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: **April 4 - 10, 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 increased to an average of **726 cfs. The Caloosahatchee continues to exceed its Minimum Flow & Level (MFL) salinity at Fort Myers. Salinity is also above the suitable level for tapegrass in the middle and upper estuary and oysters in the lower estuary. Cyanobacteria was observed at the Alva Boat Ramp.**

USACE Action: On March 31,2017 the USACE continued flows to the Caloosahatchee with a 7-day average target of **450 cfs** measured at S-79 and 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. **If reduced flows are to be implemented, reductions should be made to all users. We request weekly calls to provide input on current conditions.**

Lake Okeechobee Level: **12.21 ft**. (**Beneficial Use Sub-Band**) **Last week**: **12.4 ft**

Lake Okeechobee Inflow: **287 cfs** **Lake Okeechobee Outflow:** **4,309 cfs**

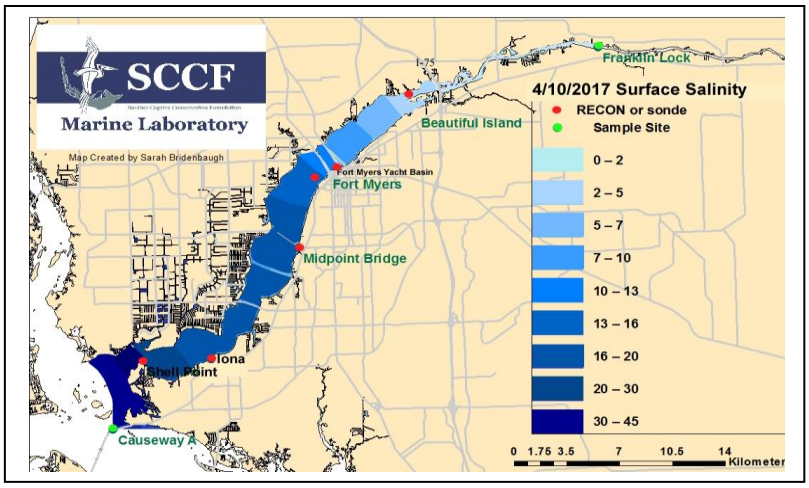
Weekly Rainfall: WP Franklin **0.05"** Ortona **0"** Moore Haven **0.01"**

Salinity Beautiful Island: **3.1 - 6.6 psu** (SCCF RECON Marker 18) Previous wk **3.2 - 7.4 psu**

Salinity Fort Myers: **8.2 – 14 psu** (SCCF Yacht Basin) Previous wk **10 – 15 psu**

MFL Status: **MFL Exceedance; 30-day moving average ≥10 psu at surface**

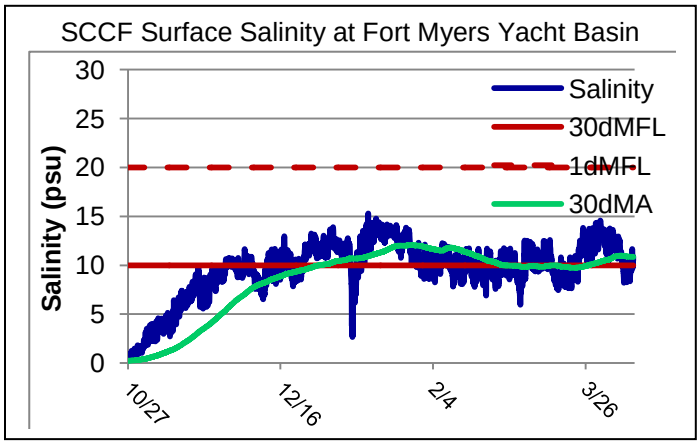
Salinity Shell Point: **25 – 35 psu** (SCCF RECON) Previous wk **26 – 35 psu**



Salinity (psu)			
	Current Value	**Sustainable Range**	**High/ Low**
Beautiful Is	**3.1 - 6.6**	**< 5 psu**	**High**
Fort Myers	**8.2 – 14**	**<10 psu**	**MFL Exceed**
Shell Point	**25 – 35**	**25 - 32 psu**	**High**
Light (25% Iz depth meters)			
Old Bridge	**0.98**	**1 meter**	**Low**
Causeway	**2.33**	**1 meter**	**In Range**
E Sanibel	**2.41**	**2.2 meters**	**In Range**

Flow & Water Quality: Flows to the Caloosahatchee Estuary at S-79 during the past seven days averaged **726 cfs.** Over the past 14 days **19.5%** of Lake Okeechobee outflow was directed to the Caloosahatchee at S-77, **2.5%** was delivered to the St Lucie at S-308, **74%** was delivered south to the EAA, **2.5%** was directed to the L8 and **1.5%** to S310.

Date	Pulse Target	S79 Flow (cfs)	S78 Flow (cfs)	S77 Flow (cfs)
4/4/2017	**200**	**1093**	**531**	**0**
4/5/2017	**100**	**769**	**530**	**0**
4/6/2017	**0**	**780**	**451**	**0**
4/7/2017	**850**	**462**	**340**	**300**
4/8/2017	**1000**	**771**	**570**	**792**
4/9/2017	**700**	**792**	**690**	**960**
4/10/17	**300**	**416**	**689**	**932**
7 day Avg	**450**	**726**	**543**	**426**



Upstream of S-79/Franklin Conditions: On 4/11/17 the Olga Water Treatment plant chlorides measured **58 mg/L**, apparent color was **53 CU** and turbidity measured **1.12NTU.** No visible algae was noted at the plant intake the past week. The plant is off line for maintenance.

On 4/6/17 Lee County Environmental Lab found a small patch of cyanobacteria near the Alva Boat Ramp consisting of *Dolichospermum, Microcystis, Aphanizomenon.*

Upper Estuary Conditions: The salinity at Fort Myers is above the suitable range for tape grass.

Lower Estuary Condition: The average salinity at Shell Point, **31 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_2 (mg/L)	FDOM (qsde)	Chlorophyll (µg/L)
McIntyre Creek	**35.1 – 36.4**	**2.2 – 8.7**	**6.4 – 18.2**	**2.7 - 78.4**
Tarpon Bay	**35.0 – 35.9**	**4.7 – 7.3**	**5.7 – 11.5**	**2.4 – 6.9**

Red Tide: On 4/7/17, 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. Respiratory irritation was reported at Bowman's Beach on Sanibel and fish kills were reported at Bonita Beach.**

Shellfish Advisory: On 4/6/17The Florida Department of Agriculture and Consumer Services is temporarily **closed #6212 Pine Island Sound West Aquaculture Use Zones** for the harvest of oysters, clams, and mussels due to presence of *Karenia brevis.* The closure does not include scallops, shrimp, or crabs.

Caloosahatchee Stations	Chlorophyll (µg/L)	fDOM (qse)	Turbidity (NTU)	25% Io depth (meters)
Target Values	**< 11**	**CE <70 SCB <11**	**CE < 18 SCB < 5**	**CE = 1 m SCB = 2.2m**
Old Bridge	**6.1**	**138**	**4.1**	**0.98**
Causeway	**3.0**	**8.6**	**3.8**	**2.33**
E Sanibel	**2.9**	**2.9**	**4.3**	**2.41**

Target light penetration: ***CE****- Caloosahatchee Estuary =1 m*

SCB*-San Carlos Bay = 2.2 meters*

Definition of 25% Iz: ***z where I is 25% of surface I.***
I *= irradiance,* ***z****= depth*