9. **OLD BUSINESS**

a. Water Quality Issues

7. Discussion regarding a response to the correspondence from Chip Merriam, Deputy Executive Director of South Florida Water Management District (SFWMD) (Councilman Rothman)

MEMORANDUM

TO: Chip Merriam, Deputy Executive Director, Water Resources

FROM: SFWMD Staff Environmental Advisory Team

DATE: January 24, 2006

SUBJECT: Weekly Environmental Recommendation for Systems Operations

Recommendation

The Lake is at 15.32 ft. and currently in Zone D. The decision tree calls for no releases to the estuaries and releases to the south with minimal or no impact. District staff recommend a reduction in discharges southward to 500 cfs, to be sent through STA-3/4 and into WCA-3A, alternating between flow-ways 1 and 2 on a weekly basis. District staff will reconsider additional releases southward on a weekly basis.

As reported at today, salinity conditions in the Caloosahatchee Estuary and San Carlos Bay are good. Nevertheless there has been no discharge at S-79 since January 11, salt has reached the Franklin Lock and Dam and salinity stands at 2.1 ppt. Salinity at Ft. Myers is 7.5 ppt. Conditions are dry in the tidal basin, west of the lock, and below average rainfall is predicted over the next two weeks. Salt will continue to move upstream and salinity over *Vallisneria* (Tape Grass) beds in the upper estuary will continue to rise. Grasses in these beds will cease growing when salinity reaches 10 ppt and begin to die when it exceeds 15 ppt.. To moderate salinity in the upper estuary it is recommended that a pulse release averaging 300 cfs over a ten day period be initiated as soon as practicable under authority of the Adaptive Protocols for Lake Okeechobee Operations. This pulse will have the added benefit of protecting water supply by preventing salt water intrusion upstream of the Franklin Lock and Dam. A schedule for a 10-day pulse averaging 300 cfs at S-79 is given below.

Under average conditions, a discharge of 300 cfs at S-79 is supplemented by discharge of about 200 cfs into the estuary from the tidal basin , west of S-79. During dry periods, as we are now experiencing, freshwater discharge to estuary from the tidal basin west of S-79 is nil. Accounting for a small margin of safety (100 cfs) a pulse averaging 600 cfs at S-79 would make up for the lack of tidal basin inflow. In the upper estuary, peak densities of zooplankton, fish larvae and eggs, and macroinvertebrates are associated with flows from S-79 in the 300 to 600 cfs range. Thus, a flow of 600 cfs at S-79 would be beneficial not only for grass beds but other organisms as well. At this time a 600 cfs pulse release would be the preferred option. Should authority become available, it is recommended that a 600 cfs pulse release be initiated. If this authority becomes available during the 300 cfs pulse, it is recommended that releases be shifted to the 600 cfs pulse release schedule. This is also given below. If a 600 cfs pulse release is authorized on day 3 of a 300 cfs pulse release, then on day operations would begin following the 600 cfs release schedule.

Day of Pulse	300 cfs	600 cfs
1	900	900
2	1200	1200
3	600	1400
4	300	1000
5	0	700
6	0	500
7	0	300
8	0	0
9	0	0
10	0	0

Background

Rainfall last week totaled approximately 0.14 inches District-wide. Rainfall for the month is 0.27 inches (16% of average). Although there are potentially 3 frontal systems moving through the District the next two weeks, the rainfall outlook for the next 14 days is still projected to be below average.

Kissimmee Watershed

In the last 7 days, the upper basin received 0.21 inches of rainfall to bring the 30 day total to 0.32 inches, which is 14% of normal. The lower basin received 0.23 inches, which brings the 30 d total to 0.26 inches or 15% of normal. Most of the upper basin lakes have stages that approximate their respective regulation schedules. Lake Kissimmee is approximately 1 ft below schedule. Discharges at S-65 are approximately 1200 cfs.

Lake stage is in Zone D. Tributary conditions are normal and the seasonal condition is dry. The decision tree calls for no releases to tide and releases southward with minimal or no impact.

C: George Horne

Bob Howard