MEMORANDUM

To: USACE Colonel Andrew D. Kelly, LTC Jennifer A. Reynolds, Richard McMillen, Kim Taplin, SFWMD Governing Board, Executive Director Drew Bartlett, Susan Gray, Lawrence Glenn, DEP Secretary Noah Valenstein

From: Periodic Scientists Conference Call Participants
Paul Tritaik & Jeremy Conrad - J.N. "Ding" Darling National Wildlife Refuge (NWR) Complex
James Evans & Holly Milbrandt - City of Sanibel
Lesli Haynes & Lisa Kreiger - Lee County
Harry Phillips & Maya Robert – City of Cape Coral
Rae Ann Wessel & Rick Bartleson, Ph.D.-Sanibel Captiva Conservation Foundation

Subject: Caloosahatchee & Estuary Condition Report

Reporting Period: **August 13 - 19, 2019**

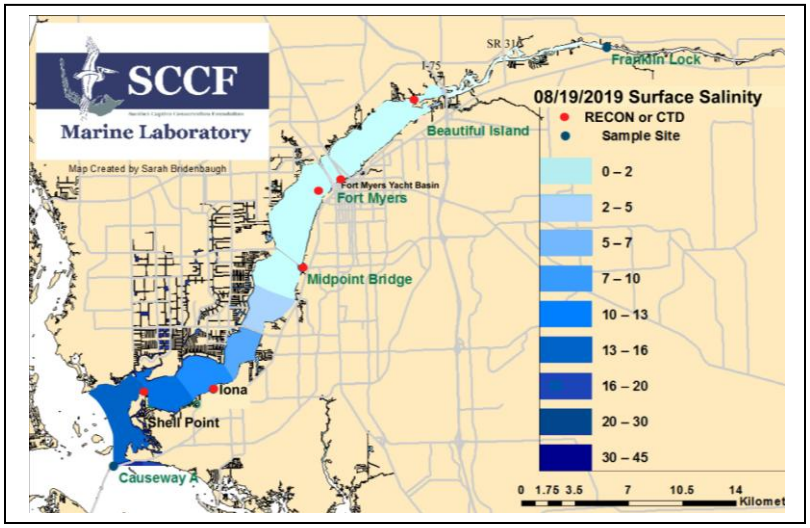
This report provides a scientific assessment of Caloosahatchee River and Estuary conditions and how these conditions affect the health, productivity and function of the system.

Caloosahatchee Condition Summary: Caloosahatchee flows increased the past week to an average of **7,293 cfs at S-79. With no discharge from Lake Okeechobee since 7/28/19, the harmful, high flows are coming from watershed runoff in the west basin, between S-79 and S-78.**

USACE Action: On 7/28/19 the Corps stopped releases to the Caloosahatchee from Lake Okeechobee at the Moore Haven Lock, **S-77** due to high estuary flows from the watershed. St. Lucie estuary flows at **S-80** remain at **zero cfs.**

Recommendation: We recommend that the Corps continue to withhold releases from Lake Okeechobee at S-77 while the estuary is receiving high flows, above the harm threshold, from the watershed above S-79.

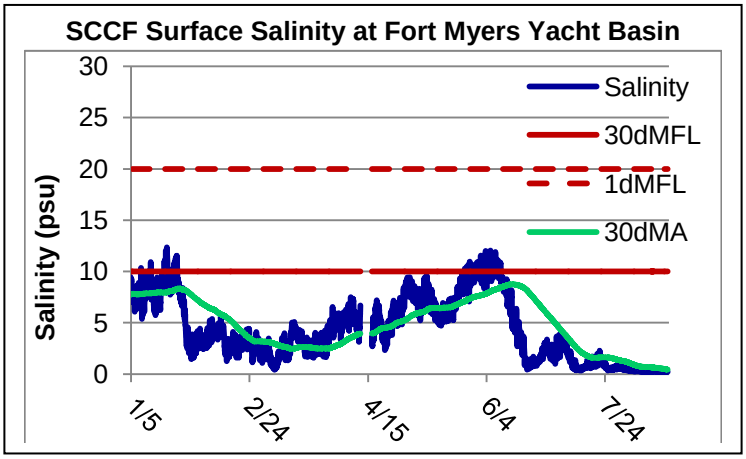
Lake Okeechobee Level:	**13.06 ft. (Baseflow Band)**		**Last week: 12.38 ft.**
Lake Okeechobee Inflow:	**15,050 cfs**		**Lake Okeechobee Outflow: 0 cfs**
Weekly Rainfall:	WP Franklin **1.60"**	Ortona **2.13"**	Moore Haven **3.58"**
Salinity Beautiful Island:	**0.2 - 0.2 psu**	(SCCF RECON Marker 18)	**Previous week 0.2 - 0.3 psu**
Salinity Fort Myers:	**0.2 - 0.2 psu**	(SCCF RECON)	**Previous week 0.2 - 1.9 psu**
Salinity Shell Point:	**0.5 - 28 psu**	(SCCF RECON)	**Previous week 2.7 - 28 psu**



Salinity (psu)			
	Current Value	**Sustainable Range**	**High/ Low**
Beautiful Is	**0.2 - 0.2**	**< 5 psu**	**In Range**
Fort Myers	**0.2 - 0.2**	**<10 psu**	**In Range**
Shell Point	**0.5 - 28**	**25 - 32 psu**	**Low**
Light (25% Iz depth meters)			
Fort Myers	**0.58**	**1 meter**	**Low**
Shell Point	**0.83**	**2.2 meters**	**Low**
Causeway	**0.96**	**2.2 meters**	**Low**

Lake Flows: The past 7 days **5,494 AF** of water was discharged from Lake Okeechobee**; 97%** to the Caloosahatchee thru **S-77, 3% AF to the St Lucie, zero AF** were discharged south to the **EAA, -3,845 AF back flowed into the lake from the L8** and **-1,181 AF back flowed from S-310.**

ACOE Daily Reports			
Date	S79 Flow (cfs)	S78 Flow (cfs)	S77 Flow (cfs)
8/13/2019	7394	1853	0
8/14/2019	6231	2090	0
8/15/2019	7125	1958	0
8/16/2019	8438	2086	0
8/17/2019	7198	2050	0
8/18/2019	7659	2001	0
8/19/2019	7004	1872	0
7 day Avg	7293	1987	0



Cyanobacteria Status: On 8/20/19 NOAA satellite imagery for **Lake Okeechobee reported medium bloom potential coverage of 25% in the north east area of the lake.** In the Caloosahatchee, Lee County Environmental Lab sampling on 8/20/19 reported **no *Microcystis* cyanobacteria at any of their sampling sites.**

Upstream of S-79/Franklin Conditions: On 8/20/19 the Olga Water Treatment plant reported chlorides of **37 mg/L,** apparent color **241 CU** and turbidity **3.09 NTU.** No visible algae reported at the plant intake. Plant is online at 1,400 GPM.

Upper Estuary Conditions: The weekly average salinity at the Fort Myers Yacht Basin was **0.3 psu**, in the suitable range for tape grass growing between the Caloosahatchee US 41 Bridges and Beautiful Island**. Hypoxia was detected daily at the Beautiful Island RECON with DO averaging 2.6 mg/L.**

Lower Estuary Conditions: The average salinity at the Shell Point RECON was **13 psu,** below the optimal range for oysters and seagrass. **Hypoxia was detected at the Shell Point RECON on three days this week.**

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

Monitor Site	Salinity	Diss O2 (mg/L)	FDOM (qsde)	Chlorophyll (µg/L
McIntyre Creek	17.1 – 26.2	1.7 – 11.1	16.2 – 35.7	2.8 – 15.2
Tarpon Bay	18.3 – 30.4	3.3 – 8.7	10.2 – 29.6	2.1 – 11.9
Wulfert Flats	7.7 – 28.3	2.8 – 11.3	----------	6 – 43.1

Beach Conditions: Moderate amounts of drift algae washed up on some Sanibel gulf beaches.

Shellfish Advisory: On **8/18/19** the Florida Department of Agriculture and Consumer Services **closed shellfish harvest area #6222 Pine Island Sound Section 2 (Matlacha Pass). Area #6212 Pine Island Sound Section 1 remains closed since 6/18/19 due to the presence of *Pyrodinium bahamense.***

*** WILD OYSTER HARVEST SEASON IS CLOSED FOR THE MONTHS OF JULY-SEPTEMBER FROM PINELLAS TO COLLIER COUNTIES ***

Wildlife Impacts: The past week, CROW the wildlife hospital on Sanibel, **treated 2 laughing gulls & 1 black skimmer for toxicosis symptoms. SCCF reported two dead sea turtles: 1 loggerhead on Sanibel and 1 green on Captiva.**

Caloosahatchee Stations	Chlorophyll (µg/L)	fDOM (qse)	Turbidity (NTU)	25% Iz depth (meters)
Target Values	< 11	CE <70 SCB <11	CE < 18 SCB < 5	CE = 1 m SCB = 2.2m
Fort Myers	8.7	298	3.5	0.58
Shell Point	3.6	188	3.2	0.83
Causeway	3.8	159	1.9	0.96

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