

**MEMORANDUM**

To: USACE Colonel Jason A. Kirk, LTC Jennifer A. Reynolds, Richard McMillen, Kim Taplin, SFWMD Governing Board, Executive Director Ernie Marks, Terrie Bates, Susan Gray, DEP Secretary Noah Valenstein

From: Periodic Scientists Conference Call Participants  
 Paul Tritaik - J.N. "Ding" Darling National Wildlife Refuge (NWR) Complex  
 James Evans & Holly Milbrandt - City of Sanibel  
 Keith Kibbey & Lesli Haynes - Lee County  
 Rae Burns – Town of Fort Myers Beach  
 Connie Jarvis & Harry Phillips – City of Cape Coral  
 Rae Ann Wessel & Rick Bartleson, Ph.D.-Sanibel Captiva Conservation Foundation

Subject: Caloosahatchee & Estuary Condition Report

Reporting Period: **August 8 - 14, 2017**

This report provides a scientific assessment of Caloosahatchee River and Estuary conditions and how these conditions affect the health, productivity and function of the system.

**Caloosahatchee Condition Summary:** The past week freshwater flows at S-79 averaged **1,287 cfs**. **High colored dissolved organic matter (CDOM) continues to attenuate light throughout the estuary.**

**USACE Action:** The USACE delivered minimal flows of **47 cfs** to the Caloosahatchee the past week. No discharge from Lake Okeechobee to the St Lucie estuary at S-80.

**DEP Emergency Order:** On 6/23/17 DEP issued an emergency order to allow temporary operational changes to minimize flooding south of Lake Okeechobee. The SFWMD stopped back pumping to Lake O from the EAA on 7/5/17.

**Recommendation:** We recommend continuing no releases to the Caloosahatchee from Lake Okeechobee while the Lake is relatively low and the Caloosahatchee is receiving adequate freshwater flow from the watershed. We encourage the use of all available watershed storage capacity within distributed storage projects and other lands owned or under contract by the State to avoid harmful flows to the estuary.

**Lake Okeechobee Level:** 13.31 ft. (Base Flow Sub-Band) Last week: 13.09 ft

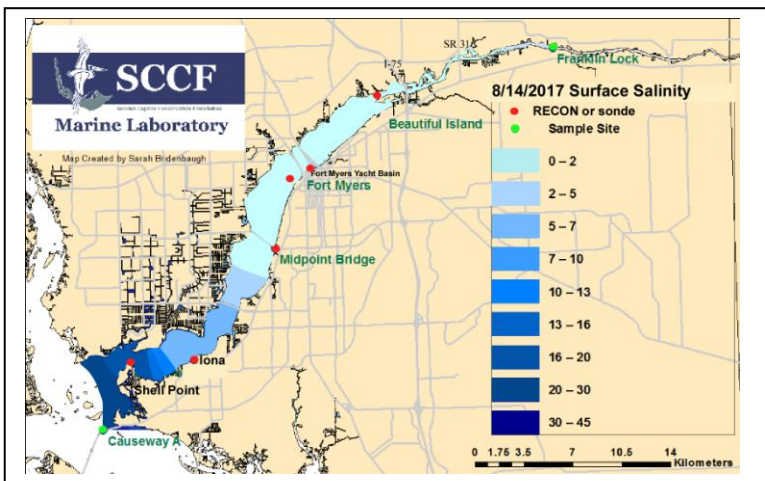
**Lake Okeechobee Inflow:** 5,138 cfs **Lake Okeechobee Outflow:** NR

**Weekly Rainfall:** WP Franklin 1.63" Ortona 2.18" Moore Haven 2.49"

**Salinity Beautiful Island:** ND (SCCF RECON Marker 18) Previous wk ND

**Salinity Fort Myers:** 0.3 - 0.6 psu (SCCF RECON) Previous wk 0.3 - 0.8 psu

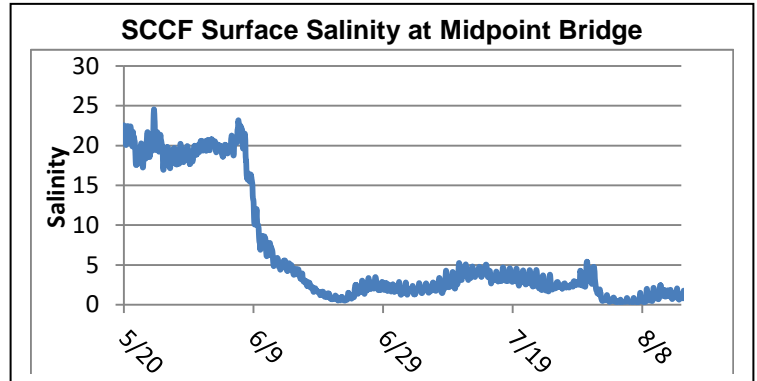
**Salinity Shell Point:** 10 - 28 psu (SCCF RECON) Previous wk 8 - 28 psu



Salinity (psu)			
	Current Value	Sustainable Range	High/Low
Beautiful Is	ND	< 5 psu	-
Fort Myers	0.3 - 0.6	<10 psu	In Range
Shell Point	10 - 28	25 - 32 psu	In Range
Light (25% I <sub>z</sub> depth meters)			
Fort Myers	0.51	1 meter	Low
Shell Point	1.17	2.2 meters	Low
Causeway	1.49	2.2 meters	Low

**Flow & Water Quality:** Flows to the Caloosahatchee Estuary at S-79 during the past seven days averaged **1,287 cfs**. Over the past 14 days **more than 14,610 acre feet of water backflowed into Lake Okeechobee**; approximately **72%\*** from S-308, a net backflow of 9% from L8 and a net backflow of 18% from S-310. Only 5,933 AF of water was discharged from the Lake; 77% to the EAA and 15% to S-77 and 8% from the L8. (\*Flow records not available).

Date	S79 Flow (cfs)	S78 Flow (cfs)	S77 Flow (cfs)
8/8/2017	1302	396	99
8/9/2017	826	93	0
8/10/2017	339	0	102
8/11/2017	1038	0	128
8/12/2017	1108	393	0
8/13/2017	1755	881	0
8/14/2017	2639	1244	0
<b>7 day Avg</b>	<b>1287</b>	<b>430</b>	<b>47</b>



**Upstream of S-79/Franklin Conditions:** On 8/10/17 Lee County Environmental Lab detected *Microcystis cyanobacteria* upstream of the Franklin Locks. On 8/15/17 the Olga Water Treatment plant chlorides measured **60 mg/L**, apparent color was **158 CU** and turbidity measured **2.22 NTU**. No visible algae in the plant intake the past week. The plant is online running at 2000 GPM.

**Upper Estuary Conditions:** On 8/10/17 Lee County Environmental Lab detected *Microcystis cyanobacteria* downstream of the Franklin Locks and at the Davis Boat Ramp. Salinity at Fort Myers was in the acceptable range for tape grass. Dissolved oxygen at the Fort Myers RECON sensor dropped into the hypoxic range during the week and averaged below 50% saturation for the 5<sup>th</sup> week in a row.

**Lower Estuary Condition:** The average salinity at Shell Point, **19 psu**, was in the optimal range for oysters, but below optimal for seagrasses.

**J.N. "Ding" Darling NWR:**

Monitor Site	Salinity (psu)	Diss O <sub>2</sub> (mg/L)	FDOM (qsde)	Chlorophyll (µg/L)
McIntyre Creek	24.2 – 26.5	2.1 – 8.2	18.2 – 25.3	3.0– 7.6
Tarpon Bay	24.2 – 28.4	3.1 – 7.7	20.9 – 30.7	2.5 – 6.4

**Beach Conditions:** Sight accumulations of red drift and green algae on Sanibel and Fort Myers Beaches.

**Red Tide:** On 8/11/17 the Florida Fish and Wildlife Conservation Commission reported the Florida red tide organism, *Karenia brevis*, was present in Pinellas and Franklin Counties but was not found in Southwest Florida the past week.

**Wildlife Impacts:** SCCF reported **2 sea turtle deaths**. One juvenile loggerhead with no obvious cause of death and one small green on the causeway with prop wounds.

Caloosahatchee Stations	Chlorophyll (µg/L)	fDOM (qse)	Turbidity (NTU)	25% I <sub>0</sub> depth (meters)
Target Values	< 11	CE <70 SCB <11	CE < 18 SCB < 5	CE = 1 m SCB = 2.2m
Fort Myers	15	350	3.0	0.51
Shell Point	7.6	104	2.8	1.17
Causeway	3.4	73.6	1.9	1.49

Target light penetration: **CE**- Caloosahatchee Estuary =1 m  
**SCB**-San Carlos Bay = 2.2 meters  
 Definition of 25% I<sub>z</sub>: z where I is 25% of surface I.  
 I = irradiance, z= depth

