

# 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: **September 24 - 30, 2019**

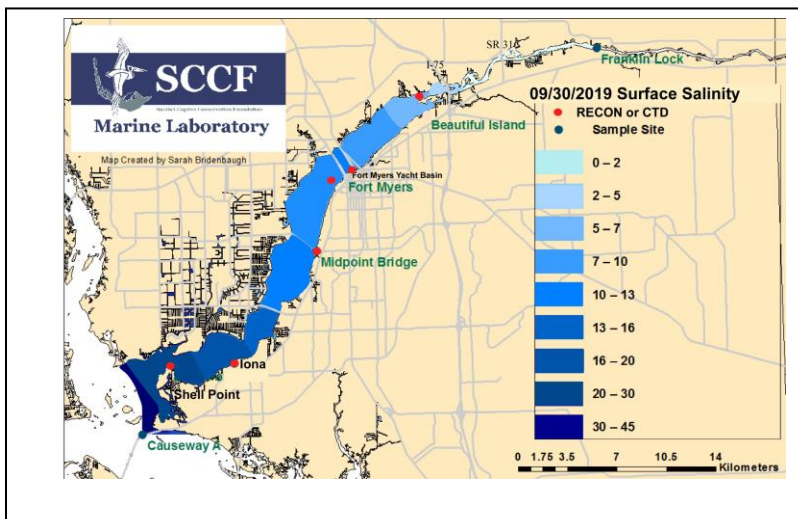
This report provides a scientific assessment of Caloosahatchee River and Estuary conditions and how these conditions affect the health, productivity and function of the system.

**Caloosahatchee Condition Summary:** Caloosahatchee flows dropped the past week to an average of **19 cfs at S-79**, significantly less than the previous week. Two days of flows originated from Lake Okeechobee.

**USACE Action:** On 9/27/19 the Corps announced there will be no releases to the Caloosahatchee from Lake Okeechobee at the Moore Haven Lock, **S-77**. Lake flows to the St. Lucie at **S-308** remain at **zero cfs**.

**Recommendation:** We recommend that the Corps increase flows to 650 cfs at S-79 to maintain appropriate salinity levels throughout the estuary.

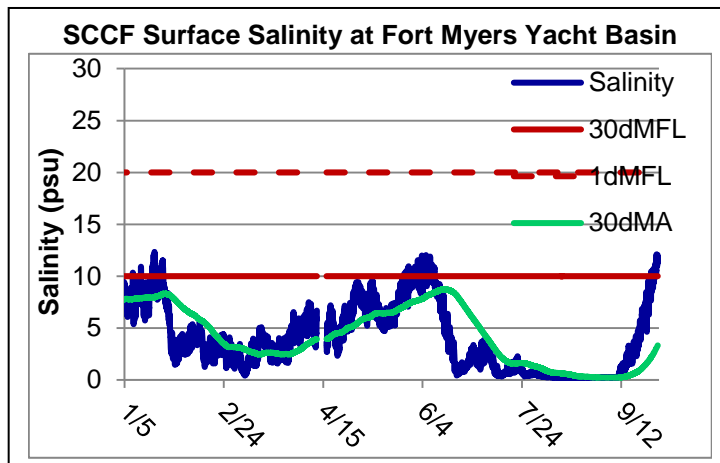
<b>Lake Okeechobee Level:</b>	<b>13.56 ft. (Base Flow Sub Band)</b>	<b>Last week: 13.74 ft.</b>
<b>Lake Okeechobee Inflow:</b>	<b>539 cfs</b>	<b>Lake Okeechobee Outflow: 2,559 cfs</b>
<b>Weekly Rainfall:</b>	WP Franklin <b>0.0 "</b> Ortona <b>0.0"</b>	Moore Haven <b>0.0"</b>
<b>Salinity Beautiful Island:</b>	<b>0.6 – 6.9 psu</b> (SCCF RECON Marker 18)	<b>Previous week 0.3 – 1.2 psu</b>
<b>Salinity Fort Myers:</b>	<b>ND</b> (SCCF RECON)	<b>Previous week 2.8 – 11 psu</b>
<b>Salinity Shell Point:</b>	<b>19 – 33 psu</b> (SCCF RECON)	<b>Previous week 14 – 32 psu</b>



Salinity (psu)			
	Current Value	Sustainable Range	High/Low
Beautiful Is	0.6 – 6.9	< 5 psu	High
Fort Myers	ND	<10 psu	-
Shell Point	19 - 33	25 - 32 psu	In Range
Light (25% I <sub>z</sub> depth meters)			
Fort Myers	ND	1 meter	-
Shell Point	1.15	2.2 meters	Low
Causeway	1.63	2.2 meters	Low

**Lake Flows:** The past 7 days **59,263 AF** of water was discharged from Lake Okeechobee; **9%** to the Caloosahatchee thru **S-77**, **8 AF** back flowed into the Lake from the St Lucie at **S-308**, **76%** was discharged south to the **EAA**, **5%** was discharged from the lake to the **L8** and **10%** was discharged from the lake through **S-310**.

ACOE Daily Reports			
Date	S79 Flow (cfs)	S78 Flow (cfs)	S77 Flow (cfs)
9/24/2019	98	0	62
9/25/2019	34	0	142
9/26/2019	0	0	278
9/27/2019	0	0	242
9/28/2019	0	0	184
9/29/2019	0	0	112
9/30/2019	0	0	64
<b>7 day Avg</b>	<b>19</b>	<b>0</b>	<b>155</b>



**Cyanobacteria Status:** NOAA satellite imagery for Lake Okeechobee from 9/26 showed moderate bloom potential on the western third of the lake. In the Caloosahatchee, Lee County Environmental Lab sampling on 10/1/19 reported no cyanobacteria at any of the sample sites.

**Upstream of S-79/Franklin Conditions:** On 10/1/19 the Olga Water Treatment plant reported chlorides of **55 mg/L**, apparent color **152 CU** and turbidity **1.69 NTU**. No 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 8.6 psu, in the suitable range for tape grass growing between the Caloosahatchee US 41 Bridges and Beautiful Island. The channel marker the Fort Myers RECON system was on was knocked down.

**Lower Estuary Conditions:** The average salinity at the Shell Point RECON was **27 psu**, within the optimal range for oysters.

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

Monitor Site	Salinity	Diss O2 (mg/L)	FDOM (qsde)	Chlorophyll (µg/L)
McIntyre Creek	26.0 – 30.0	1.3 – 6.0	14.6 – 21.3	1.5 – 5.1
Tarpon Bay	26.0 – 33.4	4.6 – 8.3	9.1 – 27.1	2.6 – 34.1
Wulfert Flats	20.8 – 29.3	3.3 - 7.6	-----	5.2 – 59.6
Wildlife Drive	27.5 – 29.1	0.8 – 9.7	-----	2.2 – 30.0

**Beach Conditions:** The water at the Captiva beaches was clear and low in chlorophyll on 9/30/19. *Noctiluca*, a bioluminescent dinoflagellate was present. The nearshore water on the south side of Sanibel had higher chlorophyll and turbidity along with blooming diatoms and dinoflagellates.

**Red Tide:** On 9/27/19 FWC reported *Karenia* was found at background to low concentrations in and offshore of Lee County, and low concentrations offshore of Collier County. No *Karenia* were found in samples from Sanibel's beaches collected by Sanibel Sea School and SCCF. Some NOAA offshore samples had low *Karenia* concentrations. NOAA Satellite images showed optical characteristics of *Karenia* offshore of Captiva and Collier County on 9/28/19.

**Shellfish Advisory:** Area #6212 Pine Island Sound Section 1 remains closed since 6/18/19 due to the presence of *Pyrodinium bahamense*.

**Wildlife Impacts:** The past week, **CROW** the wildlife hospital on Sanibel treated **1** patient for symptoms of toxicosis: a **Little Blue Heron**, who remains in their care. SCCF reported two strandings on Captiva last week. One was a **Loggerhead** and the other was a **Kemp's Ridley**. Both are deceased.

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	ND	ND	ND	-
Shell Point	0.7	118	2.8	1.15
Causeway	2.5	58.0	2.6	1.63

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