

**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, Ph.D.-Sanibel Captiva Conservation Foundation

Subject: Caloosahatchee & Estuary Condition Report

Reporting Period: **June 16 – 22, 2020**

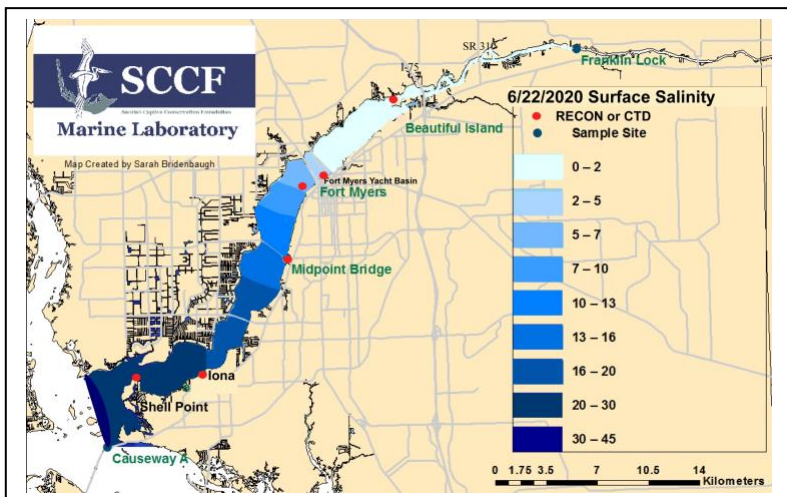
This report provides a scientific assessment of Caloosahatchee River and Estuary conditions and how these conditions affect the health, productivity, and function of the system.

**Caloosahatchee Condition Summary:** Flows to the Caloosahatchee estuary had a 7-day average of **1,397 cfs at S-79** due to west basin runoff, with a 7-day average of only **63 cfs** coming from the lake. Salinity levels in the upper and lower estuaries are within optimal levels for tape grass and oysters, respectively.

**USACE Action:** On 5/8/20 the Corps continued 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** 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.

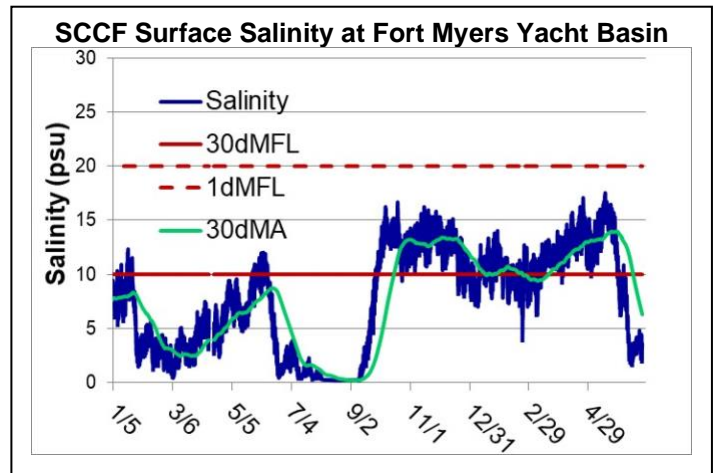
<b>Lake Okeechobee Level:</b>	<b>12.35 ft (Beneficial Use Sub Band)</b>	<b>Last week: 12.20 ft</b>
<b>Lake Okeechobee Inflow:</b>	<b>3,105 cfs</b>	<b>Lake Okeechobee Outflow: ND cfs</b>
<b>Weekly Rainfall Total:</b>	WP Franklin <b>0.27"</b> Ortona <b>2.70"</b>	Moore Haven <b>1.19"</b>
<b>Salinity Beautiful Island:</b>	<b>ND (SCCF RECON)</b>	<b>Previous week ND psu</b>
<b>Salinity Fort Myers:</b>	<b>2.0 – 4.8 psu (SCCF Surface FM Yacht Basin)</b>	<b>Previous week 1.7 – 4.5 psu</b>
	<b>3.3 – 8.9 psu (SCCF RECON)</b>	<b>Previous week 3.4 – 7.7 psu</b>
<b>Salinity Shell Point:</b>	<b>14 – 32 psu (SCCF RECON)</b>	<b>Previous week 13 – 33 psu</b>



Salinity (psu)			
	Current Value	Sustainable Range	High/Low
Beautiful Is	ND	< 5 psu	Low
Fort Myers	3.3 – 8.9	<10 psu	Low
Shell Point	14 – 32	25 - 32 psu	High
Light (25% I <sub>z</sub> depth meters)			
Fort Myers	0.70	1 meter	Low
Shell Point	1.32	2.2 meters	Low
Causeway	2.94	2.2 meters	In Range

**Lake Flows:** In the past 7 days, 3,591 AF was discharged from Lake Okeechobee, with 905 AF (25%) to the Caloosahatchee thru S-77, and 1,765 AF (49%) to the EAA. There was a net backflow of 729 AF thru S-310. Flows to the Caloosahatchee estuary at S-79 during the past 7 days averaged 2,768 AF per day. A backflow of 4,836\* AF occurred at S-308 and a net backflow of 384 AF occurred at the L8 canal. Water conservation areas received flows of 9,025 AF, 31,748 AF, and 18,312 AF at WCA1, WCA2, and WCA3, respectively. Everglades National Park received 12,292 AF. \*missing data from S-308 from 6/19/20 – 6/22/20 not included in calculation

ACOE Daily Reports			
Date	S79 Flow (cfs)	S78 Flow (cfs)	S77 Flow (cfs)
6/16/2020	1663	292	0
6/17/2020	822	187	230
6/18/2020	869	353	213
6/19/2020	2103	443	0
6/20/2020	1092	671	0
6/21/2020	1865	748	0
6/22/2020	1362	558	0
<b>7 day avg</b>	<b>1397</b>	<b>465</b>	<b>63</b>



**Cyanobacteria Status:** Sampling by Lee County Environmental Lab on 6/23/20 reported the presence of the cyanobacteria species *Microcystis* at the Alva Bridge, the Davis Boat Ramp, and North Shore Park. *Microcystis* was abundant on the upstream side of the WP Franklin Lock.

**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 6.3 psu, within the suitable range for tape grass. Hypoxia was detected at the Fort Myers RECON daily except for 6/19/20.

**Lower Estuary Conditions:** The weekly average salinity at the Shell Point RECON was 25 psu, within the optimal range for oysters. Drift algae was abundant at multiple locations in the lower estuary and San Carlos Bay.

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

Monitor Site	Salinity	Dissolved O <sub>2</sub> (mg/L)	FDOM (qsde)	Chlorophyll (µg/L)
McIntyre Creek	28.2 – 29.8	2.6 – 8.6	-----	1.1 – 1.9
Tarpon Bay	27.8 - 32.4	3.8 – 9.0	7.8 – 23.5	1.3 – 8.8
Wildlife Drive	30.4 – 32.8	0.5 – 9.0	-----	1.5 – 140
Wulfert Flats	27.9 – 30.1	2.5 – 8.1	-----	3.2 – 52.4

**Red Tide:** On 6/19/20 FWC reported red tide, *Karenia brevis*, was present at background concentrations in Sarasota County: [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.

Caloosahatchee Stations	Chlorophyll (µg/L)	fDOM (qse)	Turbidity (NTU)	25% I <sub>z</sub> depth (meters)
Target Values	< 11	CE <70 SCB <11	CE < 18 SCB < 5	CE = 1 m SCB = 2.2m
Fort Myers	2.7	245	2.6	0.70
Shell Point	2.0	96.7	1.8	1.32
Causeway	2.1	34.5	1.7	2.94

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