

# 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: **July 30 - August 5, 2019**

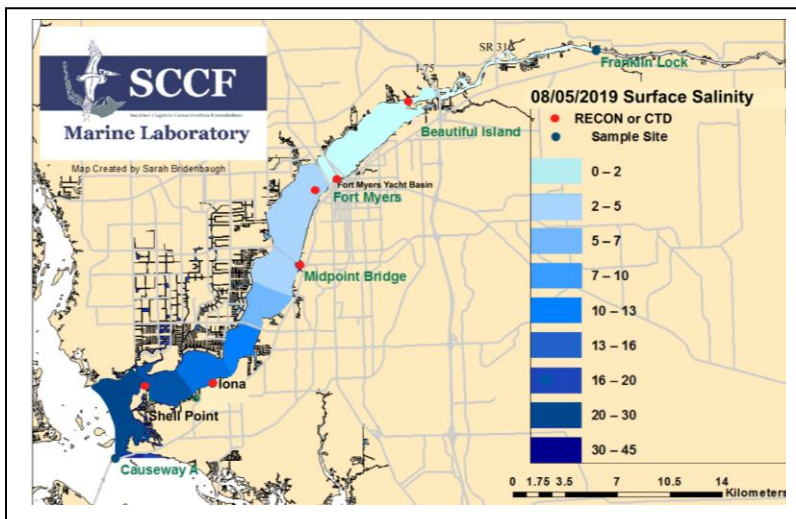
This report provides a scientific assessment of Caloosahatchee River and Estuary conditions and how these conditions affect the health, productivity and function of the system.

**Caloosahatchee Condition Summary:** Caloosahatchee flows increased this past week to a weekly average of **3,457 cfs** at S-79, with all freshwater flows coming from the Caloosahatchee watershed.

**USACE Action:** On 7/28/19 the Corps stopped flows to the Caloosahatchee from Lake Okeechobee at the Moore Haven Lock, **S-77** because the estuary was receiving excessive flow from the watershed. Flows to the St. Lucie estuary at **S-80** remain at **zero cfs**.

**Recommendation:** We recommend keeping flows to the Caloosahatchee estuary at S-79 in a range to maintain a healthy salinity envelope throughout the estuary.

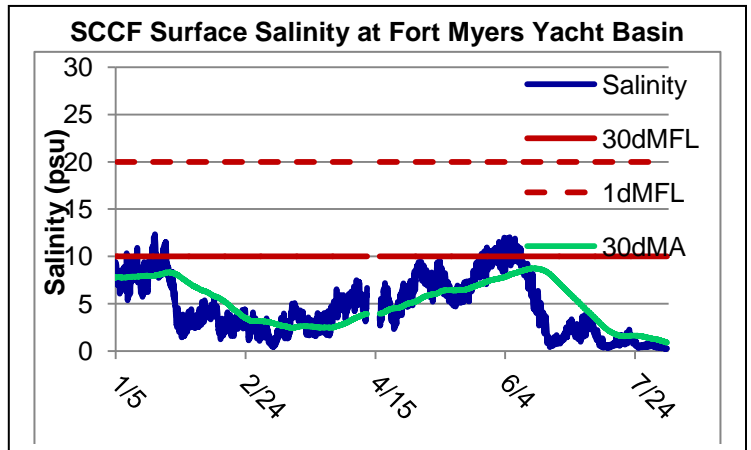
<b>Lake Okeechobee Level:</b>	<b>11.97 ft. (Beneficial Use Band)</b>	<b>Last week: 11.63 ft.</b>
<b>Lake Okeechobee Inflow:</b>	<b>5,148 cfs</b>	<b>Lake Okeechobee Outflow: NR</b>
<b>Weekly Rainfall:</b>	WP Franklin <b>3.28"</b> Ortona <b>1.85"</b>	Moore Haven <b>2.45"</b>
<b>Salinity Beautiful Island:</b>	<b>0.2- 0.3 psu</b> (SCCF RECON Marker 18)	<b>Previous week 0.2- 0.3 psu</b>
<b>Salinity Fort Myers:</b>	<b>0.3 – 3.8 psu</b> (SCCF RECON)	<b>Previous week 0.4 – 4.9 psu</b>
<b>Salinity Shell Point:</b>	<b>11 – 31 psu</b> (SCCF RECON)	<b>Previous week 12 – 30 psu</b>



Salinity (psu)			
	Current Value	Sustainable Range	High/Low
Beautiful Is	0.2 - 0.3	< 5 psu	In Range
Fort Myers	0.3 - 3.8	<10 psu	In Range
Shell Point	11 - 31	25 - 32 psu	In Range
Light (25% I <sub>z</sub> depth meters)			
Fort Myers	0.58	1 meter	Low
Shell Point	1.02	2.2 meters	Low
Causeway	1.53	2.2 meters	Low

**Lake Flows:** The past 7 days **5 AF** of water was discharged from Lake Okeechobee; **100%** to the Caloosahatchee thru **S-77**, **-11,261 AF** backflowed from the **St Lucie** to the lake, **zero** was discharged south to the **EAA**, **-1,636 AF** backflowed into the lake from the **L8** and **-3,124 AF** backflowed from **S-310**.

ACOE Daily Reports			
Date	S79 Flow (cfs)	S78 Flow (cfs)	S77 Flow (cfs)
7/30/2019	2231	717	0
8/1/2019	2694	1010	0
8/2/2019	2191	1044	0
8/3/2019	5042	1577	0
8/4/2019	4123	1425	0
8/5/2019	3784	1189	0
8/6/2019	4134	1181	0
<b>7 day Avg</b>	<b>3457</b>	<b>1163</b>	<b>0</b>



**Cyanobacteria Status:** On 8/5/19 NOAA satellite imagery for Lake Okeechobee reported **bloom potential appears to be covering approximately 20%** of Lake Okeechobee, with medium bloom potential evident in the northwestern quadrant of the lake. **DEP toxins were detected in four samples the past week.** In the Caloosahatchee, Lee County Environmental Lab sampling on 8/6/19 reported **no visible cyanobacteria** at sample sites on the Caloosahatchee.

**Upstream of S-79/Franklin Conditions:** On 8/6/19 the Olga Water Treatment plant reported chlorides of **48 mg/L**, apparent color **175 CU** and turbidity **0.60 NTU**. Trace of 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 **0.8 psu**, in the suitable range for tape grass growing between the Caloosahatchee US 41 Bridges and Beautiful Island. **Hypoxia was detected at the Beautiful Island RECON on five days and at the Fort Myers RECON on 7/29/19.**

**Middle Estuary Conditions:** At the midpoint bridge, SCCF sampling recorded reduced levels of *Skeletonema*, 3,000 fragments/L due to low salinity levels of 0.8 psu.

**Lower Estuary Conditions:** The average salinity at the Shell Point RECON was **22 psu**, in the suitable range for oysters and seagrass. **SCCF identified a dinoflagellate bloom at the Sanibel Boat Ramp.**

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

Monitor Site	Salinity	Diss O2 (mg/L)	FDOM (qsde)	Chlorophyll (µg/L)
McIntyre Creek	26.3 – 29.2	2.1 – 7.3	11.6 – 19.1	2.1 – 8.8
Tarpon Bay	28.1 – 34.9	3.8 – 8.2	4.9 – 16.9	1.9 – 8.2
Wulfert Flats	26.7 – 28.7	2.7 – 7.9	-----	4.8 – 24.4

**Red Tide:** On 8/2/19 the Florida Fish & Wildlife Conservation Commission reported **the red tide organism, *Karenia brevis***, was not observed in any statewide samples the past week.

**Shellfish Advisory:** On 6/18/19 the Florida Department of Agriculture and Consumer Services **closed shellfish harvest area #6212 Pine Island Sound Section 1** due to the presence of *Pyrodinium bahamense*.

**Wildlife Impacts:** The past week, CROW the wildlife hospital on Sanibel treated 2 laughing gulls with toxicosis symptoms, both died.

Caloosahatchee Stations	Chlorophyll (µg/L)	fDOM (qse)	Turbidity (NTU)	25% lz depth (meters)
Target Values	< 11	CE <70 SCB <11	CE < 18 SCB < 5	CE = 1 m SCB = 2.2m
Fort Myers	8.1	295	4.5	0.58
Shell Point	2.3	141	2.8	1.02
Causeway	3.8	48.5	3.2	1.53

Target light penetration: CE- Caloosahatchee Estuary = 1 m  
 SCB- San Carlos Bay = 2.2 meters  
 Definition of 25% lz: z where I is 25% of surface I.  
 I = irradiance, z = depth