M E M O R A N D U M

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SUBJECT: Operational Position Statement for Dec 23, 2014 – Jan 5, 2015

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 Operational Planning internet page.

This Position Statement is for the period from December 23, 2014 through January 5, 2015. The SFWMD recommendation to the USACE is to continue making releases averaging 1,500 cfs measured at S-79 over the next two weeks. This recommendation is consistent with the 2008 LORS release guidance, which currently suggests releases of up to 3,000 cfs measured at S-79 and up to 1,170 measured at S-80 may be made. A pulse type pattern is most beneficial and a table of suggested releases is included at the end of this memorandum.

While the lake stage still remains within the Low Sub-band, the current lake stage and rate of recession and the likely development of weak to moderate strength El Nino conditions in the Equatorial Pacific and the associated above-average Jan-Mar rainfall point to the need to increase releases. Therefore, it is recommended that an increase in releases from the lake be considered, including releases to the St. Lucie Estuary beginning in January. This recommendation is consistent with the 2008 LORS and with an analysis of the historical records as evaluated for El Nino years.

The SFWMD continues to maximize the Lake Okeechobee regulatory releases to Water Conservation Area (WCA) 2A and 3A via the STA-2 and 3 / 4; however, lake releases to STA-1 have been suspended due to turbid water conditions observed at S-352 and in the L-8 canal. These releases will be resumed as turbidity lessens.

2008 LORS Release Guidance (Part C): Given the current Lake Okeechobee stage position, Part C of the 2008 LORS suggests “Up to Maximum Practicable to the WCAs if desirable or with minimum Everglades Impacts”.

Consistent with the LORS release guidance, the USACE is requesting the SFWMD to continue maximum practicable Lake Okeechobee regulatory releases to the WCAs. For the on-coming days, Lake regulatory releases to the WCAs will be treated in STA-2 and STA-3/4. Deliveries into WCA-1 were suspended late last week due to turbidity in the vicinity of S-352 and HHD Culvert 10A. SFWMD is monitoring this condition to assess when to resume releases to STA-1W and/or STA-1E without causing damage to the STAs.

Salinities in the Taylor River and the Minimum Flows and Levels (MFL) site are higher this December than they have been since 1990. In order to buffer salinities this dry season, low volume releases into Taylor Slough are needed to help buffer the creeks from upstream pulses of saltwater, and therefore counter the probability of a Florida Bay MFL violation.

2008 LORS Release Guidance (Part D): The outcome from Part D of the 2008 LORS release guidance is: "S-79 up to 3,000 cfs and S-80 up to 1,170 cfs". Release guidance did not change compared to the last two previous weeks.

The USACE is presently conducting a 7-day pulse release averaging 1,500 cfs at S-79 and no releases at S-80, which started 0700 hours on December 19, 2014 and will end 0659 hours December 26, 2014. The current release implementation is measured at S-79 and requires that the Lake Okeechobee releases (at S-77) be reduced to account for any local runoff into the Caloosahatchee River (C-43) between S-77 and S-79. This accounting is performed on a daily basis.

Estuary scientists have indicated that while there is no immediate ecological benefit associated with inflows into the St. Lucie Estuary from Lake Okeechobee, if releases are necessary, it is preferable to make low volume releases early to mitigate the need for high volume discharges later during the oyster spawning season. For the Caloosahatchee Estuary, additional inflows from Lake Okeechobee resulting in mean monthly flows greater than 1,500 cfs at S-79 would pose an ecological risk for oysters in the vicinity of the Cape Coral Bridge. Considering the current high lake level and anticipated wetter than normal dry season, any increase in lake releases to the estuaries under LORS guidance should be implemented adaptively with gradual incremental flow targets to avoid abrupt changes in flow and salinity regimes. The release from both S-79 and S-80 should be conducted in a pulse pattern, varying in both the magnitude and duration among the pulses, to mitigate potential stratification and phytoplankton accumulation in the water column.

Lake Okeechobee scientists have indicated that increases in the quantities of water discharged from the lake over the early part of dry season will increase the recession rate and would be beneficial in reducing lake levels to a more ecologically suitable range

Summary of System Conditions

Weather and Climate

The District wide rainfall average for the period December 16 to December 22 was 0.6 inches with that representing rainfall north of Lake Okeechobee as there was no rainfall recorded in areas south of the lake. Average to above rainfall is forecasted for the remainder of this week as a result of a subtropical jet stream. Climatology indicates that the subtropical Jetstream is influenced by the El Niño conditions and the warmer Pacific sea surface temperatures. Strong upper-level winds associated with the subtropical jet stream tend to strengthen across the western Pacific and may remain pronounced as it stretches farther east than under non-El Niño conditions.

Current Conditions and Operations

As of December 23, Kissimmee lakes remain at or near their respective regulation schedules. Currently, flow through S-65 is about 1,600 cfs which is reduction of about 200 cfs. Inundation depths in the Kissimmee River floodplain are slightly higher than a week ago.

The December 23, 2014 Lake Okeechobee stage (reported by the USACE as the stage on December 15, 2400 hours) was 15.25 feet NGVD. The lake stage had a decrease of 0.1 feet over the past week. The lake stage is about 0.27 feet lower than a month ago, about 0.95 feet higher than one year ago and 0.57 feet over the historical average.

Daily release rates at the lake structures, averaged for the week ending December 22, were estimated as 1,060 cfs at S-77 and 140 cfs at S-308. At the tidal structures, average daily discharges were about 1,480 cfs at S-79 and 10 cfs at S-80. Releases through S-308 were for water supply. Lake Okeechobee regulatory releases south continued through S-352 into STA 1E and 1W until Thursday, December 18, when turbid water was observed in the area of S-352 and HHD Culvert 10A. Sustained loading of the STAs (STA-1 West and STA-1 East) with water of this high turbidity even at low flow rates will likely results in impact to the SAV cells (insufficient light penetration to support health SAV). The helicopter flight observed increased turbidity throughout the emergent cells and entering the SAV cells of STA-1 East and STA-1 West. Currently the turbidity at S-351 and S-354 is good enough to allow continued discharges to STA 3/4 and STA-2 with STA discharges directed to WCA-2A, NW WCA-3A, Holeyland, and Rotenberger. Regionally, water supply demands are increasing.

Wading bird nesting has begun in the WCAs; consequently, it becomes important that steady gradual recession rates continue without incurring reversals. The optimum Dry Season recession rate would be between -0.05 to -0.09 feet per week.

SFWMD Lake Okeechobee Adaptive Protocol (AP) Release Guidance

This week the SFWMD is not applying the Lake Okeechobee Adaptive Protocol release guidance flowchart since the Lake Okeechobee stage is above the Base-flow Sub-band of the 2008 LORS. The Adaptive Protocols process is documented in the District publication Final Adaptive Protocols for Lake Okeechobee Operations (September 16th, 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.

Table 1. Schedules for 7-day and 14-day pulses at S-79

	7-day pulses					14-day pulses		
Day	650 cfs	800 cfs	1000 cfs	1200 cfs	1500 cfs	1000 cfs	1200 cfs	1500 cfs
1	900	1400	1400	1700	2000	800	1000	1300
2	1400	1600	1600	2100	2400	1200	1500	1800
3	1000	1200	1300	1800	2100	1700	2000	2300
4	650	800	1000	1100	1400	2700	3000	3300
5	400	400	800	900	1200	2200	2400	2700
6	200	200	600	600	900	1800	2000	2300
7	0	0	300	200	500	1200	1400	1700
8						800	1000	1300
9						600	800	1100
10						400	600	900
11						300	400	700
12						200	300	600
13						100	200	500
14						0	200	500