

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 14 - 20, 2019**

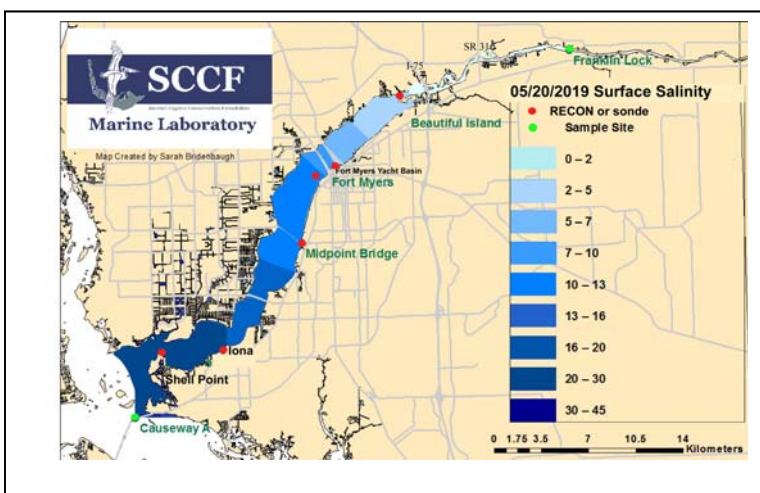
This report provides a scientific assessment of Caloosahatchee River and Estuary conditions and how these conditions affect the health, productivity and function of the system.

Caloosahatchee Condition Summary: Caloosahatchee flows during the past week averaged **1,245 cfs at S-79**. **Cyanobacteria is present along the river and estuary. Thick mats of *Dapis pleousa*, a benthic filamentous cyanobacteria, have been floating to the surface in Pine Island Sound and accumulating along shore in some areas. Water clarity around Sanibel and Captiva is excellent and scientists are noticing less drift algae on the beaches.**

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 **800 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.

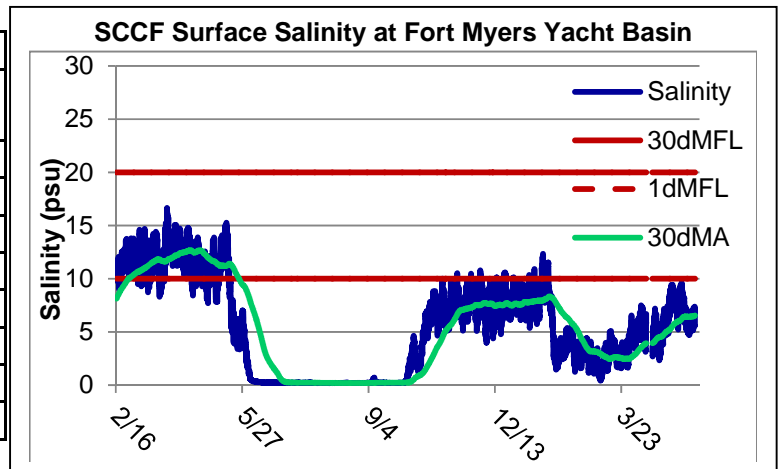
Lake Okeechobee Level:	11.21 ft. (Beneficial Use Sub-Band)	Last week: 11.29 ft.
Lake Okeechobee Inflow:	753 cfs	Lake Okeechobee Outflow: 1,338 cfs
Weekly Rainfall:	WP Franklin 0.00" Ortona 0.21"	Moore Haven 0.20"
Salinity Beautiful Island:	0.8 – 2.1 psu (SCCF RECON Marker 18)	Previous week 1.1 - 3.0 psu
Salinity Fort Myers:	8.6 - 16 psu (SCCF RECON)	Previous week 8.3 - 19 psu
Salinity Shell Point:	20 - 33 psu (SCCF RECON)	Previous week 19 – 34 psu



Salinity (psu)			
	Current Value	Sustainable Range	High/Low
Beautiful Is	0.8 – 2.1	< 5 psu	In Range
Fort Myers	8.6 – 16	<10 psu	In Range
Shell Point	20 – 33	25 - 32 psu	In Range
Light (25% I_z depth meters)			
Fort Myers	0.77	1 meter	Low
Shell Point	1.45	2.2 meters	Low
Causeway	2.39	2.2 meters	In Range

Lake Flows: The past 7 days **5,272 AF** of water was discharged from Lake Okeechobee; **80%** to the Caloosahatchee at **S-77**, **20%** to the **St Lucie**, **0%** was discharged south to the **EAA**, a **net -537 AF** back flowed into **Lake Okeechobee** from the **L8** and a **net -657** from the **S-310**.

ACOE Daily Reports			
Date	S79 Flow (cfs)	S78 Flow (cfs)	S77 Flow (cfs)
5/14/2019	624	254	0
5/15/2019	1112	253	0
5/16/2019	1781	866	0
5/17/2019	2064	873	0
5/18/2019	1159	829	426
5/19/2019	968	854	357
5/20/2019	1008	245	655
7 day Avg	1245	596	205



Cyanobacteria Status: On 5/21/19 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 **58 mg/l**, apparent color **74 CU** and turbidity **1.78 NTU**. Slightly more 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 **7.5 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

Monitor Site	Salinity	Diss O2 (mg/L)	FDOM (qsde)	Chlorophyll (µg/L)
McIntyre Creek	32.3 – 34.0	1.7 – 9.1	7.2 – 13.4	1.1 – 16.6
Tarpon Bay	32.8 – 34.4	3.7 – 8.3	2.9 – 11.2	1.5 – 8.5
Wildlife Drive	-----	-----	-----	-----
Wulfert Flats	-----	-----	-----	-----

Red Tide: On 5/17/19 the Florida Fish and Wildlife Conservation Commission reported the Florida red tide, *Karenia brevis* at **background concentrations** in **Sarasota County, Charlotte County, and Lee County**.

Wildlife Impacts: Over the past week CROW had one Laughing Gull come in with red tide symptoms. He is still in their care.

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	5.7	216	1.4	0.77
Shell Point	1.8	82.3	1.5	1.45
Causeway	1.3	20.8	1.4	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