

## MEMORANDUM

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

**FROM:** Susan Sylvester, Chief, Water Control Operations Bureau  
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**DATE:** April 4, 2012

**SUBJECT:** Operational Position Statement for the Week of Apr 3 – Apr 9, 2012

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. 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

Per direction from the SFWMD governing board at their March 15, 2012 meeting, the SFWMD is making a recommendation to the USACE consistent with the Lake Okeechobee Adaptive Protocol release guidance. This week the guidance suggests no S-77 release to the Caloosahatchee Estuary. The SFWMD also recommends that the USACE continue their standard operation to allow runoff from the C-44 basin (S-308 to S-80) to backflow to Lake Okeechobee via S-308 rather than discharge to tide via S-80.

The SFWMD's Lake Okeechobee Adaptive Protocols (AP) were developed to provide guidance for both baseflow discharges and environmental water supply releases. The water supply balance achieved by following the protocol was evaluated by the Water Resources Advisory Commission and the SFWMD Governing Board, leading to board acceptance in Sep 2010.

For 14.5 weeks from December 16, 2011 through March 27, 2012, freshwater releases to the Caloosahatchee Estuary averaging 450 cfs (or more) helped to limit high salinities at Val-I75. The estuary needed freshwater inflows during this period per the criteria in the Lake Okeechobee Adaptive Protocol release guidance. On March 26, 2012, the Lake O stage receded below the Baseflow subband and into the Beneficial Use subband. The AP guidance can suggest up to 300 cfs environmental water supply be released at S-79, supplemented as needed from Lake Okeechobee. However, because the Lake Okeechobee Tributary Hydrologic Condition indicator remains in the dry classification, the release guidance indicates "No S-77 release to the Caloosahatchee Estuary unless the Governing Board recommends otherwise".

### Weather and Climate

Rainfall during the past week totaled 0.13 inches district wide (through 7am Apr 3<sup>rd</sup>). For the past 30 days district average rainfall has totaled about 1.8 inches (59% of average). The SFWMD precipitation outlook for the next ten days (Apr 4-13) is below-average with moderate confidence. The 15-Mar CPC precipitation outlook for April indicates increased chances of below-normal rainfall. For the remainder of the 2011-2012 dry season and for the beginning of the wet season, the CPC outlook shows equal chances for below-normal, normal, and above-normal rainfall.

### Upper and Lower Kissimmee Basins

Stages in the most of the Kissimmee Chain of Lakes are at or within 0.3 feet of their respective flood regulation schedules or the temporary snail kite recession lines. The temporary snail kite recession lines have been implemented for Lakes Toho, East Toho, Kissimmee, Cypress and Hatchineha. Lake Kissimmee stage continues to recede due to the dry weather and S-65 environmental releases, which are made to the Kissimmee River per the Interim Operational Schedule and Release Rules for Lake Kissimmee-Hatchineha-Cypress. Discharge at S-65 to the Kissimmee River averaged about 220 cfs for the week ending April 1<sup>st</sup>, down from last week's 290 cfs. Discharge from the Kissimmee River to Lake Okeechobee via S-65E averaged about 90 cfs for the week ending April 1<sup>st</sup>, down from last week's 200 cfs.

### Lake Okeechobee Stage and Regulation Schedule

The April 2, 2012 Lake Okeechobee stage (reported by the USACE on April 3<sup>rd</sup>) was 12.29 feet NGVD, 0.24 feet lower compared with 7-days ago. The April 2<sup>nd</sup> stage was about 0.7 feet lower than it was a month ago and about 0.7 feet higher than a year ago. The current stage is about 2.0 feet lower than the historical average for this date.

This week the Tributary Hydrologic Conditions is again in the "dry" classification (LORS-2008 classifications). The 14-day average Lake Okeechobee Net Inflow was -3059 cfs (dry) through April 1<sup>st</sup>. The March 31<sup>st</sup> Palmer Index was -3.67 (very dry). The April 2<sup>nd</sup> Lake stage was about 0.3 feet below the bottom of the Baseflow Sub-band and about 0.6 feet above the Water Shortage Management Band.

The LORS-2008 release guidance suggests no releases to the WCAs due to the dry tributary hydrologic conditions. LORS-2008 release guidance gives no guidance regarding releases at S-79 and at S-80. The SFWMD's Adaptive Protocol provides the necessary guidance for the appropriate release amount. Refer to the recommendations section below.

### Water Supply Risk Indicators

The risk status for Lake Okeechobee Area is increasing (getting worse) compared with last week. Two of the six LOSA water supply risk indicators remain in the "high risk" category: Palmer Index and the projected Lake stage. The one-month CPC precipitation outlook and the Multi-Seasonal Net Inflow Forecast are in the "medium risk" category. The CPC precipitation outlook for the upcoming 3 months and the Seasonal Net Inflow Forecast are in the "low risk" category. The risk status for all WCAs (except WCA-2A) and Lower East Coast service areas remains within the "low risk" category. WCA-2A remains in the "high risk" category due to low water levels.

The South Florida Water Management District Governing Board voted on November 10 to rescind a series of water shortage orders that restricted landscape irrigation and placed mandatory reductions of agricultural and other large water uses. The action was taken in response to improved water resource conditions throughout the District's 16-county region following the fourth-wettest October on record. With long-term forecasts still calling for below-average rainfall during the 2011-2012 dry season, the Governing Board also declared a water shortage warning to encourage continued vigilance and voluntary water conservation.

### Groundwater Levels

Groundwater levels decreased over most of the District this week. About 2/3 of the United States Geological Survey (USGS) real-time wells in the Kissimmee Basin within the District boundaries are at their lowest 10th to 30th percentile levels for this time of year; the rest remain at median levels. April 3<sup>rd</sup> stages in the Upper East Coast (UEC) canals C-23, C-24, and C-25 are at 22.07, 20.55, and 20.72ft NGVD, respectively, well above the 14 ft NGVD agricultural cutoff level. Groundwater levels in the UEC are mostly at median levels for this time of year. Biscayne aquifer levels mostly decreased this week in the Lower East Coast (LEC), except for

some wells in northern Broward County. Most wells in the LEC are at median or higher levels for their periods of record for this time of year. Some LEC wells in South Dade, Homestead, and Hallandale have dropped below elevation 2.0 feet, NGVD (not unusual for this time of year), and will be monitored closely given the potential for saltwater intrusion.

For more detailed information, refer to the April 3, 2012 Water Supply Report, which is posted at [www.sfwmd.gov](http://www.sfwmd.gov).

#### Everglades WCAs

During the past week WCA water levels at the gages used for the regulation schedules slightly decreased. Rainfall amounts ranged from a low of 0.08 inches in WCA-2B, to a high of 0.62 inches in WCA-1. WCA-1 marsh stage remains about 0.2 feet below its lower (Zone B) regulation schedule. WCA-2A marsh gage (2-17) is about 0.3 feet above schedule, and the canal gage is about 0.2 feet below schedule. WCA-3A stage has receded about 0.2 feet below its regulation schedule's Zone E1. SFWMD scientists recommend retaining water in both WCA-2A and WCA-3A while following the Rainfall Plan for deliveries to ENP and allowing evapotranspiration to drive recession rates.

Water releases from WCA-3A to ENP per the Shark Slough Rainfall Plan continue. The Rainfall Formula amount this week is 0 cfs; target flow is also 0 cfs since the average WCA-3A stage is below the transition zones of the regulation schedule, thus requiring no regulatory/supplemental flow component. Target flow is down from last week's 45 cfs. S-12A, S-12C and S-12D are closed per the federal operating rules (Interim Operating Plan {IOP}). S-12B will be closed this week. Water supply releases from WCA-3A to the SDCS are also being made via structures, S-333, S-334, S-151, S-337, and S-335.

#### St. Lucie Estuary

The estuary received no inflow via S-80 from Lake Okeechobee during the past week. Little to no inflow from C-23 and C-24 occurred. 7-day average salinity conditions in the SLE have increased slightly during the past week, and the 30-day moving average remains within the preferred range at the US-1 Bridge. Conditions are classified as good for oysters for this time of year. It is recommended that the estuary should not receive inflows from the Lake or from C-44 basin runoff. To conserve water supplies it is recommended that the USACE continue their current operation to direct C-44 basin runoff westward to Lake Okeechobee, and not eastward through S-80 to tide.

#### Caloosahatchee Estuary

Releases were made to the Caloosahatchee Estuary via S-79, supplemented as needed with Lake O releases at S-77, during the 14.5 week period (December 16, 2011 through March 27, 2012). These releases were consistent with the Lake Okeechobee Adaptive Protocol (AP) recommendations. The 30-day moving average surface salinity is rising and estimated to be about 8.5 psu at Val I75 and 15.2 psu at Ft. Myers. Salinity conditions in the estuary are considered to be poor for tape grass (> 10 psu) in much of the estuary, and fair (> 5 psu) in the uppermost area. Salinity conditions are fair for oysters (> 30 psu) considering their location in the estuary. The April 3<sup>rd</sup> salinity forecast (assuming no releases) indicates the 30-day moving average salinity at Val I-75 will increase during the next two weeks, and will continue to exceed 5 psu.

The following describes the release guidance per the [Final Adaptive Protocols for Lake Okeechobee Operations \(September 16, 2010\)](#). Each Tuesday the Coastal Ecosystem Section reviews the salinity conditions in the Caloosahatchee estuary and forecasts the predicted salinity for 14 days into the future at Val I75. The criterion for when the estuary needs water depends on the two week predicted salinity at Val I75 being at least 5 psu. Therefore according to the salinity criterion, the estuary needs freshwater inflow at S-79, supplemented from Lake Okeechobee as necessary.

The lower branch of the Adaptive Protocol release guidance flowchart applies since the stage is within the Beneficial Use Subband of the regulation schedule. Currently there is less than a 50% chance that the Lake stage will fall below elevation 11.0 ft, NGVD, before the end of the dry season, and the Tributary Hydrologic Condition is in the Dry classification. Correspondingly, the release guidance suggests “No S-77 release to the Caloosahatchee Estuary unless the Governing Board recommends otherwise”.