

## MEMORANDUM

**TO:** Tommy Strowd, Director, Operations, Maintenance & Construction Division  
Terrie Bates, Director, Water Resources Division

**FROM:** Susan Sylvester, Chief, Water Control Operations Bureau  
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**DATE:** July 17, 2013

**SUBJECT:** Operational Position Statement for the Week of July 16-22, 2013

The U.S. Army Corps of Engineers (USACE) is responsible for managing Lake Okeechobee water levels and makes operational decisions about whether to retain water or release water based on their regulation schedule release guidance. The USACE makes this decision taking into account the best available science and data provided by its staff and a variety of partners, which includes the South Florida Water Management District (SFWMD).

The SFWMD team has discussed the system wide environmental conditions, the water supply conditions, and has evaluated the overall status of the water management system. Detailed reports are available at the SFWMD's [Operational Planning](#) internet page.

### **Recommendation to the USACE**

This week the SFWMD recommends the USACE continue to follow the 2008 LORS release guidance to manage the Lake stage. This week Part D suggests releases up to 4,000 cfs at S-77 and up to 1,800 cfs at S-80. Part C of the 2008 LORS suggests up to maximum practicable releases to the WCAs if desirable or with minimum Everglades impacts. Note that high discharge rates may adversely affect the St. Lucie and Caloosahatchee Estuaries; discharge rates pertaining to impacts are provided below.

During the past week (July 9-15) S-79 and S-80 discharged both basin runoff and Lake O regulatory releases. S-79 discharges averaged about 9,100 cfs with about 4,100 cfs (45%) coming from the Lake via S-77. S-80 discharges averaged 1,970 cfs with 1,070 cfs (54%) coming from the Lake via S-308. Note these estimates do not include runoff from basins downstream of S-79 and S-80. The USACE started the current two-week release Friday, 5-July, which will end Friday, 19-July. Target releases for the current release are consistent with the 2008 LORS release guidance which allows up to: average 4,000 cfs at S-77, and 1,800 cfs at S-80.

SFWMD estuary scientists indicate that S-79 flow rates greater than 1,500 cfs are more likely to cause Caloosahatchee Estuary salinity to fall within a harmful range for some organisms. Average flow rates exceeding 2,800 cfs should be minimized since they will likely cause salinity near Shell Point to drop to levels that threaten many species in the area including oysters and seagrasses.

SFWMD scientists also suggested avoiding total inflows to the St. Lucie Estuary in excess of 2,000 cfs for longer than two weeks since such flow rates will likely cause mortality of oysters. The total inflow is measured as the sum of S-80, S-49, S-97, and from Ten Mile Creek at the Gordy Road weir. Further details are provided below.

All WCA stages currently exceed their respective regulation schedules; therefore the SFWMD will continue to follow USACE release guidance and not make Lake regulatory discharges to the WCAs.

### Weather and Climate

Rainfall during the past week totaled 3.33 inches district wide (through 7 am July 16th). About 2.26 inches of rain fell directly over Lake Okeechobee during the past 7-days. District-wide rainfall for the wet season so far (since 18-May) totaled over 20 inches; this is about 4 weeks earlier than average. The system has also

received over 27" since April 1st for the first time since 1991. July will likely be our fourth month in a row with above average rainfall. The last time this happened was in 1997.

The combined Upper and Lower Kissimmee Basins received rain averaging about 2.6 inches during the past week. For the past 106-days the upper basin received about 34% above-average, while the lower basin received about 59% above-average rain.

The SFWMD short-term weather forecast indicates above-average rainfall for the next week. Near-average rainfall is expected the following week although there is relatively high uncertainty this time of year. The available (20-June) Climate Prediction Center (CPC) outlook for July shows equal chances of above-normal, normal, and below-normal rainfall for central and southern Florida. For the three-month windows through the 2013 wet season, the available CPC outlook (20-June) shows increased chances of above-normal rainfall for central and southern Florida.

#### Current Conditions and Operations

The July 15, 2013 Lake Okeechobee stage (reported by the USACE on July 16) was 15.01 feet NGVD, 0.26 feet higher than last week. The Lake stage is 1.07 feet higher than it was a month ago and is about 3.05 feet higher than it was a year ago. The current stage is 1.42 feet above the historical average for this date. The stage is within the upper third of the Low Sub-band of the 2008 Lake Okeechobee Regulation Schedule (2008 LORS) and is rising at an average rate of about 0.03 feet per day. The current stage is within 0.3 feet of the Intermediate Sub-band.

Dry Season Water Supply releases from Lake O to the EAA ended with the sustained rain starting in late May. Water Supply releases from the WCAs to the lower east coast also ceased; however releases continue to relieve high water levels in the WCAs. Regulation discharges through S-39, S-38, and S-31 are being made when downstream capacity is available while WCA-1, WCA-2A, and WCA-3A stages are above their respective regulation schedules. Releases from C-10A were made for most of the dry season, however they are reducing as the runoff into the L-8 Canal increases. A large portion of the C-10A releases were used for the water supply needs of the L-8 Basin, the City of West Palm Beach via the M-Canal, and the Lake Worth Drainage District via S-5AE and S-155A. As the rainfall increased in May and June, water supply demands reduced and excess water was discharged to tide via S5AE, S-155A, and S-155. The SFWMD continues to discharge water from the southern end of the L-8 Canal (S-5AE/S5AW) to provide a dilution flow for water discharge by the Design Build Contractor (Archer Western) for the L-8 Flow Equalization Basin (FEB) {inflow structure, outflow structure and revetment}.

2008 LORS Release Guidance (Part C): This week Part C suggests "Releases to the WCAs if desirable or with minimum Everglades impacts". The Tributary Hydrologic Condition (THC) remains in the very wet classification. The THC is determined by the wetter of the Palmer Index and the Lake O Net Inflow. Since July 9<sup>th</sup> the Lake O Net Inflow has been in the very wet classification, and the Palmer Index is within the wet classification (2008 LORS classifications).

All WCA stages currently exceed their respective regulation schedules. WCA-3A water levels rose above the top of its regulation schedule in late May (Zone A), therefore the SFWMD discontinued Lake O regulatory discharges to WCA-3A per USACE guidance.

System conditions continue to be monitored closely. Lake O regulatory discharges to WCA-3A will resume per Part C guidance when the WCA-3A stage recedes below Zone A and when conveyance and STA treatment capacities are available.

2008 LORS Release Guidance (Part D): This week Part D suggests releases up to 4,000 cfs at S-77 and up to 1,800 cfs at S-80. The USACE is currently targeting S-77 discharges averaging 4,000 cfs, and a target steady discharge of 1,800 cfs at S-80. The current 14-day release ends Friday, 19-July.

For the St. Lucie Estuary, SFWMD estuary scientists state that, given the amount of existing inflow of freshwater from local runoff and current salinity conditions, the estuary does not need additional inflows. Total water inflows exceeding 2,000 cfs for more than two weeks will likely cause mortality of oysters, therefore releases that cause this number to be exceeded should be avoided. For example, assuming that the current combined mean discharge of about 1090 cfs from S-49, S-97 and the Gordy Road structure continues for the next week

and an additional ground water input of about 250 cfs, indicates that discharges at S-80 of more than about 660 cfs may cause total inflow to exceed the 2000 cfs threshold.

For the Caloosahatchee Estuary, SFWMD estuary scientists recommend that the average flow should not exceed 1,500 cfs frequently. Average flows that exceed 2,800 cfs should be minimized because flows greater than this cause salinity near Shell Point to drop to levels that threaten many species in the area including oysters and seagrasses.

SFWMD Lake Okeechobee Adaptive Protocol (AP) Release Guidance: This week the SFWMD's Lake Okeechobee Adaptive Protocol (AP) release guidance flowchart is not applicable since the 2008 LORS release guidance suggests releases higher than baseflow releases.

Note that the AP release guidance flowchart was designed primarily to guide release recommendations for circumstances when the Lake stage is within the Baseflow Subband or lower. The USACE's Water Control Plan (WCP) for Lake Okeechobee and the EAA recognizes that the SFWMD may allocate water to the environment through its "Adaptive Protocols" or other SFWMD authorities. The WCP provides guidance as to releases, including Adaptive Protocol recommendations, in the various Lake schedule subbands.

There are two primary branches of the AP release guidance flowchart. The upper branch pertains to the 2008 LORS baseflow (aka, regulatory) releases while the lower branch pertains to environmental water supply releases. It is important to recognize that the AP was developed primarily to guide the water supply balance between Caloosahatchee Estuary, permitted water users, and other water supply purposes of the water control system. The water supply balance achieved by following the AP release guidance was evaluated by the Water Resources Advisory Commission and the SFWMD Governing Board, leading to board acceptance in September, 2010. Final Adaptive Protocols for Lake Okeechobee Operations (September 16, 2010).

For additional information pertaining to operations history and past recommendations, refer to the archives of LORS-2008 Release Guidance outcomes and operational position statements at [www.sfwmd.gov](http://www.sfwmd.gov) under the Operational Planning topic.