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
Rae Burns – Town of Fort Myers Beach
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: **May 21 - 27, 2019**

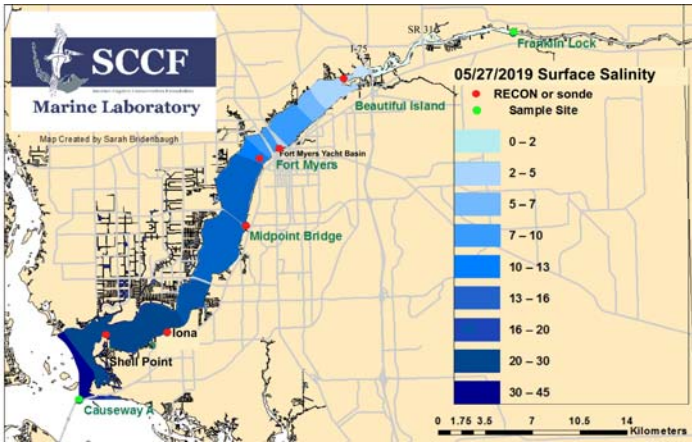
This report provides a scientific assessment of Caloosahatchee River and Estuary conditions and how these conditions affect the health, productivity and function of the system.

Caloosahatchee Condition Summary: Caloosahatchee flows during the past week averaged **612 cfs at S-79. Water clarity around Sanibel and Captiva is excellent.**

USACE Action: On 5/18/19 the U.S. Army Corps of Engineers initiated a 7-day pulse release from Lake Okeechobee reducing average flows to the Caloosahatchee to 8**00 cfs** measured at **S-79** and **zero** to the St. Lucie measured at **S-80**.

Recommendation: We recommend keeping target flows to the Caloosahatchee estuary at **S-79 between 800-1,000 cfs** to maintain a healthy salinity envelope throughout the estuary.

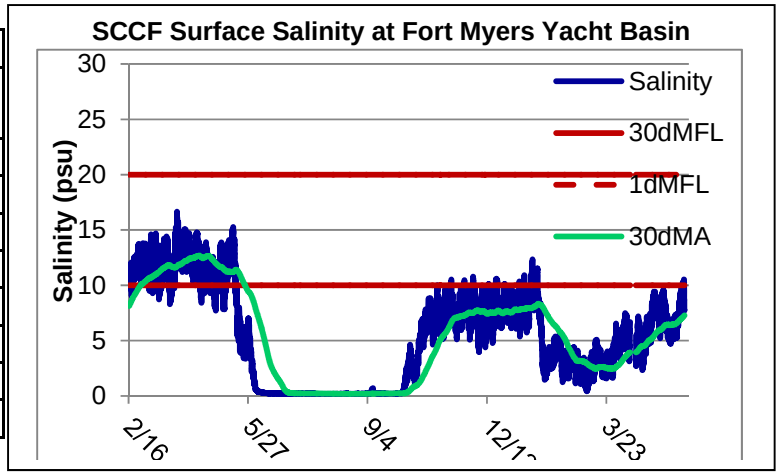
Lake Okeechobee Level:	**10.99 ft. (Beneficial Use Sub-Band)**	**Last week: 11.21 ft.**
Lake Okeechobee Inflow:	**426 cfs**	**Lake Okeechobee Outflow: 2,649 cfs**
Weekly Rainfall:	WP Franklin **0.00"** Ortona **0.00"**	Moore Haven **0.00"**
Salinity Beautiful Island:	**0.3 – 3.1 psu** (SCCF RECON Marker 18)	**Previous week 0.8 - 2.1 psu**
Salinity Fort Myers:	**12 - 18 psu** (SCCF RECON)	**Previous week 8.6 - 16 psu**
Salinity Shell Point:	**20 - 34 psu** (SCCF RECON)	**Previous week 20 – 33 psu**



Salinity (psu)			
	Current Value	**Sustainable Range**	**High/ Low**
Beautiful Is	**0.3 – 3.1**	**< 5 psu**	**In Range**
Fort Myers	**12 – 18**	**<10 psu**	**In Range**
Shell Point	**20 – 34**	**25 - 32 psu**	**In Range**
Light (25% Iz depth meters)			
Fort Myers	**0.91**	**1 meter**	**Low**
Shell Point	**1.62**	**2.2 meters**	**Low**
Causeway	**2.42**	**2.2 meters**	**In Range**

Lake Flows: The past 7 days **31,937 AF** of water was discharged from Lake Okeechobee**; 39%** to the Caloosahatchee **at S-77, 1% to the St Lucie, 51%** was discharged south to the **EAA, a net -69 AF back flowed into Lake Okeechobee from the L8** and **9%** was discharged to **the S-310.**

ACOE Daily Reports			
Date	**S79 Flow (cfs)**	**S78 Flow (cfs)**	**S77 Flow (cfs)**
5/21/2019	**428**	**105**	**196**
5/22/2019	**276**	**257**	**568**
5/23/2019	**365**	**480**	**904**
5/24/2019	**438**	**596**	**788**
5/25/2019	**956**	**776**	**724**
5/26/2019	**847**	**883**	**740**
5/27/2019	**971**	**575**	**852**
7 day Avg	**612**	**525**	**682**



Cyanobacteria Status: On 5/28/19 the Lee County Environmental Lab reported **Dolichospermum and Microcystis were present at the Alva Boat Ramp, the Franklin Locks (Upstream and Downstream), and Davis Boat Ramp.** No visible cyanobacteria were reported at North Shore Park or Midpoint Bridge Park.

Upstream of S-79/Franklin Conditions: On 5/21/19 the Olga Water Treatment plant reported chlorides of **57 mg/l,** apparent color **82 CU** and turbidity **1.96 NTU.** Slight algae visible along the banks at the plant intake. Plant is online at 2,000 GPM.

Upper Estuary Conditions: The weekly average salinity at the Fort Myers Yacht Basin was **8.0 psu**, in the suitable range for tape grass growing between the Caloosahatchee US 41 Bridges and Beautiful Island**.**

Lower Estuary Conditions: The weekly average salinity at Shell Point was **29 psu**, in the suitable range for oysters and seagrass.

J.N. *"Ding"* Darling NWR: Small mats of drift algae in Tarpon Bay, carpet algae Bryopsis throughout seagrass.

Monitor Site	Salinity	Diss O2 (mg/L)	FDOM (qsde)	Chlorophyll (µg/L
McIntyre Creek	**31.7 – 34.0**	**31. – 11.0**	**8.0 – 13.8**	**1.31 – 116.3**
Tarpon Bay	**31.7 – 34.4**	**4.3 – 9.0**	**2.7 – 7.2**	**1.3 - 6.6**
Wildlife Drive	**----------**	**----------**	**----------**	**----------**
Wulfert Flats	**----------**	**----------**	**----------**	**----------**

Red Tide: On 5/24/19 the Florida Fish and Wildlife Conservation Commission reported the Florida red tide, *Karenia brevis* at **background to low concentrations in and off shore of Sarasota County and Charlotte County. Only background concentrations were found offshore of Lee County**.

Wildlife Impacts: Over the past week CROW had no patients with red tide symptoms.

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	**3.8**	**175**	**1.4**	**0.91**
Shell Point	**1.5**	**61.7**	**2.4**	**1.62**
Causeway	**1.7**	**18.3**	**1.7**	**2.42**

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

Lighthouse Beach Park (5/22/19) Photo by City of Sanibel