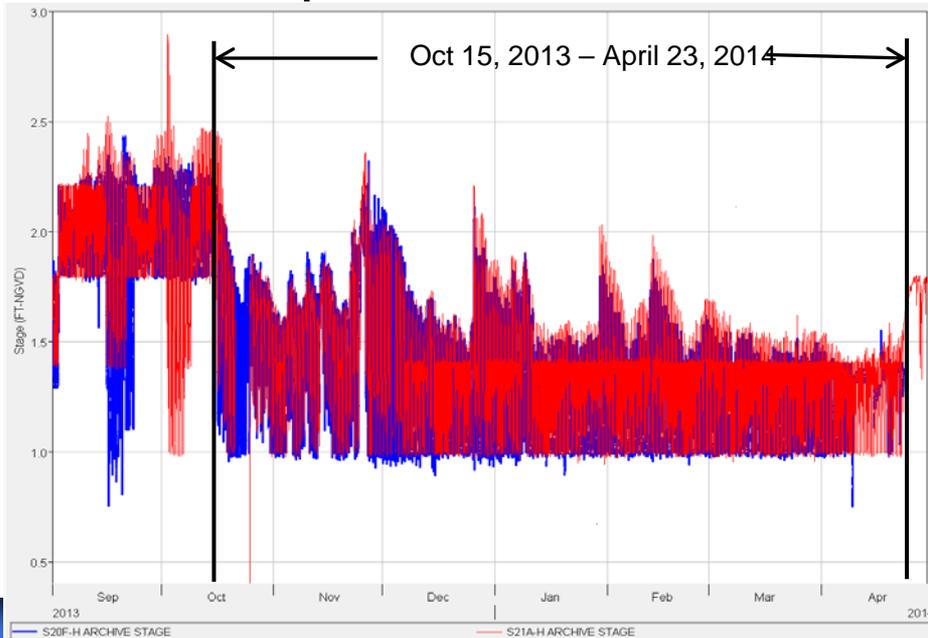


# South Miami-Dade Operations

## 2013-2014 Seasonal Agricultural Drawdown

Proceeded normally:

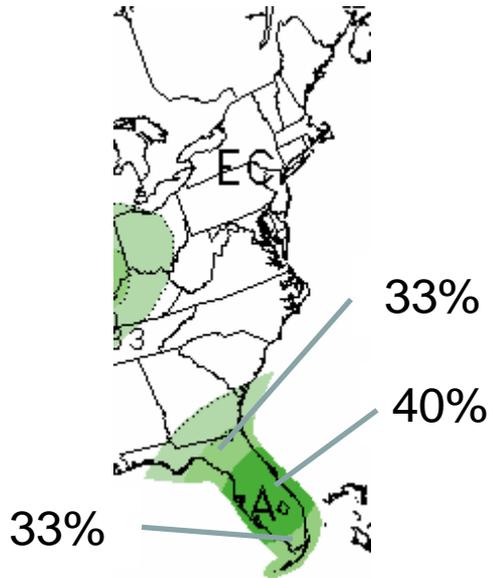
Initiated on October 15, 2013 -  
Farmers completed agricultural operations the last week of April 2014.



# U. S. Seasonal Precipitation Outlook

National Climate Prediction Center (CPC)

**May 2014**



*Posted 30-Apr-2014*

**May-Jul 2014**



*Posted 17-Apr-2014*

**Aug-Oct 2014**

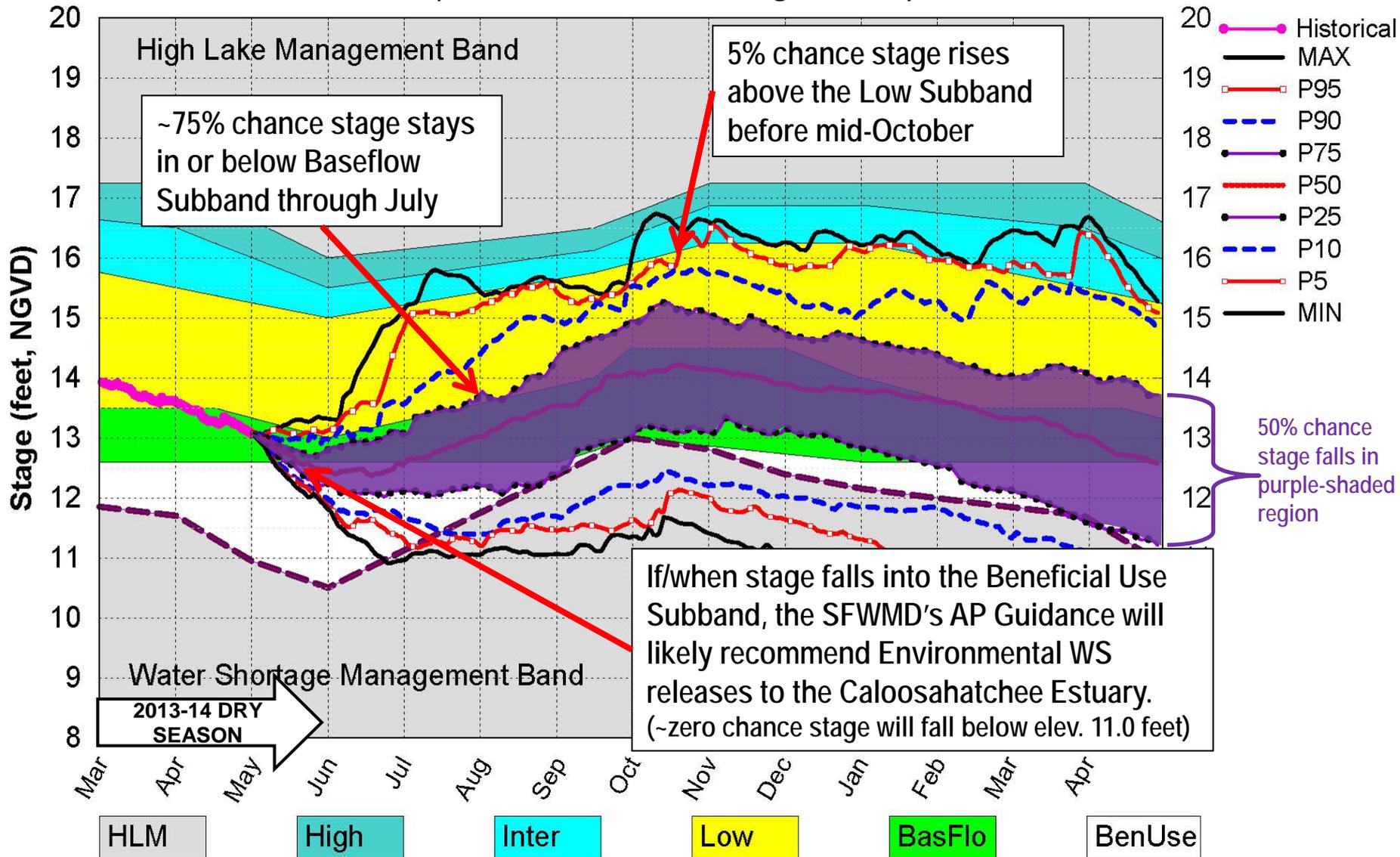


*Posted 17-Apr-2014*

- The most-recent CPC precipitation outlooks for central & southern Florida indicate:
- Increased chances of Above-Normal (A) rainfall for May
  - Equal Chances (EC) of Above-Normal (A), Normal, and Below-Normal (B) rainfall for all 3-month windows starting with May and ending with October

# Lake Okeechobee SFWMM May 2014 Position Analysis

Percentiles based on 41 possible outcomes starting with May 1<sup>st</sup> initialization



(See assumptions on the Position Analysis Results website)

# What are the Lake O Adaptive Protocols (AP)?

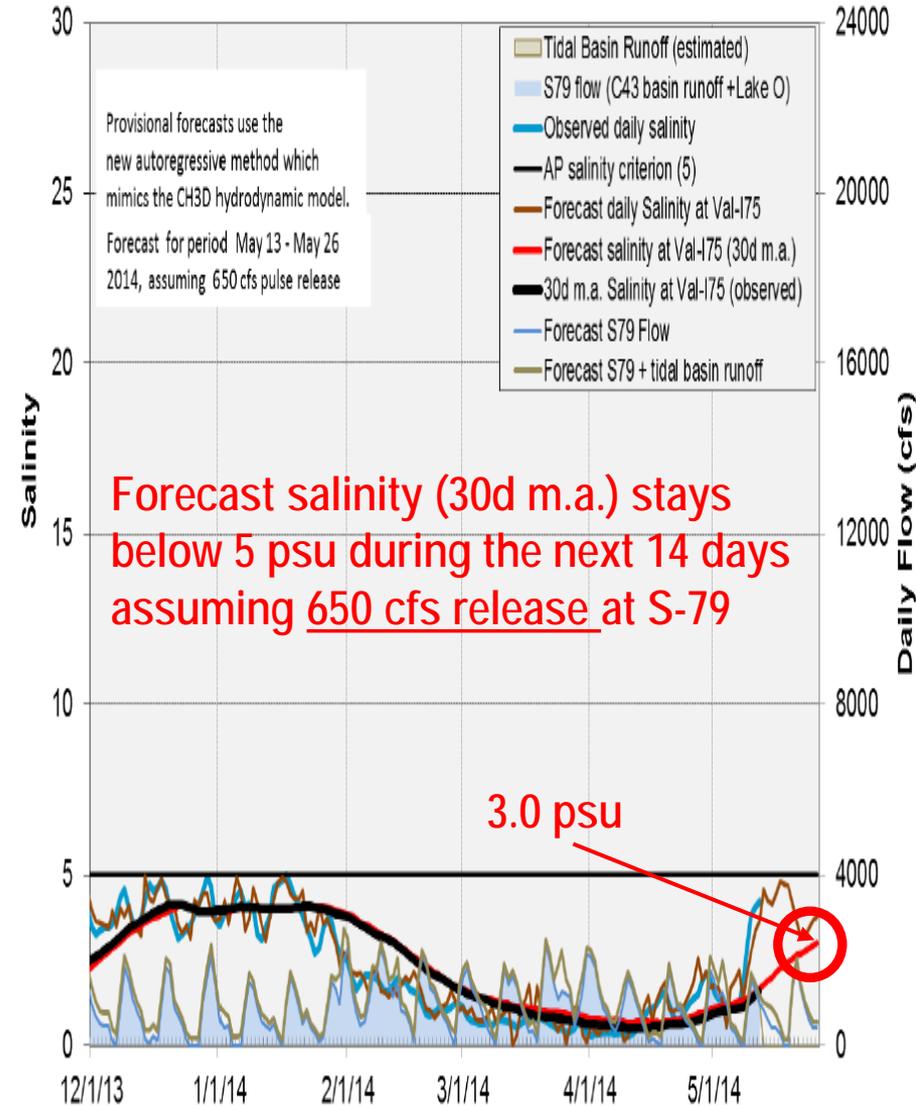
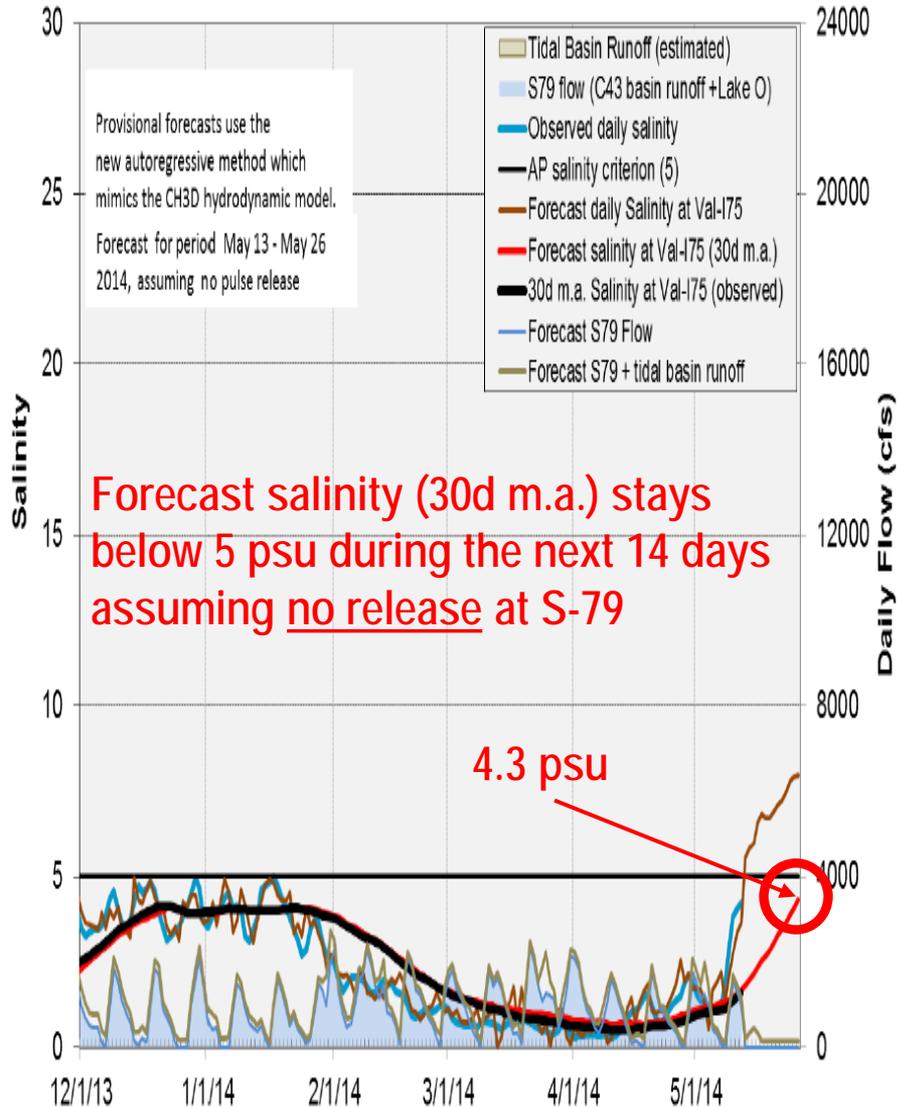
- AP document (16-Sep-2010) provides operational guidance to SFWMD and a framework for making Lake O release recommendations to the USACE
- Recommends the USACE make “conservative” releases in the Low Subband at the beginning of the dry season (if no impact to HHD safety)
- Flowchart used to guide SFWMD recommendations for Lake O Releases to the Caloosahatchee Estuary
  - **for 2008 LORS Baseflow**
  - **for Environmental Water Supply**
- Flowchart designed primarily to achieve SFWMD Governing Board-approved water supply balance between permitted water users, Caloosahatchee Estuary, and the Lake O MFL



# Caloosahatchee Estuary Flows, Salinity and Forecast Salinity at Val I-75

Forecast1 (13-May): S-79 =0 cfs & TBR = 200 cfs

Forecast2 (13-May): S-79 =650 cfs & TBR = 200 cfs

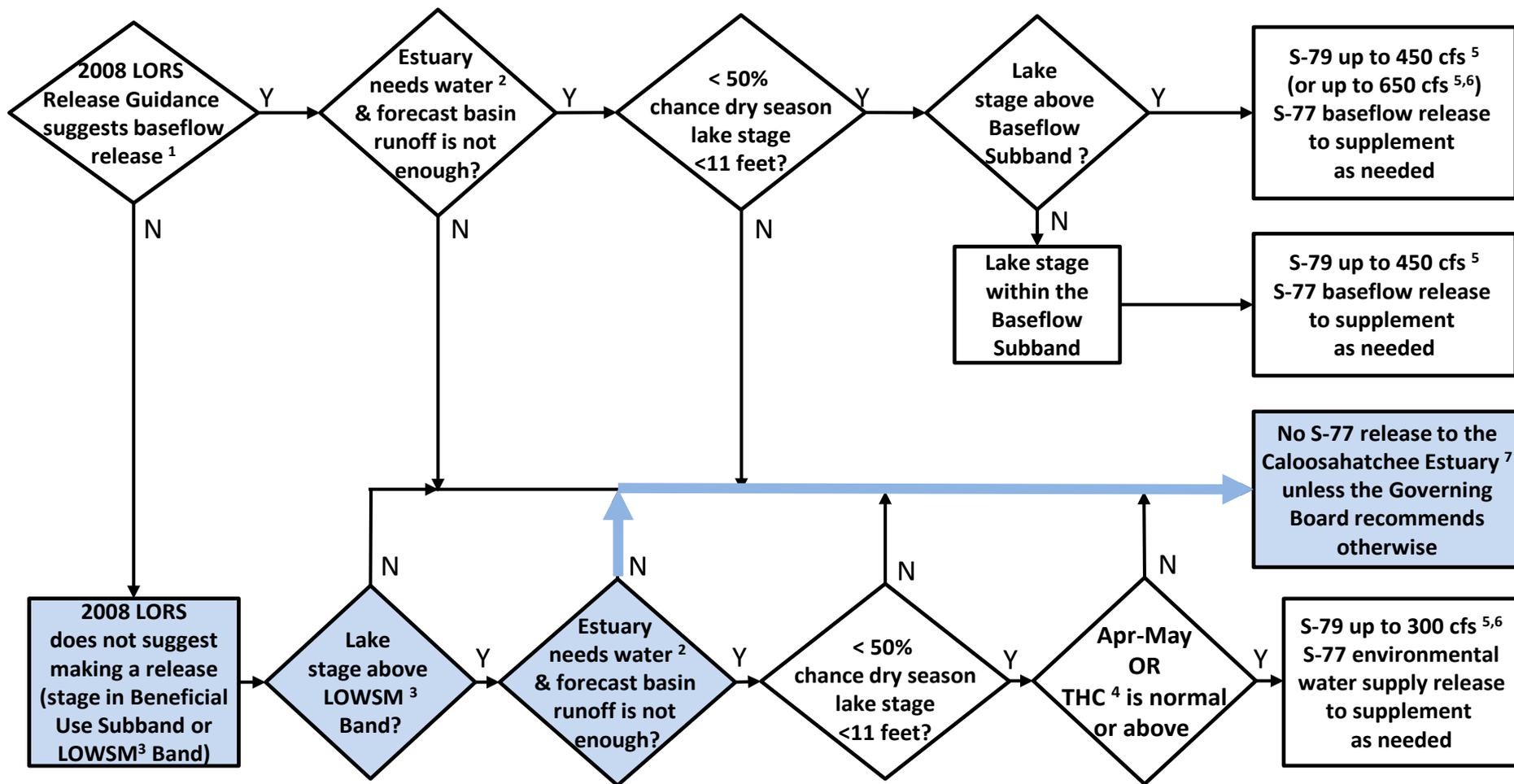


# SFWMD's Lake O Adaptive Protocol (2010)

- **Beneficial Use Subband**

- Current recession rate has potential for Lake O stage to fall into the Beneficial Use (BU) subband by 20-May.
- 2008 LORS suggests no releases in the BU subband and defers to the SFWMD's Adaptive Protocols (AP) or other authorities.
- AP guidance shifts to the Environmental Water Supply branch when the stage falls into the Beneficial Use subband.
- Caloosahatchee Estuary salinity will likely be below the 5 psu threshold,
- AP guidance will suggest no releases (versus the target of 300 cfs).

# Flowchart to Guide Recommendations for Lake Okeechobee Releases to the Caloosahatchee Estuary for 2008 LORS Baseflow & for Environmental Water Supply (revised 9-Aug-2012)



<sup>1</sup>The 2008 LORS Release Guidance (Part D) can suggest baseflow releases in the Intermediate, Low, or Baseflow Subbands.

<sup>2</sup>Estuary “needs” water when the 30-day moving average salinity at I-75 bridge is projected to exceed 5 practical salinity units (psu) within 2 weeks.

<sup>3</sup>LOWSM = Lake Okeechobee Water Shortage Management.

<sup>4</sup>Tributary Hydrologic Condition (THC) is based on classification of Lake Okeechobee Net Inflow and Palmer Index.

<sup>5</sup>Can release less than the “up to” limit if lower release is sufficient to reach or sustain desired estuary salinity; cfs = cubic feet per second.

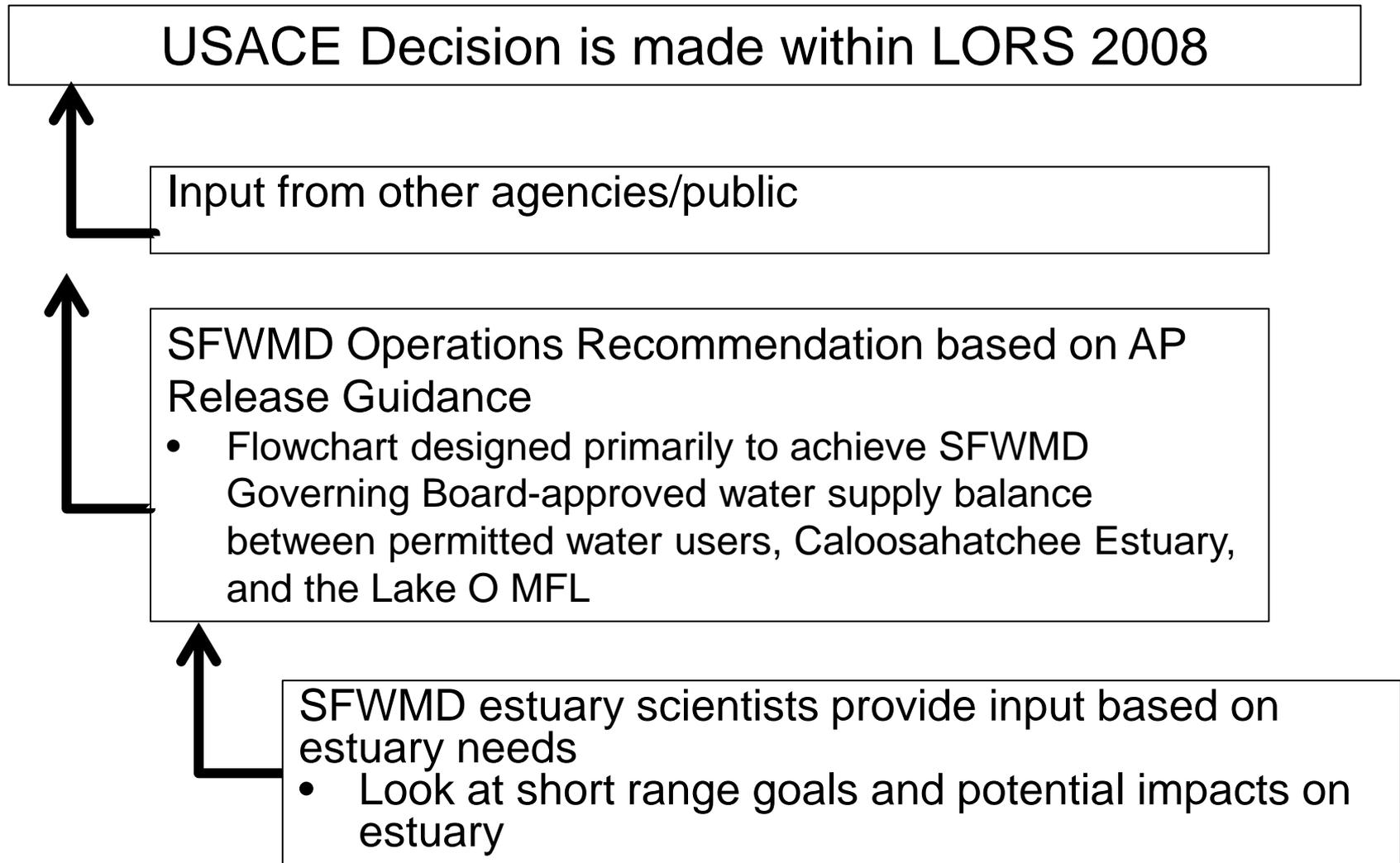
<sup>6</sup>After reviewing conditions in Water Conservation Areas (WCAs), Stormwater Treatment Areas (STAs), ENP, St. Lucie Estuary and Lake Okeechobee.

<sup>7</sup>Should this condition be reached, the Governing Board will be briefed at their next regularly scheduled meeting as part of the State of the Water Resources agenda item.

# Summary of Lake Okeechobee Adaptive Protocols Discussion at the May 6<sup>th</sup> WRAC meeting

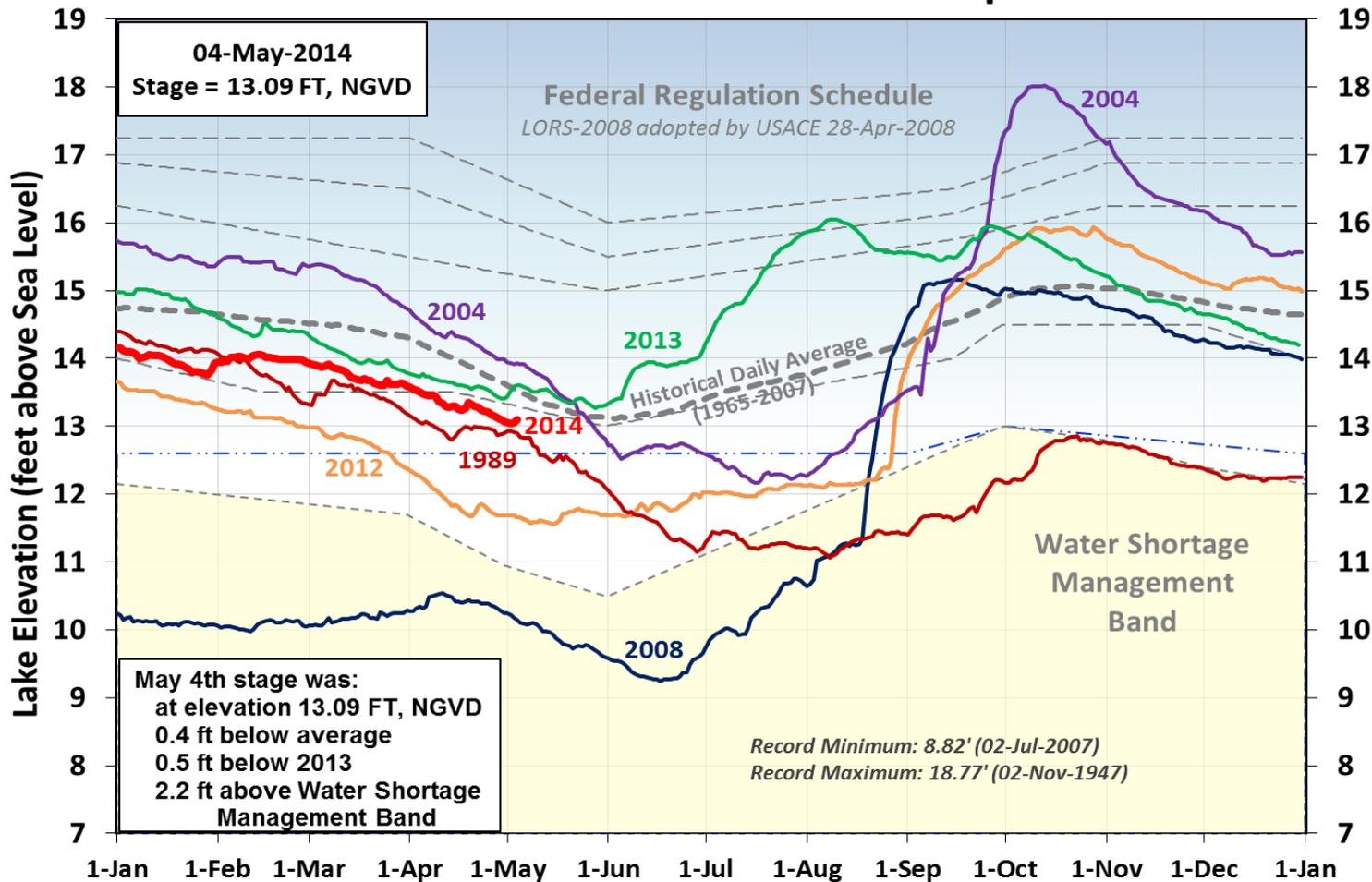
- Desired consistency in guidance to the USACE
- Some members suggested revisiting the Adaptive Protocols to relax constraints on flows to the Caloosahatchee Estuary
- Other members stressed the need to evaluate both benefits and impacts from any proposed changes

# Desired consistency in guidance to the USACE



# Challenges with adjusting Adaptive Protocols

## Lake Okeechobee Water Level Comparison



# Middle and Upper Bands of LORS

- Bring to WRAC and the Governing Board in June
  - Scope and Schedule for an investigation of the flexibility in the middle and upper bands of the 2008 LORS
    - Goal is to design and evaluate release guidance ideas that achieve better performance within the authorization of the 2008 LORS
    - Opportunity to test specific ideas for the “make-up” release provision in the USACE’s Water Control Plan

# Storm Readiness

- Bring to WRAC and the Governing Board in June
  - Storm readiness and the upcoming wet season/hurricane season
    - Official start of wet season?
    - Available system storage at the beginning of wet season
    - NOAA and CSU tropical outlooks will be discussed
    - Preparation meetings with 298 and Special Districts
    - Report on Hurricane Freddy Exercise
  - In honor of the Field Staff request wearing of the Blue Field Shirts at the next meeting

# QUESTIONS?



L-8 Cell 6 Inflow Spillway Construction