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
Harry Phillips – City of Cape Coral
Rae Ann Wessel & Rick Bartleson, Ph.D.-Sanibel Captiva Conservation Foundation

Subject: Caloosahatchee & Estuary Condition Report

Reporting Period: **May 15 - 21, 2018**

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: Average flows of 3,053 cfs during the past week reduced salinity at the Fort Myers Yacht Basin below the 10 psu harm threshold. While recent rainfall has reduced salinities throughout the estuary, the 30-day moving average salinity at the Fort Myers Yacht Basin has exceeded the MFL for the past 83 consecutive days. **Red tide continues to affect birds and sea turtles along the coast.**

USACE Action: Since 1/12/18 the Army Corps has continued flows from Lake Okeechobee through pulse releases with an average target flow for the Caloosahatchee Estuary of **650 cfs** at S-79 and no releases to the St Lucie at S-80.

Recommendation: In order to maintain a manageable level for Lake Okeechobee we ask that flows be released at S77. However, we request that the average flow stay below 2,800 cfs at S79, due to the abundant rainfall.

Lake Okeechobee Level: 13.57 ft. (Low Flow Sub-Band) **Last week: 13.04 ft.**

Lake Okeechobee Inflow: 6,202 cfs **Lake Okeechobee Outflow: 0 cfs**

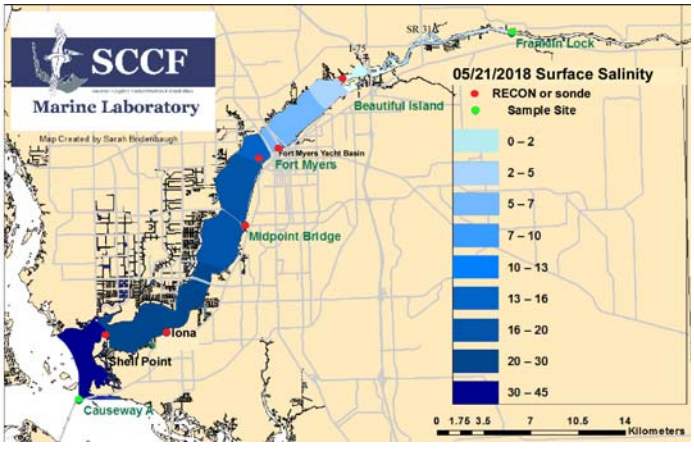
Weekly Rainfall: WP Franklin 2.45" Ortona 4.04" Moore Haven *3.77"

Salinity Beautiful Island: **0.7-7.7psu** (SCCF RECON Marker 18) **Previous week 3.0-6.9 psu**

Salinity Fort Myers: **9.5-17 psu** (SCCF RECON) **Previous week 13-18 psu**

MFL Status: Exceedance = **83 days** **30 day moving average: 10.7 psu** **Previous week: 11.3 psu**

Salinity Shell Point: **20-35 psu (**SCCF RECON) **Previous week 23 - 35 psu**



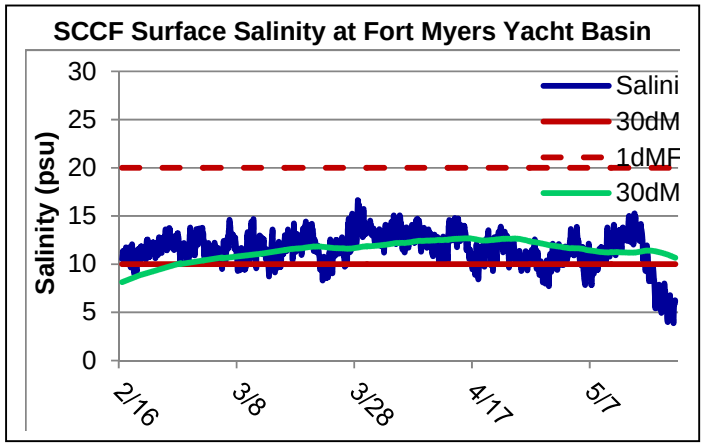
(*One or more days not reported)

Salinity (psu)			
	Current Value	Sustainable Range	High/ Low
Beautiful Is	0.7-7.7	< 5 psu	High
Fort Myers	9.5-17	<10 psu	High
Shell Point	20-35	25 - 32 psu	High

Light (25% Iz depth meters)			
Fort Myers	0.87	1 meter	Low
Shell Point	1.58	2.2 meters	Low
Causeway	2.39	2.2 meters	In Range

Flow & Water Quality: Flows to the Caloosahatchee Estuary at S-79 during the past seven days averaged **3,053 cfs.** Over the past 14 days **14,616 AF** of water was discharged from Lake O, **59% to S-77, 4% to S-308, 37% of water from Lake O was discharged south to the EAA.** Back flow of **9,278 AF** occurred at **L8,** and back flow of **1,871 AF** occurred at S-310.

ACOE Daily Reports			
Date	**S79 Flow (cfs)**	**S78 Flow (cfs)**	**S77 Flow (cfs)**
5/15/2018	**3577**	**2233**	**0**
5/16/2018	**3337**	**1405**	**0**
5/17/2018	**3143**	**1739**	**0**
5/18/2018	**2613**	**1846**	**0**
5/19/2018	**3048**	**1715**	**263**
5/20/2018	**2377**	**1486**	**0**
5/21/2018	**3276**	**1976**	**0**
7 day Avg	**3053**	**1771**	**38**



Upstream of S-79/Franklin Conditions: Sampling by Lee County Environmental Lab on 5/22/18 reported accumulation of 3 cyanobacteria species on the upstream side of S-79: *Microcystis, Dolichospermum and Planktothrix.* On 5/22/18 the Olga Water Treatment plant reported chlorides of **57 mg/l**, apparent color 91 **CU** and turbidity 4.05 **NTU**. No visible algae reported at the plant intake the past week. The plant remains off line for maintenance.

Upper Estuary Conditions: The weekly average salinity (8.7) is in **the suitable range for tape grass**, which is growing between the Caloosahatchee Bridge and Beautiful Island. Water column chlorophyll was elevated at Beautiful Island.

Lower Estuary Conditions: The average salinity at Shell Point, **30 psu**, was **above the optimal range for oysters, but the daily average dropped into the suitable range on 5/21/18.**

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

Monitor Site	Salinity (psu)	Diss O_2 (mg/L)	FDOM (qsde)	Chlorophyll (µg/L)
McIntyre Creek	**33.9 – 35.4**	**5.0 – 12.8**	**7.4 – 17.1**	**1.6 – 56.7**
Wulfert Flats	**34.1 – 35.4**	**3.6 – 7.0**	----------	**8.8 – 20.2**
Wildlife Drive	**34.6 – 36.6**	**0.8 – 13.6**	----------	**0.8 – 6.2**

***Beach Conditions**:* No major drift algae were reported along Sanibel beaches.

Red Tide: On 5/18/18 the Florida Fish and Wildlife Conservation Commission reports that the Florida red tide organism, *Karenia brevis* persists in Charlotte, Lee and Collier Counties with background to medium concentrations in 8 samples collected from Lee County. A water sample SCCF collected at Tarpon Beach on 5/17/18 contained medium concentrations of *Karenia*.

Wildlife Impacts: The past week, CROW, the wildlife hospital on Sanibel, treated 9 new patients with red tide symptoms; 3 double crested cormorants, 2 brown pelicans, 2 white ibis, 1 laughing gull, and 1 sanderling. **SCCF reported one stranding on 5/20/18. The stranded adult female loggerhead was brought to CROW and euthanized due to trauma.**

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**
Fort Myers	**15**	**161**	**2.5**	**0.87**
Shell Point	**3.8**	**63.6**	**1.9**	**1.58**
Causeway	**2.2**	**8.3**	**3.6**	**2.39**

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*