

M E M O R A N D U M

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DATE: February 12, 2015

SUBJECT: Operational Position Statement for February 10 – February 16, 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 February 10 through February 16, 2015. The SFWMD recommendation to the USACE is to follow the release guidance of 2008 LORS, which currently suggests that 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 less harmful and suggested daily discharges rates for multi-day pluses are provided in a table at the end of this memorandum. Increases in releases to the estuaries are not desirable from an estuarine-ecology point of view at this point in time. However, due to recent rainfall which has increased the stage in Lake Okeechobee by 0.15 feet since February 4 and a projected continuation of increased inflows from the Kissimmee River, if the USACE determines that an increase in releases is required, it is recommended that current releases be increased gradually. In the following weeks the flow changes should be adaptively managed with gradual incremental flow changes which consider the objectives of avoiding abrupt changes in flow and salinity regimes while maintaining the salinity at acceptable levels.

While the latest Climate Prediction Center (CPC) outlooks has indicated that chance of an official El Nino event has decreased, El Nino-like conditions are present and are expected to continue influence Central and South Florida rainfall. It is likely that the releases to WCAs will not be sustainable, as experienced this week, if additional above-average rainfall occurs. From the lake stage management point of view it is appropriate to ramp up the estuary discharge to take advantage of the typically lower rainfall in February before the typically higher rainfall in March (March is the wettest dry season month).

The lake stage remains within the Low Sub-band and the lake recession rate over the past 30-day is 0.3 feet. Due to rainfall over the past 7-days, the recession rate is lower than reported a week ago. Rainfall and runoff reduced the total volume Lake Okeechobee regulatory releases to Water Conservation Area (WCA) 2A and 3A via STA-2 and STA-3/4. It is expected that water supply deliveries will resume as drier colder conditions are forecast for the remainder of this week. The next chance for rain arrives in about a week as a similar pattern to Monday's event may unfold.

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. Over the past week, water operations shifted from water supply to flood control as canals in the EAA dealt with runoff from the rainfall on Feb 9th. Water managers will monitor and resume lake regulatory releases to the WCAs through STA-2 and STA-3/4 as conditions allow. Flows from STA-3/4 will continue to be released into northwestern WCA-3A with the continuing goal of keeping peat hydrated in that area. Rainfall on the 5th and 9th has resulted in water level reversals (exceeding 0.10 feet/week) in an area of northeastern WCA-3A corresponding to prime foraging areas actively being used by wading birds. Shifting outflow from S11B to the S11A and maximizing WCA-2A outflows to tide would be preferable until water recessions resume.

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 300 cfs at S-80, which started 0700 hours on February 6, 2015 and will end 0659 hours on February 13, 2015. The current release implementation is measured at S-79 and S-80 for the Caloosahatchee Estuary and the St. Lucie Estuary, respectively, and requires that the Lake Okeechobee releases (at S-77 and S-308) be reduced to account for any local runoff into the Caloosahatchee River (C-43) between S-77 and S-79 or the St. Lucie Canal (C-44) between S-308 and S-80. This accounting is performed on a daily basis.

Estuary scientists have indicated that there is no ecological benefit associated with increased inflows into the St. Lucie Estuary from Lake Okeechobee. However, if such an increase is required, it is suggested that current releases be augmented by low amounts, followed by adaptive management with gradual incremental flow changes, if required, to avoid abrupt changes in flow and salinity regimes.

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. However, under similar considerations as before, releases beyond this threshold may be necessary under LORS guidance. If an increase in releases is required, it is suggested that current releases be augmented by low amounts, followed by adaptive management with gradual incremental flow changes, if required, to avoid abrupt changes in flow and salinity regimes.

The releases at 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. This will also help avoid deposition of organic matter in localized areas due to a repetitive flow pattern. Suggested pulse schedules are given below in the Table 1.

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 and a 7-day pulse at S-80

7-day pulses								
Day	200 cfs	300 cfs	500 cfs	800 cfs	1000 cfs	1200 cfs	1500 cfs	1700 cfs
1	200	300	500	1400	1400	1700	2000	2200
2	600	700	900	1600	1600	2100	2400	2600
3	300	500	800	1200	1300	1800	2100	2300
4	200	300	600	800	1000	1100	1400	1600
5	100	200	400	400	800	900	1200	1400
6	0	100	300	200	600	600	900	1100
7	0	0	0	0	300	200	500	700
14-day pulses								
Day	1000 cfs	1200 cfs	1500 cfs					
1	800	1000	1300					
2	1200	1500	1800					
3	1700	2000	2300					
4	2700	3000	3300					
5	2200	2400	2700					
6	1800	2000	2300					
7	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					

* The 200, 300, and 500 cfs pulse patterns apply to S-80.