M E M O R A N D U M

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SUBJECT: Operational Position Statement for the Week of October 1-7, 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 (2008 LORS). 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 follow the 2008 LORS release guidance to manage the Lake stage. The Lake stage rose about 0.13 feet during the past week, but during the past 2-3 days has been receeding and is near the bottom of the Intermediate Subband. For the Intermediate Subband the outcome from Part D depends on the "Up to 30-day meteorological forecast" and the Lake level projection.

(1) If the Lake level is projected to rise to the High Subband, then the release guidance suggests "S-77 up to 6500 cfs, and S-80 up to 2800 cfs".
(2) If the Lake level is projected to stay within the Intermediate Subband, then the release guidance suggests "S-77 up to 4000 cfs, and S-80 up to 1800 cfs".

The current stage projection estimated by the USACE indicates the stage will not rise into the High Subband. Therefore the release guidance is for S-77 up to 4000 cfs, and S-80 up to 1800 cfs.

Part C of the 2008 LORS suggests "No releases to WCAs" as WCA-2A and WCA-3A stages are more than 0.25 feet above the maximum of their upper regulation schedules. The release guidance states "Maximum Practicable to the WCAs if All Downstream WCAs < max of upper schedule + 0.25 ft". Since WCA-1 stage is below the maximum of its upper schedule, Lake regulatory releases through WCA-1 via S-352 and STA-1E can continue.

SFWMD estuary scientists recommend that the S-79 average flow rate should not exceed 1500 cfs frequently. Average flows that exceed 2800 cfs should be minimized because flows greater than this can cause salinity near Shell Point to drop to levels that threaten many species in the area including oysters and seagrasses.

SFWMD scientists also suggest that given the amount of recent inflow of freshwater from local runoff and Lake inputs and current salinity conditions, the estuary has received too much inflow. A maximum inflow rate of 1170 cfs or less at S-80 is recommended to allow the estuary to recover.

The SFWMD will continue to follow the 2008 LORS and USACE release guidance and not make Lake regulatory discharges to WCA-2A or WCA-3A because stages remain well-above their regulation schedules. However, the SFWMD continues to release Lake regulatory discharges from S-352, when flow-through capacity exists, in an effort to pass treated flows through WCA-1 to tide. The intent is to pass Lake regulatory releases through WCA-1 via S-39 after treatment by STA-1E. This operation is not continuous due to a variety of factors,

but as flow-through conveyance capacity is available, Lake O releases are being discharged to STA-1E and to/through WCA-1.

Further details are provided below. This week the SFWMD is not providing a suggested pulse release pattern for S-79 and S-80 because basin runoff remains relatively high.

Weather and Climate

Rainfall during the past week totaled 0.93 inches district wide (through 7 a.m. October 1st). About 0.43 inches of rain fell directly over Lake Okeechobee during the past 7-days. District-wide rainfall during the past 6-months (Apr-Sep) totaled 45.2 inches (25% above-average). The combined Upper and Lower Kissimmee Basins received rain averaging about 0.4 inches during the past week. For the past 6-months (Apr-Sep) the upper basin received about 21% above-average rainfall, while the lower basin has received about 41% above-average.

The SFWMD short-term weather forecast for the next week indicates above-average rainfall with a focus west and north. Week two is uncertain however normal rainfall is most likely. The available (30-Sep) Climate Prediction Center (CPC) outlook for October shows increased chances of above-normal rainfall for central and southern Florida. For the three-month windows through Oct-Nov-Dec, the available CPC outlook (19-Sep) shows equal chances of above-normal, normal or below-normal rainfall for central and southern Florida. The three-month window (Nov-Dec-Jan) indicates increased chances of below-normal rainfall for central and southern Florida.

Current Conditions and Operations

The September 30, 2013 Lake Okeechobee stage (reported by the USACE on October 1st) was 15.91 feet NGVD, 0.13 feet higher than last week (Sep 23rd stage). The Lake stage is 0.36 feet higher than it was a month ago and is about 0.28 feet higher than it was a year ago. The September 30th stage was 1.04 feet above the historical average for this date. The stage is at the bottom of the Intermediate Sub-band the 2008 Lake Okeechobee Regulation Schedule (2008 LORS) and receding toward the top of the Low Sub-band.

Current average daily release rates (reported October 2nd) at the Lake structures are 4,320 cfs at S-77 and 880 cfs at S-308. And at the tidal structures, current rates are about 8,240 cfs at S-79 and 1,840 cfs at S-80. These rates are lower than those from a week ago. C-43 basin runoff continues to be relatively high and represents the majority of discharge to the Caloosahatchee Estuary. C-44 basin runoff is also relatively high and exceeds the Lake release at S-308. The USACE increased releases on 21-Sep to target 4,000 cfs at S-77 and 1,800 cfs at S-80. These target rates have been consistent with the 2008 LORS release guidance.

To assist the USACE in lowering high water levels in the WCAs, releases from the WCAs through the lower east coast canals continue when flow-through conveyance capacity is available,. Specifically WCA-2A and WCA-3A stages are above their respective regulation schedules and discharges through S-38 and S-31 are being made when downstream canal conveyance capacity is available. Also, the SFWMD is using the S-13AW divide structure and the S-13 pump station, when conveyance capacity is available, to divert a portion of the western C-11 basin runoff to tide. That runoff would normally be discharged to WCA-3A. Special operations for the South Dade Conveyance System (SDCS) have been implemented since mid-July. The SFWMD is using the S-331 and S-332B,C,D pump stations to convey additional WCA-3A regulatory releases to the C-111 stormwater detention areas.

When conditions are conducive, the SFWMD is passing S-352 Lake Okeechobee regulatory discharges through WCA-1 to tide via S-39. The SFWMD is also maximizing releases from S5AE, to the extent the capacity of the structure and available downstream stages and capacities (S-155A and S-155) allow. Releases from C-10A continue at relatively small rates due to the limited head across the structure and runoff from the L-8 basin.

2008 LORS Release Guidance (Part C): Based on 30-Sep Lake stage, Part C of the 2008 LORS suggests “No releases to WCAs” as WCA-2A and WCA-3A stages are more than 0.25 feet above the maximum of their upper regulation schedules. The release guidance states “Maximum Practicable to the WCAs if All Downstream WCAs < max of upper schedule + 0.25 ft”. Since WCA-1 stage is below the maximum of its upper schedule, Lake regulatory releases through WCA-1 via S-352 and STA-1E can continue.

The Tributary Hydrologic Condition (THC) remains in the very wet classification this week. The THC is determined by the wetter of the Palmer Index and the Lake O Net Inflow. The Lake O Net Inflow had been in

the wet classification since 26-August and moved into the very wet classification last week (23-Sep). The Palmer Index remains within the normal classification (2008 LORS classifications).

WCA-2A and WCA-3A stages currently exceed their respective regulation schedules, therefore the LORS does not allow Lake O releases to the WCAs. 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 the 2008 LORS and USACE guidance at that time.

The SFWMD will continue to follow the 2008 LORS and USACE release guidance and not make Lake regulatory discharges to WCA-2A or WCA-3A because stages remain well-above their regulation schedules. However, the SFWMD continues to release Lake regulatory discharges from S-352, when flow-through capacity exists, in an effort to pass treated flows through WCA-1 to tide. The intent is to pass Lake releases through WCA-1 via S-39 after treatment by STA-1E. This operation is not continuous due to a variety of factors, but as flow-through conveyance capacity is available, Lake O releases are being discharged to STA-1E and to/through WCA-1. Note that if the expected high rainfall occurs this week, then S-352 releases may be suspended until flow-through conveyance capacity becomes available again.

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 the outcome from Part D depends on the "Up to 30-day meteorological forecast" and the Lake level projection.

(1) If the Lake level is projected to rise to the High Subband, then the release guidance suggests "S-77 up to 6500 cfs, and S-80 up to 2800 cfs".
(2) If the Lake level is projected to stay within the Intermediate Subband, then the release guidance suggests "S-77 up to 4000 cfs, and S-80 up to 1800 cfs".

The current stage projection estimated by the USACE indicates the stage will not rise into the High Subband. Therefore the release guidance is for S-77 up to 4000 cfs, and S-80 up to 1800 cfs.

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 has received too much inflow. A maximum inflow rate of 1,170 cfs or less at S-80 is recommended to allow the estuary to recover.

For the Caloosahatchee Estuary, SFWMD estuary scientists recommend that the average flow rate should not exceed 1,500 cfs frequently. Average flows that exceed 2,800 cfs should be minimized because flows greater than this can 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 under the Operational Planning topic.