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 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: **June 13 - 19, 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 **4,496 cfs. Water color has darkened significantly with the higher runoff over the past 2 weeks. All water came from the watershed with no flow from Lake Okeechobee.**

USACE Action: The USACE discontinued flows to the Caloosahatchee on June 3, 2017 due to significant rainfall throughout the region. No discharge from Lake Okeechobee to the St Lucie estuary at S-80.

Recommendation: We request the Corps continue no releases to the Caloosahatchee from Lake Okeechobee until excessively high watershed flows subside. As capacity becomes available we encourage the use of as much watershed storage as possible.

Lake Okeechobee Level: **12.15 ft**. (**Base Flow Sub-Band**) **Last week**: **11.79 ft**

Lake Okeechobee Inflow: **4,775 cfs** **Lake Okeechobee Outflow:** **-1,458 cfs**

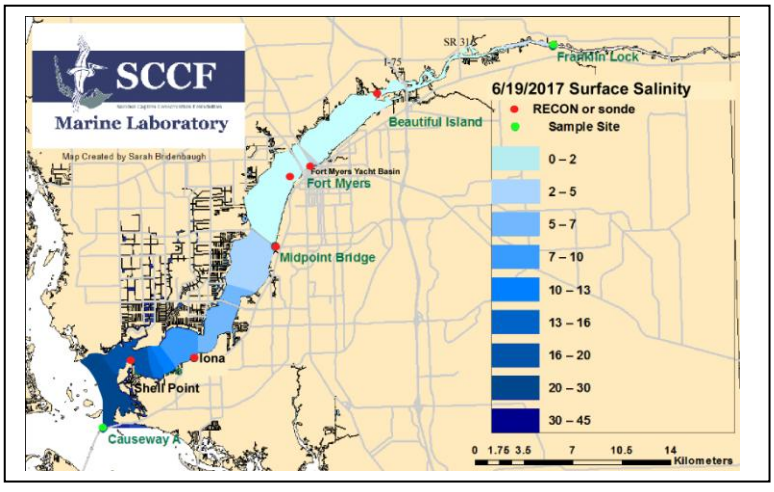
Weekly Rainfall: WP Franklin **4.32"** Ortona **1.85"** Moore Haven **1.87"**

Salinity Beautiful Island: **0.3 - 0.7 psu** (SCCF RECON Marker 18) Previous wk **0.3 - 9.2 psu**

Salinity Fort Myers: **0.4 - 3.3 psu** (SCCF Yacht Basin) Previous wk **2.0 - 16 psu**

MFL Status: **MFL Exceedance of the 30-day moving average ≥10 psu: 85 days since 3/28/17**

Salinity Shell Point: **7.8 - 31 psu** (SCCF RECON) Previous wk **13 - 36 psu**

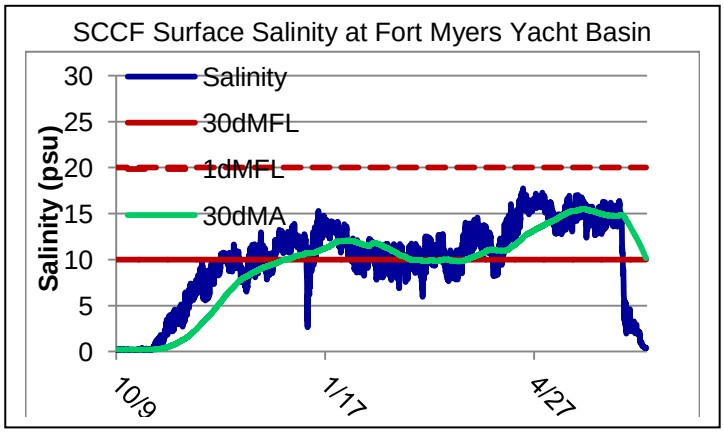


Salinity (psu)			
	Current Value	**Sustainable Range**	**High/ Low**
Beautiful Is	**0.3 – 0.7**	**< 5 psu**	**In Range**
Fort Myers	**0.4 - 3.3**	**<10 psu**	**In Range**
Shell Point	**7.8 - 31**	**25 - 32 psu**	**In Range**

Light (25% Iz depth meters)			
Beautiful Is	**0.75**	**1 meter**	**Low**
Fort Myers	**0.70**	**1 meter**	**Low**
Shell Pointe	**1.21**	**2.2 meters**	**Low**

Flow & Water Quality: Flows to the Caloosahatchee Estuary at S-79 during the past seven days averaged **4,496 cfs.** Over the past 14 days **93,832 acre feet back flowed into Lake Okeechobee from all outlets except S-77. S-308 back flowed 55%, the L8 17%, S-310 16% and the EAA back flowed 12%**.

Date	S79 Flow (cfs)	S78 Flow (cfs)	S77 Flow (cfs)
6/13/2017	3761	1630	0
6/14/2017	3732	1657	0
6/15/2017	4300	1650	0
6/16/2017	6053	1650	0
6/17/2017	6045	2269	0
6/18/2017	3520	1229	0
6/19/2017	4061	951	0
7 day Avg	4496	1577	0



Upstream of S-79/Franklin Conditions: On 6/20/17 the Olga Water Treatment plant chlorides measured **52 mg/L**, apparent color was **167 CU** and turbidity measured **2.33 NTU.** No visible algae at the plant intake the last 5 days. The plant is off line for maintenance.

Upper Estuary Conditions: On 6/15/17 the Lee County Lab reported the presence of cyanobacteria, *Microcystis* and *Dolichospermum,* at the Davis Boat Ramp. The salinity at Fort Myers was in the acceptable range for tape grass. **Chlorophyll from nanocyanos spiked to over 60 µg/L at Fort Myers on 6/13/17** but decreased as salinity dropped. **Dissolved oxygen concentrations at Beautiful Island RECON went hypoxic daily during the week**, while at Fort Myers, the average concentration increased from 2 to 4 mg/L as salinities dropped.

Lower Estuary Condition: The average salinity at Shell Point, **20 psu**, was in the optimal range for oysters but **below the optimal range for seagrass.**

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

Monitor Site	Salinity (psu)	Diss O_2 (mg/L)	FDOM (qsde)	Chlorophyll (µg/L)
McIntyre Creek	**27.4 – 29.0**	**3.3 – 9.6**	**13.4 – 17.2**	**2.1 – 6.1**
Tarpon Bay	**25.2 – 31.4**	**5.0 – 8.5**	**11.1 – 23.0**	**2.0 – 7.1**

Red Tide: On 6/16/17 the Florida Fish and Wildlife Conservation Commission reported the Florida red tide organism, *Karenia brevis,* was not observed in samples collected in Counties south of Sarasota.

Shellfish Advisory: On 6/8/17 the Florida Dept of Agriculture and Consumer Services temporarily **closed #6222 Pine Island Sound Section 2 Shellfish Harvest Area (Matlacha Pass)** for the harvest of oysters, clams, and mussels. In this context, shellfish 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**
Beautiful Is	12.1	210	2.0	0.75
Fort Myers	15.2	210	5.5	0.70
Shell Point	13.9	98.3	2.8	1.21

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*