

**MEMORANDUM**

To: USACE Colonel Jason A. Kirk, LTC Jennifer A. Reynolds, Richard McMillen, Kim Taplin, SFWMD Governing Board, Executive Director Peter Antonacci, Terrie Bates, Susan Gray, Peter Doering, DEP Secretary Ryan Matthews

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 Blake – 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: **March 7 - 13, 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:** Freshwater flow into the estuary at S-79 during the past week averaged **736 cfs**. **Flows are currently meeting the MFL targets established for the Caloosahatchee. Drift algae has reduced on Fort Myers Beach. Red tide persists in coastal waters, but no impacts were reported on Sanibel or Fort Myers Beach.**

**USACE Action:** The USACE continued flows to the Caloosahatchee with a 7-day average target of **650 cfs** measured at S-79 with no discharge from Lake Okeechobee to the St Lucie estuary at S-80.

**Recommendation:** We request maintaining freshwater pulses to provide adequate flows to prevent estuary harm. We request a Periodic Scientist call at least every two weeks.

**Lake Okeechobee Level:** 13.06 ft. (Base Flow Sub-Band) Last week: 13.24 ft

**Lake Okeechobee Inflow:** 669 cfs **Lake Okeechobee Outflow:** 4,780 cfs

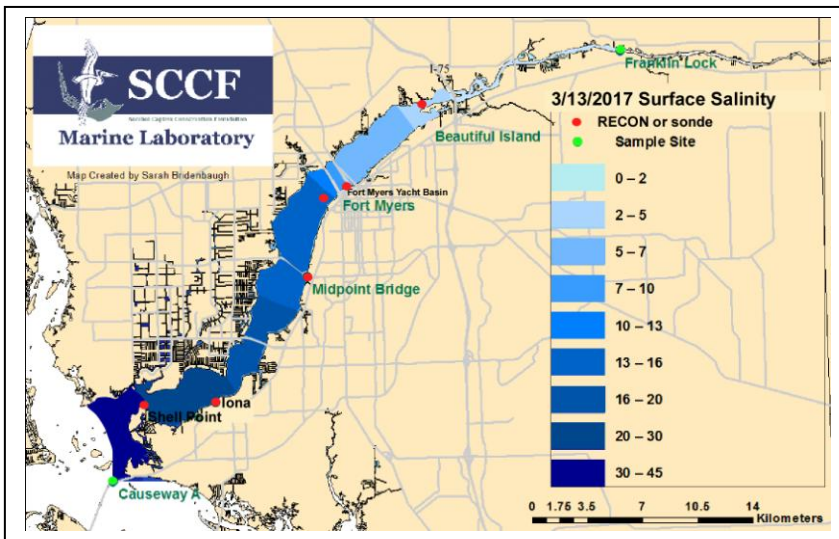
**Weekly Rainfall:** WP Franklin 0.15" Ortona 0.10" Moore Haven 0.08"

**Salinity Beautiful Island:** 2.2 – 5.5 psu (SCCF RECON Marker 18) Previous wk 1.9 – 5.0 psu

**Salinity Fort Myers:** 9.4 – 13 psu (SCCF Yacht Basin) Previous wk 6.0 – 12 psu

**MFL Status:** In compliance; 30-day moving average  $\leq 10$  psu at surface

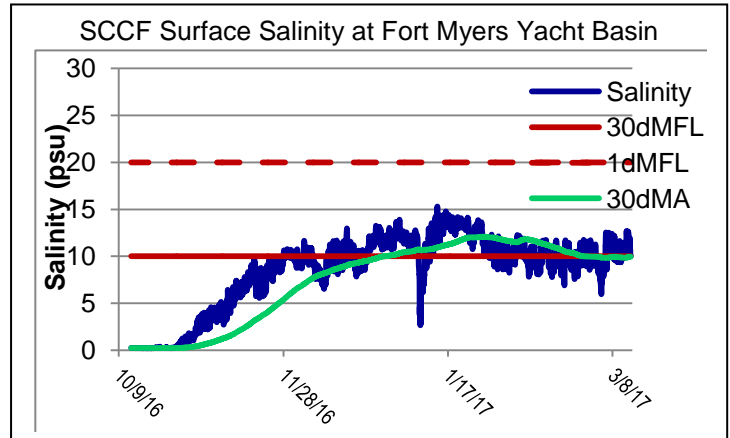
**Salinity Shell Point:** 24 – 34 psu (SCCF RECON) Previous wk 19 – 33 psu



Salinity (psu)			
	Current Value	Sustainable Range	High/Low
Beautiful Is	2.2 – 5.5	< 5 psu	In Range
Fort Myers	9.4 – 13	<10 psu	In Range
Shell Point	24 – 34	25 - 32 psu	High
Light (25% I <sub>z</sub> depth meters)			
Tarpon Bay	2.12	2.2 meter	Low
Causeway	2.05	2.2 meter	Low
E Sanibel	2.34	2.2 meters	In Range

**Flow & Water Quality:** Flows to the Caloosahatchee Estuary at S-79 during the past seven days averaged **736 cfs**. Over the past 14 days **30%** of Lake Okeechobee outflow was directed to the Caloosahatchee at S-77, **10%** was delivered to the St Lucie at S-308, **54%** was delivered south to the EAA, **5%** was directed to the L8 and **1%** through S310.

ACOE Daily Reports				
Date	Day	S79 Flow (cfs)	S78 Flow (cfs)	S77 Flow (cfs)
3/7/2017	Tues	683	543	968
3/8/2017	Wed	354	342	646
3/9/2017	Thur	348	343	746
3/10/2017	Fri	808	546	896
3/11/2017	Sat	1100	743	1107
3/12/2017	Sun	990	859	1314
3/13/2017	Mon	868	691	1094
<b>7 day Avg</b>		<b>736</b>	<b>581</b>	<b>967</b>



**Upstream of S-79/Franklin Conditions:** On 3/14/17 the Olga Water Treatment plant chlorides measured **56 mg/L**, apparent color was **50 CU** and turbidity measured **1.31 NTU**. No visible algae was noted at the plant intake the past week. The plant is online at 2,000 GPM.

**Upper Estuary Conditions:** The weekly average salinity at Fort Myers (**11 psu**) was above the suitable range for tape grass.

**Lower Estuary Condition:** The average salinity at Shell Point (**30 psu**) was in the optimal range for seagrass but **above** the optimal range for oysters.

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

Monitor Site	Salinity (psu)	Diss O <sub>2</sub> (mg/L)	FDOM (qsde)	Chlorophyll (µg/L)
McIntyre Creek	32.3 - 33.4	3.5 - 11.5	11.5 - 18.9	1.9 - 4.7
Tarpon Bay	32.9 - 34.8	5.7 - 8.6	5.7 - 14.6	1.8 - 5.8

**Beach Conditions:** Drift algae has reduced along Fort Myers Beach.

**Red Tide:** On 3/10/17, FWC reported *Karenia brevis*, the Florida red tide organism, persists in **Southwest Florida from southern Pinellas to Lee Counties with background to low concentrations in samples collected from Lee County.**

**Manatees:** Lee county park staff reported up to **21 manatees** including **4 calves** in the warm water of the Orange River and FPL canal the past week. River temperatures ranging from **68 - 75° F** the past week.



Caloosahatchee Stations	Chlorophyll (µg/L)	fDOM (qse)	Turbidity (NTU)	25% lo depth (meters)
<b>Target Values</b>	< 11	CE <70 SCB <11	CE < 18 SCB < 5	CE = 1 m SCB = 2.2m
<b>Tarpon Bay</b>	5.8	22.1	2.1	2.12
<b>Causeway</b>	6.8	23.0	2.3	2.05
<b>E Sanibel</b>	2.5	12.6	3.1	2.34

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