

**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  
 Holly Milbrandt & Dana Dettmar - City of Sanibel  
 Lesli Haynes & Lisa Kreiger - Lee County  
 Harry Phillips & Maya Robert - City of Cape Coral  
 James Evans, Leah Reidenbach, & Rick Bartleson PhD - SCCF (Sanibel-Captiva Conservation Foundation)

Subject: Caloosahatchee & Estuary Conditions Report

Reporting Period: **October 13 – 19, 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.

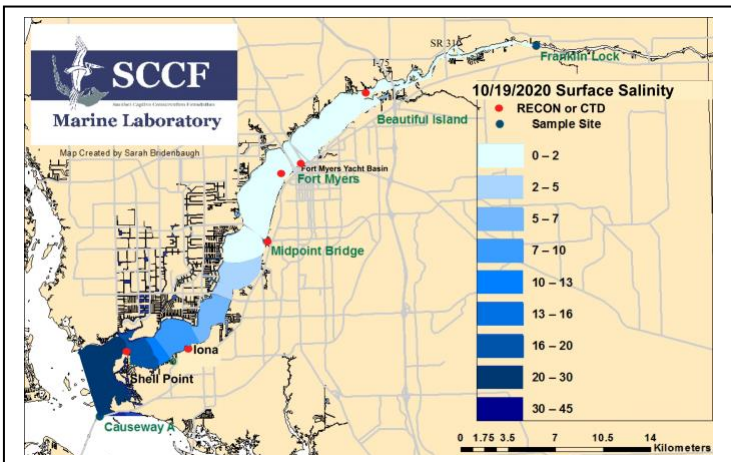
**Caloosahatchee Condition Summary:** Flows to the Caloosahatchee estuary had a 7-day average of **4,664 cfs at S-79** with a 7-day average of **2,904 cfs** coming from the lake at S-77. The 14-day moving average flow at S-79 is **3,634 cfs** and has been in the **damaging flow envelope (>2600 cfs; RECOVER 2020)** for the past **38 days**. With sustained flows >2,600 cfs at S-79, we expect low salinities to cause harm to marine organisms in the lower estuary. **Flows to the St. Lucie estuary at S-80 had a 7-day average of 326 cfs with a 7-day average 203 cfs coming from the Lake at S-308.**

**Recommendation:** While we understand the need for the Corps to release water from the lake for flood control, we request that flow to S-79 be reduced to rates of less than 2,600 cfs as soon as possible to reduce the duration of time spent in the damaging flow envelope. **For optimal ecological conditions** in the Caloosahatchee estuary, we request no freshwater releases from Lake Okeechobee until watershed flows drop below 2,100 cfs. **Once flows drop below 2,100 cfs, we request 7-day average flows be maintained between 750 – 2,100 cfs at S-79.**

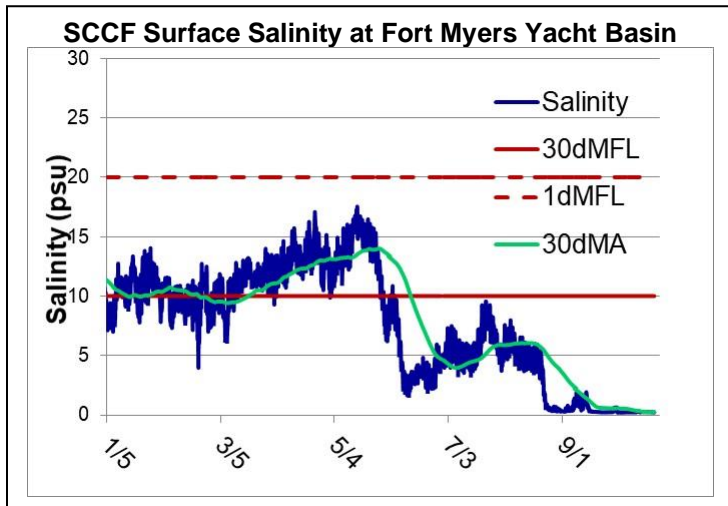
**USACE Action:** The LORS 2008 guidance allows for releases up to 4,000 cfs at S-77 and up to 1,800 cfs at S-80. Releases to S-77 were implemented in a steady release, with local basin runoff providing a natural watershed pulse at S-79. Releases to S-80 were implemented in a pulse which was designed to have the lowest flows at the peak of king tides, and lake releases were reduced in real-time if needed for flood protection.

**Lake Flows:** In the past 7 days, **64,396 AF** were discharged from Lake Okeechobee, with **40,676 AF (63%)** to the Caloosahatchee through **S-77**, **2,462 AF (5%)** to the St. Lucie River through **S-308**, **85 AF** through **S-310** in Clewiston, and **20,284 AF (31%)** to the **EAA** through **S-351**, **S-352**, and **S-354**. There was a net backflow of **188 AF** at the **L-8 canal**. Water conservation areas received flows of **13,845 AF**, **9,983 AF**, and **20,642 AF** at **WCA1**, **WCA2**, and **WCA3**, respectively. Everglades National Park received **25,018 AF**.

**Lake Okeechobee Level:** 16.23 ft (intermediate sub-band) Last Week: 16.18 ft  
**Lake Okeechobee Inflow:** 4,803 cfs Lake Okeechobee Outflow: NR  
**Weekly Rainfall Total:** WP Franklin 0.24" Ortona 1.19" Moore Haven 1.79"



ACOE Daily Reports			
Date	S79 Flow (cfs)	S78 Flow (cfs)	S77 Flow (cfs)
10/13/2020	1657	488	0
10/14/2020	2525	1256	786
10/15/2020	4841	3395	3345
10/16/2020	4968	3852	3976
10/17/2020	5902	4023	4047
10/18/2020	6291	4317	4093
10/19/2020	6464	4653	4080
<b>7 day avg</b>	<b>4664</b>	<b>3141</b>	<b>2904</b>



Light Penetration

Site	25% I <sub>z</sub>	Target Values	Turbidity	Target Values
	meters		NTU	
Fort Myers	0.72	> 1	4.6	< 18
Shell Point	1.17	>2.2	2.2	< 18
Causeway	1.78	> 2.2	5.1	< 5

25% I<sub>z</sub> is the depth (z) where irradiance (I) is 25% of surface irradiance. Target values indicate the depth of light penetration needed for healthy seagrass.

**Cyanobacteria Status:** On 10/20/20, sampling by the Lee County Environmental Lab reported no cyanobacteria in the Caloosahatchee.

**Upstream of S-79/Franklin Conditions:** On 10/20/20 the Olga Water Treatment plant reported chlorides of **44 mg/l**, apparent color **290 CU** and turbidity **1.81 NTU**. No visible algae were reported at the plant intake the past week. The plant is online at **1800 GPM**.

**Upper Estuary Conditions:** The 30-day average surface salinity at the Fort Myers Yacht Basin was **0.3 psu**, within the suitable range for tape grass.

**Lower Estuary Conditions:** Light levels were very low near the Causeway in San Carlos Bay due to dissolved organic matter. The salinity at Shell Point RECON was 20, within the suitable range for oysters.

Water Quality Conditions:

Monitor Site	Salinity (psu) <sup>a</sup> [previous week]	Diss O <sub>2</sub> (mg/L) <sup>b</sup>	FDOM (qsde) <sup>c</sup>	Chlorophyll (µg/L) <sup>d</sup>
Beautiful Island	0.2 – 0.3 [0.2 – 0.2]	2.0 – 3.2	530	7.8
Fort Myers Yacht Basin	0.2 – 0.3 [0.2 – 0.2]	4.5 – 6.6	430	9.0
Shell Point	8.0 – 29 [7.0 – 30]	4.7 – 6.6	221	3.4
McIntyre Creek	24.1 – 28.4	0.2 – 7.6	4.6 – 9.0	1.7 – 4.0
Tarpon Bay	24.1 – 30.2	3.4 – 6.8	14.4 – 25.7	3.0 – 12.5
Wildlife Drive	23.6 – 27.6	0.8 – 12.2	-----	2.0 – 26.0
Wulfert Flats	25.7 – 29.3	3.3 – 8.6	-----	5.7 – 34.7

Red values are outside of the preferred range.  
<sup>a</sup> Salinity target values: BI < 5, FM < 10, SP = 25 – 32  
<sup>b</sup> Dissolved O<sub>2</sub> target values: all sites > 4  
<sup>c</sup> FDOM target values: BI < 70, FM < 70, SP < 11  
<sup>d</sup> Chlorophyll: BI < 11, FM < 11, SP < 11

**Red Tide:** On 10/16/20 FWC reported that the red tide organism, *Karenia brevis*, was observed at background and very low concentrations in two samples collected from Sarasota County. [Click here for the FWC status of red tide.](#)

**Wildlife Impacts:** The past week CROW, the wildlife hospital on Sanibel, received **1 patient with toxicosis symptoms: 1 mottled duck (died).**