

MEMORANDUM

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DATE: February 6, 2014

SUBJECT: Operational Position Statement for February 4-10, 2014

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

For the period of February 4-10, 2014, the SFWMD recommends the USACE continue to follow the 2008 LORS release guidance to manage the Lake stage. The Lake stage rose about 0.17 feet during the past week to a stage of 13.96 feet, NGVD, and remains in the Low Subband within 0.3 feet above the Baseflow Subband.

2008 LORS Release Guidance (Part C): The 3-February outcome from Part C of the 2008 LORS suggests "Up to Maximum Practicable to WCAs IF desirable or with minimum Everglades Impacts". The Tributary Hydrologic Condition (THC) is within the normal classification again this week. The THC is determined by the wetter of the Palmer Index and the Lake O Net Inflow. The Lake O Net Inflow remains in the dry classification this week. The Palmer Index remains in the normal classification (2008 LORS classifications).

The USACE continues to advise the SFWMD to discharge water south from Lake Okeechobee per Part C of the LORS release guidance so long as the STAs are not adversely affected. Due to the heavy rainfall event last week the SFWMD temporarily suspended Lake O regulatory discharges to WCA-2A and to northwestern WCA-3A. Lake O regulatory discharges to WCA-1 were suspended on 20-Dec after the USFWS-LNWR staff requested discontinuation of treated Lake O regulatory releases to the Refuge. STA-1W vegetation stress prompted SFWMD STA staff to recommend discontinuation of Lake releases via STA-1W.

Lake O regulatory discharges to WCA-2A and WCA-3A will resume as soon as runoff from the EAA subsides and flow-through conveyance capacity is available. Treated Lake O regulatory discharges directed to WCA-2A via STA-2 and to northwest WCA-3A via STA-3/4 and G-404 will resume as the system transitions back to typical operations. Input from SFWMD everglades' scientists indicate these releases are providing some benefit to northwestern WCA-3A but are not large enough to adversely impact central and southern WCA-3A stages.

Recession rates in WCA-2A will be monitored closely to ensure that they continue to occur at rates similar to the regulation schedule slope. The WCA-1 stage is at the regulation schedule and rising. The WCA-2A stage is about 0.7-0.8 feet above the regulation schedule and the recession rate of the marsh is less than that of the schedule due to last week's rainfall and inflows from STA-2 and STA-3/4. WCA-3A stage is rose from just below, to about 0.2 feet above, the bottom of Zone E1.

2008 LORS Release Guidance (Part D): The outcome from Part D of the 2008 LORS release guidance changed from last week and is now: “S-79 up to 3000 cfs, and S-80 up to 1170 cfs”. The stage remains in the Low Subband. An increase in the Seasonal Lake Okeechobee Net Inflow Outlook from the Dry Classification to the Normal Classification resulted in the release guidance suggesting releases up to the typical Low-Subband rates.

For the St. Lucie Estuary, SFWMD estuary scientists reported that Local sources (runoff and ground water) are currently keeping salinities within the preferred range. Releases of freshwater from Lake Okeechobee are not recommended because of last week’s storm. Local runoff originating from the C-44 basin should be managed not to exceed 200 cfs at S-80. Releases averaging more than 200 cfs at S-80 are not desirable and may adversely impact the estuary.

For the Caloosahatchee Estuary, SFWMD estuary scientists reported seven-day average salinity conditions decreased throughout the estuary except at Sanibel where it remained about the same. Salinity conditions in the lower estuary are good. Forecast salinity near the I-75 Bridge starts to increase without releases at S-79, however no freshwater inputs at S-79 are needed to keep the 30-day moving average salinity below 5 psu. Recognizing the USACE desires to discharge excess Lake O water per the 2008 LORS, SFWMD scientists suggest releases averaging up to 1000 cfs at S-79 to allow salinity to continue to be good in the lower estuary while maintaining conditions conducive for SAV in the estuary upstream of Ft. Myers. Releases averaging more than 1000 cfs at S-79 are not desirable at this point and may adversely impact the estuary. To mitigate potential stratification and phytoplankton accumulation in the water column, the release from S-79 should be conducted at a 10-day pulse pattern per the schedule below.

Day	1000 cfs avg flow
1	1600
2	2200
3	1800
4	1400
5	1100
6	800
7	600
8	300
9	200
10	0

Weather and Climate

Rainfall during the past week totaled 2.38 inches district wide (through 7 a.m. February 4th). Approximately 2.02 inches fell directly over Lake Okeechobee during the past 7-days. District-wide rainfall during the past 30 days totaled 3.50 inches (82% above-average). The Upper and Lower Kissimmee Basins averaged about 2.3 inches of rainfall during the past week. For the past 30 days the Upper Basin received about 117% of average rainfall, while the lower basin has received about 182% of average rainfall.

The SFWMD weather forecast for the upcoming week is for near-average rainfall. For week two, the forecast is for below-average rainfall. The available (16-Jan) Climate Prediction Center (CPC) outlook for February is for increased chances of below-normal rainfall for central and southern Florida. The available (16-Jan) CPC outlook for the three-month window: Feb-Mar-Apr also indicates increased chances of below-normal rainfall for central and southern Florida. The subsequent 3-month rainfall outlook windows through June all indicate equal chances of below-normal, normal and above-normal rainfall for central and southern Florida.

Current Conditions and Operations

The February 3, 2014 Lake Okeechobee stage (reported by the USACE on February 4th) was 13.96 feet NGVD, 0.17 feet higher than last week. The Lake stage is 0.14 feet lower than it was a month ago and is 0.6 feet lower than one year ago. The February 3rd stage was about 0.7 feet below the historical average for this date. The stage remains

within the Low Subband and within about 0.3 feet of, the Baseflow Sub-band of the 2008 Lake Okeechobee Regulation Schedule (2008 LORS).

Daily release rates, averaged for the past week (ending 4-Feb), at the Lake structures were about 418 cfs at S-77 and a net flow at S-308 of -94 cfs for the week. The USACE allowed some of the C-44 basin runoff to backflow to Lake Okeechobee at the beginning of last week's rainfall event. At the tidal structures, average daily discharges were about 1449 cfs at S-79 and 136 cfs at S-80. S-79 remains open and, as of 21-Oct-2013, has been releasing target baseflow rates averaging 650 cfs. Lake releases at S-77 supplement C-43 basin runoff as needed to achieve the target flow rate, which is a regulatory discharge and not an environmental water supply release. Average rates during the past 7-days may differ from the 10-day target mainly because the target pulse has a variable pattern over the 10-day period. C-43 runoff from the last week's rainfall event also contributed to the increase in discharge at S-79.

Irrigation demands that were being supplied by Lake Okeechobee via S-351, S-352 and S-354 were suspended last week due to the rainfall event. Flood control operations were initiated to route the runoff from the EAA to the WCAs via the STAs per the design and operating regulations of the system. Inflows to the WCAs from rainfall and STA outflows contributed to increased stages as described above. Water supply releases from WCA-2A to the LEC were suspended due to rainfall, but have recently resumed. Operations are transitioning back from flood control to typical dry season operations. Lake O regulatory discharges to WCA-3A and WCA-2A are scheduled to resume as soon as flow-through conveyance capacity is available.

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 Lake Okeechobee stage is above the Baseflow Subband. Recent projections indicate the lake stage could recede into the Baseflow Subband within the next 3-4 weeks if dry conditions persist and the current recession rate increases slightly. The same outlook has been forecast since December, but stages continue to recede parallel with the top of the Baseflow Subband.

Please note that the AP document included recommendations to conserve water in the beginning of the dry season when the Lake stage is in the Low Subband to ensure availability for later in the dry season when all water demands tend to be at their highest. Specific language on page 12 is shown here for convenience: "One of the fundamental tenets of adaptive protocols for Lake Okeechobee operations is to limit the 2008 LORS Low subband maximum release rate during the early part of the dry season to help conserve water and increase its potential availability for later in the dry season when the demand is largest. To implement this precept, when the lake stage is within the Low subband in the early part of the dry season, the weekly operations guidance may recommend to the USACE to limit the release volumes to no more than 50 percent of the maximum allowable. Factors that may influence this recommendation include lake stage trend, and weather and water condition forecasts."

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, other water supply purposes of the water control system, and the Lake O MFL Rule. 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.