M E M O R A N D U M

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SUBJECT: Operational Position Statement for Oct 7, 2014 – Oct 13, 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 October 7th, 2014 through October 13th, 2014, the SFWMD supports no additional Lake releases to the Caloosahatchee River/Estuary and St. Lucie River/Estuary. Current and forecasted conditions indicate Lake releases are presently unnecessary. The Lake remains within the Low Sub-band stage and total inflows to the Lake have declined over the past seven days. In addition, Lake releases pose increased ecological risk to the St. Lucie and Caloosahatchee rivers/estuaries. This recommendation aligns with 2008 LORS release guidance which allows for a range of zero to 4,000 cfs in the Caloosahatchee and zero to 1,800 in the St. Lucie to manage the Lake Okeechobee stage.

The USACE is presently implementing a 7-day pulse release averaging 650 cfs at S-79 and no releases at S-80, which started 7 am on October 3rd, 2014 and will end 7am October 10th, 2014. The current release implementation 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.

Lake Okeechobee Stage Position: Over the past week, the lake stage increased by 0.36 feet and as of October 7th is in the upper third of the Low Sub-band, presently .37 feet from the Intermediate Sub-band.

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

Water levels throughout the WCAs continued to rise and appeared to peak by the end of the past week. Stages in WCA-1 are relatively high for this time of the year, with the canal stage in Zone A-1 and the 3-gage average marsh stage high into Zone A-2. The current stage in WCA-1 is within the target requested by Refuge staff to achieve a stage between 17 and 17.5 feet NGVD for the 3-gage average by the end of the wet season. WCA-2A and WCA-3A stages are both in Zone A of their respective regulation schedules and relatively high for this time of the year. Given the stages in the WCAs, USACE and District scientists have determined that Lake Okeechobee releases to the WCAs will generate

adverse environmental impacts. Therefore, the SFWMD will not make any Lake Okeechobee regulatory releases south to any of the WCAs.

Salinity in Florida Bay continues to be in the high range. District scientists noted that Florida Bay fresh water flows are below average for this time of the year and flows are needed to reduce salinities that benefit the bay's ecosystems and to raise the nearshore wetland stages.

2008 LORS Release Guidance (Part D): The outcome from Part D of the 2008 LORS release guidance is: "S-77 up to 4,000 cfs and S-80 up to 1,800 cfs". Release guidance is the same as last week.

For the St. Lucie Estuary, SFWMD estuary scientists suggest that mean monthly fresh water inflows exceeding 2,000 cfs (from all sources including flows from S-80, S-49, S-97, Ten Mile Creek and the tidal basin) will result in harmful salinity conditions for oyster populations near the US1 Bridge. Mean monthly flows exceeding 3,000 cfs from all sources will cause damage to seagrasses in the vicinity of the St. Lucie Inlet. Over the past week, flows to the St. Lucie Estuary from S-80 averaged 308 cfs and from all other sources averaged 1,940 cfs and the average monthly flow over the last 30 days was 2,419 cfs. Based on current conditions, additional inflows from the Lake will pose further ecological risk.

For the Caloosahatchee Estuary, SFWMD estuary scientists suggest that mean monthly flows measured at S-79 that exceed 1,500 cfs will result in harmful salinity conditions for oysters living in the vicinity of the Cape Coral Bridge. At mean monthly flows exceeding 2,800 cfs, salinity in Iona Cove will become low enough to cause mortality of shoal grass. At slightly higher flows (3,000 cfs) oysters in this area will be impacted by low salinity. Mean monthly flows of 4,500 cfs will adversely impact seagrasses in San Carlos Bay. Flow at S-79 averaged 3,690 cfs over the past week, with no releases from Lake Okeechobee. Over the past month, S-79 total flows averaged 3,270 cfs (5 percent from the Lake), which is above the 1,500 cfs threshold for oysters. Based on current conditions, additional inflows from the Lake will pose further ecological risk.

Weather and Climate

Rainfall during the past week totaled 0.71 inches district wide (through 7 a.m. October 7th). Lake Okeechobee received 0.53 inches of rain during the past seven days. District-wide rainfall during the past 30 days totaled 7.77 inches (125 percent of average). During the past week rainfall recorded for the Upper and Lower Kissimmee Basins was 0.97 and 0.74 inches, respectively. For the past 30 days the Upper Basin received 143 percent of average rainfall, while the lower basin received 163 percent of average rainfall.

The SFWMD weather forecast for this week is below average rainfall, with no clear trend at this point for next week. The available (30-September) Climate Prediction Center (CPC) outlook for October indicates equal chances of below-normal, normal and above-normal rainfall for central and southern Florida. The available (18-September) longer range CPC outlook for all the three-month windows through April 2015 indicate increased chances of above-normal rainfall for central and southern Florida.

Current Conditions and Operations

Stages for lakes in the Upper Kissimmee are either above or at regulation schedule. SFWMD Water Management is working to follow the regulation lines to reach winter pool by the end of October. Flows through S-65 and the other structures in the Kissimmee River and the C-38 canal have decreased considerably compared to one week ago.

The October 7th, 2014 Lake Okeechobee stage (reported by the USACE on September 29th) was 15.58 feet NGVD, 0.36 feet higher than last week. The Lake stage is about 1.1 feet higher than a month ago and about 0.18 feet lower than one year ago. The October 7th stage was about 0.61 feet above the historical average for this date. District scientists indicate the fast increase in Lake stage is causing some ecological impacts, such as uprooting of vegetation and inundation of apple snail egg clutches. Moderation of Lake stages will help in minimizing these ecological impacts.

Daily release rates at the Lake structures, averaged for the week ending October 6th, were estimated as 0 cfs at S-77 and 0 cfs S-308. At the tidal structures, average daily discharges were about 3,690 cfs at S-79 and about 308 cfs at S-80. The discharges at S-79 were completely made of local basin runoff produced from recent rainfall. Average release rates during the past seven days may differ from the target because this seven day averaging period differs from the implementation period. The current S-7 seven day pulse release averaging 650 cfs will end on October 10th, 0700 hours.

No Lake Okeechobee regulatory releases south took place this past week. The EAA has been under flood control operations for most of the last seven days.

Water Conservation Area operations are summarized as follows:

- WCA-1: Last week, stage crossed into Zone A-1 (top zone) of the regulation schedule, which puts WCA-1 above the historical maximum elevation for this time of the year. The S10 structures are closed and S-39 is being used as much as possible to bring and maintain WCA-1 canal stages lower than the marsh.
- WCA-2A: Stage is about 1.2 feet above the bottom of Zone A (top zone) and started to recede slowly. According to USACE posted statistics, stage in WCA-2A is at the 10 percent upper decile elevation for this time of the year. Discharges from WCA-2A via the S-11s remain steady S-38 discharges continue to help manage high stages in WCA-2A.
- WCA-3A: Stage is 0.3 feet above the Zone A (top zone) - Zone D line, which puts the WCA-3A stage at the upper quartile stage for this time of the year. WCA-3A releases through the S12 structures are being performed with fully opened gates. S-333 remains closed due to G-3273 being above the 6.80 feet NGVD threshold. S-151 remains open passing water to WCA-3B and S-31 is being used as much as possible to pass water to tide through S-26, conditional on available capacity in the C-6 canal.

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.