M E M O R A N D U M

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

FROM: Susan Sylvester, Chief, Water Control Operations Bureau
Linda Lindstrom, Chief, Applied Science Bureau
Dean Powell, Chief, Water Supply Bureau

DATE: February 26, 2014

SUBJECT: Operational Position Statement for February 25 – March 3, 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 25 – March 3, 2014, the SFWMD recommends the USACE continue to follow the 2008 LORS release guidance to manage the Lake stage. The Lake stage remained relatively steady and only receded about 0.03 feet during the past week to a stage of 13.98 feet, NGVD. The stage remains in the Low Subband about 0.5 feet above the Baseflow Subband.

2008 LORS Release Guidance (Part C): The 24-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) remains in the normal classification this week. The THC is determined by the wetter of the Palmer Index and the Lake O Net Inflow. The Palmer Index remains in the normal classification (2008 LORS classifications); and the Lake O Net Inflow also remains within the normal classification this week.

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. The recent rainfall, runoff and Lake O discharges increased STA stages above target elevations. Lake O regulatory discharges to WCA-2A via STA-2 continue but will be suspended next week to give the treatment vegetation a chance to recover. Regulatory discharges to northwest WCA-3A will resume via STA-3/4 and G-404 next week. Input from SFWMD everglades' scientists indicate regulatory releases to northwestern WCA-3A provide some benefit to northwestern WCA-3A, but the flows are not large enough to adversely impact central and southern WCA-3A stages.

2008 LORS Release Guidance (Part D): The outcome from Part D of the 2008 LORS release guidance is the same as last week: "S-79 up to 3000 cfs; and S-80 up to 1170 cfs". The stage remains in the Low Subband. The Tributary Hydrologic Condition remains within the normal classification this week and the release guidance outcome is the same as last week. The release guidance continues to suggest 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. 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 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 for the next two weeks. Recognizing the USACE desires to discharge excess Lake O water (i.e., regulatory releases) 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 0.20 inches district wide (through 7 a.m. February 25th). Approximately 0.16 inches fell directly over Lake Okeechobee during the past 7-days. District-wide rainfall during the past 30 days totaled 3.66 inches (58% above-average). The Upper and Lower Kissimmee Basins averaged about 0.1 inches of rainfall during the past week. For the past 30 days the Upper Basin received about 125% of average rainfall, while the lower basin has received about 177% of average rainfall.

The SFWMD weather forecast for the upcoming week is for below-average rainfall. Some minor rain over the southern portion of the SFWMD is forecast for Thursday with the passing of a cold front. For week two, the forecast is also for below-average rainfall. The available (20-Feb) Climate Prediction Center (CPC) outlook for March indicate equal chances of below-normal, normal and above-normal rainfall for central and southern Florida. The available (20-Feb) CPC outlook for all the three-month windows through the dry season and the upcoming wet indicate equal chances of below-normal, normal and above-normal rainfall for central and southern Florida.

Current Conditions and Operations

The February 24, 2014 Lake Okeechobee stage (reported by the USACE on February 25th) was 13.98 feet NGVD, 0.03 feet lower than last week. The Lake stage is 0.18 feet higher than it was a month ago and is 0.43 feet lower than one year ago. The February 24th stage was about 0.56 feet below the historical average for this date. The stage remains within the Low Subband and within about 0.5 feet of the Baseflow Sub-band of the 2008 Lake Okeechobee Regulation Schedule (2008 LORS).

Daily release rates at the Lake structures, averaged for the week ending 25-Feb, were about 1,075 cfs at S-77 and 0 cfs at S-308. At the tidal structures, average daily discharges were about 1,371 cfs at S-79 and 0 cfs at S-80. Lake releases at S-77 supplement C-43 basin runoff as needed to achieve the 2008LORS target discharge 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.

Recession rates in WCA-2A are being monitored closely. The USACE requested the SFWMD to increase outflows from WCA-2A to tide in order to help reduce stages and return to a recession rate similar to the regulation schedule

slope. The WCA-1 stage is near its regulation schedule and generally receding. The WCA-2A stage is about 0.9 feet above its regulation schedule and receding. The WCA-3A regulation stage (3 gage average) is about 0.1 feet above the bottom of Zone E1 and receding at about the same rate as the regulation schedule. Releases from WCA-3A continue at maximum practicable rates through S-333 per the regulation schedule. S-334 remains closed. Siphoning via S-331 continues to pass seepage from L-31N to the lower reaches of the SDCS. The S-332B,C & D pumps are being used as needed to manage water levels within the operating range.

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.