

## 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:** January 11, 2012

**SUBJECT:** Operational Position Statement for the Week of Jan 10 - 16, 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.

### Weather and Climate

Rainfall during the past week totaled 0.00 inches district wide. The District received no rainfall during the first 10 days of 2012. The SFWMD precipitation outlook for the next ten days (Jan 11-20) is below-average with moderate confidence. The 31-Dec CPC precipitation outlook for January indicates increased chances of below-normal rainfall. For the 2011-2012 dry season, the CPC outlook continues to show increased chances for below-normal rainfall associated with La Nina conditions.

### Upper and Lower Kissimmee Basins

Stages in the Kissimmee Chain of Lakes continue to hold steady at their respective regulation schedules; however Lake Kissimmee stage continues to show a slight recession as S-65 environmental releases are made to the Kissimmee River per the Interim Operational Schedule for Lake Kissimmee-Hatchineha-Cypress. Discharge at S-65 to the Kissimmee River averaged about 540 cfs for the week ending Jan 8<sup>th</sup>, similar to the previous week. Discharge from the Kissimmee River to Lake Okeechobee via S-65E averaged about 370 cfs for the week ending Jan 8<sup>th</sup>, slightly down compared to the previous week's 390 cfs.

### Lake Okeechobee Stage and Regulation Schedule

The Jan 9<sup>th</sup>, 2012 Lake Okeechobee stage (reported by the USACE on January 10<sup>th</sup>) was 13.52 feet NGVD, down (0.13 feet lower) compared with 7-days ago. The January 9<sup>th</sup> stage was about 0.2 feet lower than it was a month ago and about 1.1 feet higher than a year ago. The current stage is about 1.2 feet lower than the historical average for this date.

This week the Tributary Hydrologic Conditions remain in the "dry" classification (LORS-2008 classifications). The 14-day average Lake Okeechobee Net Inflow was -1787 cfs (dry) through January 8<sup>th</sup>. The latest Palmer Index was -2.43 (dry). The January 8<sup>th</sup> stage was about 0.9 feet above the bottom of the Baseflow Sub-band and about 1.4 feet above the Water Shortage Management Band. Water shortage restrictions were rescinded by the SFWMD governing board at their November, 2011 meeting.

The LORS-2008 release guidance suggests no releases to the WCAs due to the dry tributary hydrologic conditions. LORS-2008 release guidance also suggests up to 450 cfs at S-79, and up to 200 cfs at S-80. Refer to the recommendations section below.

#### Water Supply Risk Indicators

The risk status for the Lake Okeechobee Area is similar to last week. Four of the six LOSA water supply risk indicators are in the “medium risk” category; the other two are in the “high risk” category: the CPC precipitation outlook for the upcoming 3 months, and the Palmer Index. The risk status for all WCAs and Lower East Coast service areas remains within the “low risk” category.

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 in regularly monitored wells. Levels in United States Geological Survey (USGS) real-time wells in the Kissimmee Basin (KB) within the District range from median or higher levels to the lowest 10th percentile. Levels are statistically a bit lower in the upper KB than in the lower KB. Stages in the Upper East Coast (UEC) canals C-23, C-24, and C-25 are at 22.00, 20.31, and 21.75 ft NGVD, respectively, well above the 14 ft NGVD agricultural cutoff level. Groundwater levels in the UEC declined a little this week; however, one-third of the wells remain at median or higher levels for this time of year. Biscayne aquifer water elevations in the Lower East Coast (LEC) decreased in most USGS stations. Less than half of the LEC wells are at median levels or higher for this time of year. Wells in the Kendall area of Miami-Dade County and also a few in South Dade and Homestead have decreased to their lowest 10th to 30th percentile levels. For more detailed information, refer to the Jan 10, 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 receded. Levels receded slightly in ENP's NESRS. No rainfall was recorded. WCA-1 stage is about 0.8 feet below its lower (Zone B) regulation schedule. WCA-2A marsh gage (2-17) is about one foot above schedule and declining faster than the environmentally-desirable rate. SFWMD Everglades scientists continue to recommend that recession rates should not exceed an average of -0.12 feet per week. WCA-3A stage is about 0.1 feet below the top of the regulation schedule's upper transition zone (within Zone E).

Water releases from WCA-3A to ENP per the Shark Slough Rainfall Plan continue. The Rainfall Formula amount is 496 cfs; target flow is also 496 cfs since the WCA-3A stage is below the regulation schedule, thus requiring no regulatory/supplemental flow component. Target flow is down from last week's 578 cfs. S-333 is open to deliver 55% of the target flow to Northeast Shark River Slough (stage at G-3273 is below the trigger stage of 6.8 feet, NGVD). S-12D is open to pass 45% of the target flow. S-12A and S-12B are closed per the federal operating rules (Interim Operating Plan {IOP}). S-12C is closed per USACE decision to direct 45% of the target flow through S-12D.

#### St. Lucie Estuary

The estuary received no inflow via S-80 from Lake Okeechobee during the past week. No inflow from C-23 and C-24 occurred. 7-day average salinity conditions in the SLE have

increased 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 from the Lake via S-77 and to the Caloosahatchee Estuary via S-79 during the past four weeks (since December 16, 2011) per the Lake Okeechobee Adaptive Protocol (AP). Currently the 30-day moving average surface salinity is 5.9 psu at Val I-75 and 11.6 psu at Ft. Myers. The estuary is experiencing elevated salinities due to little to no freshwater inflows from the C-43 basin and from tidal basin runoff downstream of S-79. The salinity forecast indicates the 30-day moving average salinity at Val I-75 will exceed 5 psu within the next 2 weeks if no releases are made at S-79.

The detailed information regarding the Adaptive Protocol release guidance follows:

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 I-75. The criterion for when the estuary needs water depends on the two week predicted salinity at I-75 Bridge 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 upper branch of the Adaptive Protocol release guidance flowchart applies since the stage is within the Baseflow 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. Correspondingly, the release guidance suggests releases up to 450 cfs at S-79, supplemented as needed with Lake Okeechobee releases at S-77.

#### Recommendation to the USACE

The Adaptive Protocol guidance suggests releases at S-79 up to 450 cfs, supplemented as needed from Lake Okeechobee. Therefore, the SFWMD recommends that the USACE initiate a baseflow release at S-79 beginning Friday, January 13<sup>th</sup>. It is recommended, from an ecological perspective, that 450 cfs average discharge for 7 days be conducted in a pulse fashion rather than a constant flow. The recommended daily S-79 flow schedule beginning on Friday, Jan 13<sup>th</sup> is provided below. 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.

| Day   | Date      | S-79 cfs |
|-------|-----------|----------|
| 1     | 1/13/2012 | 1000     |
| 2     | 1/14/2012 | 1200     |
| 3     | 1/15/2012 | 600      |
| 4     | 1/16/2012 | 350      |
| 5     | 1/17/2012 | 0        |
| 6     | 1/18/2012 | 0        |
| 7     | 1/19/2012 | 0        |
| 7-day | Sum       | 3150     |
| 7-day | Mean      | 450      |