

MEMORANDUM

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

From: Periodic Scientists Conference Call Participants
 Kevin Godsea & 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
 Leah Reidenbach & Rick Bartleson, PhD - Sanibel Captiva Conservation Foundation

Subject: Caloosahatchee & Estuary Condition Report

Reporting Period: **June 30 – July 6, 2020**

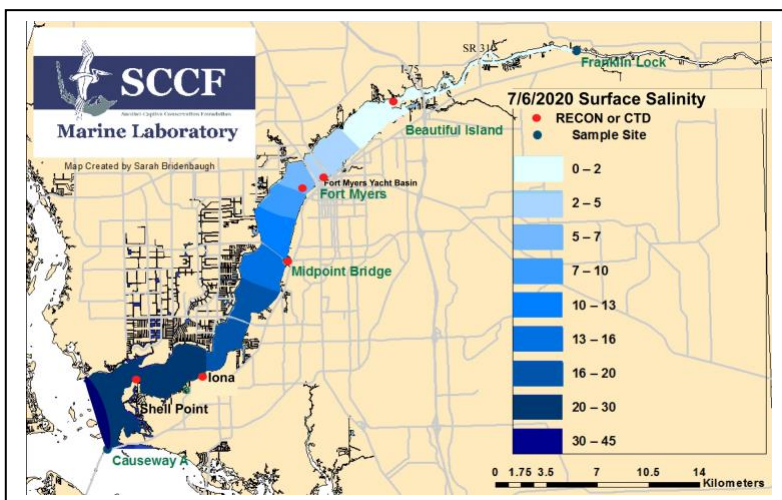
This report provides a scientific assessment of Caloosahatchee River and Estuary conditions and how these conditions affect the health, productivity, and function of the system.

Caloosahatchee Condition Summary: Flows to the Caloosahatchee estuary had a 7-day average of **619 cfs at S-79**, below the optimum flow envelope of **750 – 2,100 cfs** for the maintenance of healthy salinity levels throughout the estuary.

USACE Action: On 5/8/20 the Corps announced it will continue pulse releases to the Caloosahatchee from Lake Okeechobee at a 7-day average of **650 cfs at S-79**. Releases to the St. Lucie estuary at **S-80** will remain at **zero cfs**.

Recommendation: In order to maintain optimum salinities in the estuary and avoid damaging high flows as the wet season progresses, we request the District maintain flows between **750 – 2,100 cfs at S-79** over a 7-day average. This is consistent with the draft 2020 RECOVER optimum flow envelopes for the Caloosahatchee estuary.

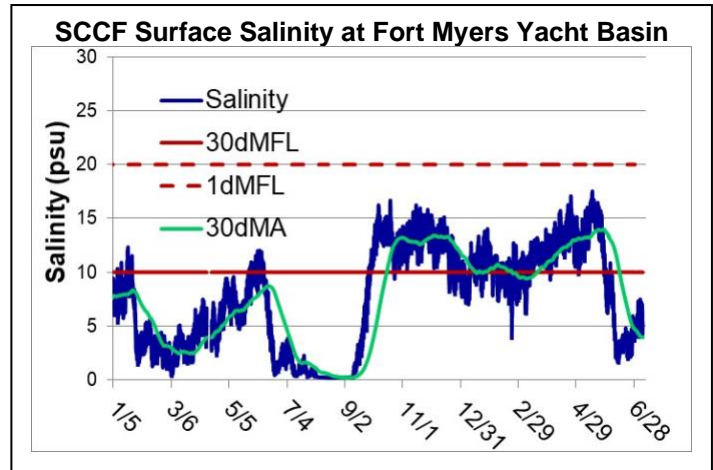
Lake Okeechobee Level:	12.32 ft (Beneficial Use Sub Band)	Last week: 12.34 ft
Lake Okeechobee Inflow:	2,524 cfs	Lake Okeechobee Outflow: 672 cfs
Weekly Rainfall Total:	WP Franklin 0.25" Ortona 1.05" Moore Haven 1.30"	
Salinity Beautiful Island:	ND (SCCF RECON)	Previous week ND
Salinity Fort Myers:	4.0 – 7.5 psu (SCCF Surface FM Yacht Basin)	Previous week 2.2 – 5.9 psu
	ND (SCCF RECON)	Previous week ND
Salinity Shell Point:	19 – 33 psu (SCCF RECON)	Previous week 16 – 32 psu



Salinity (psu)			
	Current Value	Sustainable Range	High/Low
Beautiful Is	ND	< 5 psu	ND
Fort Myers	ND	<10 psu	ND
Shell Point	16 – 33	25 - 32 psu	High
Light (25% I _z depth meters)			
Fort Myers	ND	1 meter	ND
Shell Point	1.52	2.2 meters	Low
Causeway	2.77	2.2 meters	In Range

Lake Flows: In the past 7 days, a net **21,081 AF** was discharged from Lake Okeechobee, with **9,266 AF** to the Caloosahatchee thru **S-77** and **8,550 AF** to the **EAA**. There was a net backflow of **734 AF** from the St. Lucie estuary through **S-308**, a net flow of **496 AF** at the **L-8 canal**, and a net flow of **2,769 AF** thru **S-310**. Water conservation areas received flows of **1,381 AF**, **8,690 AF**, and **7,006 AF** at **WCA1**, **WCA2**, and **WCA3**, respectively. Everglades National Park received **13,246 AF**.

ACOE Daily Reports			
Date	S79 Flow (cfs)	S78 Flow (cfs)	S77 Flow (cfs)
6/30/2020	559	322	491
7/1/2020	446	261	902
7/2/2020	448	428	814
7/3/2020	487	469	798
7/4/2020	719	575	794
7/5/2020	870	470	426
7/6/2020	803	322	428
7 day avg	619	407	665



Cyanobacteria Status: Sampling by Lee County Environmental Lab on 7/7/20 reported the presence of the cyanobacteria species *Microcystis* at the Alva Bridge, upstream of the WP Franklin Locks, and the Davis Boat Ramp.

Upstream of S-79/Franklin Conditions: The Lee County Olga Water Treatment plant will be offline until further notice.

Upper Estuary Conditions: The 30-day average surface salinity at the Fort Myers Yacht Basin was within the **suitable** range for tape grass.

Lower Estuary Conditions: The weekly average salinity at the Shell Point RECON was **28 psu**, within the **optimal** range for oysters.

J.N. "Ding" Darling NWR:

Monitor Site	Salinity	Dissolved O ₂ (mg/L)	FDOM (qsde)	Chlorophyll (µg/L)
McIntyre Creek	30.0 – 31.4	1.3 – 8.2	-----	1.1 – 4.4
Tarpon Bay	30.2 – 32.1	3.1 – 8.7	5.6 – 20.3	1.0 – 13.3
Wildlife Drive	28.5 – 33.1	0.5 – 9.0	-----	2.3 – 26.3
Wulfert Flats	14.5 – 31.1	2.1 – 10.6	-----	4.9 – 43.1

Red Tide: On 7/2/20 FWC reported that the red tide organism, *Karenia brevis*, was present at background concentrations in one Manatee County sample. Patchy Trichodesmium blooms persist offshore and at coastal sites along Southwest Florida. [Click here for the FWC status of red tide.](#)

Wildlife Impacts: The past week CROW, the wildlife hospital on Sanibel, had **no patients with red tide symptoms**. SCCF staff reported **two sea turtle strandings**: **1 deceased loggerhead sea turtle** found floating in Pine Island Sound and **1 deceased green sea turtle** washed up on Sanibel.

Caloosahatchee Stations	Chlorophyll (µg/L)	fDOM (qse)	Turbidity (NTU)	25% I _z depth (meters)
Target Values	< 11	CE <70 SCB <11	CE < 18 SCB < 5	CE = 1 m SCB = 2.2m
Fort Myers	ND	ND	ND	-
Shell Point	2.6	91.7	1.9	1.52
Causeway	4.1	28.7	2.0	2.77

Target light penetration:
 Caloosahatchee Estuary (CE) = 1 meter
 San Carlos Bay (SCB) = 2.2 meters
 25% I_z is the depth (z) where irradiance (I) is 25% of surface irradiance.