

MEMORANDUM

To: USACE Colonel James L. Booth, LTC Todd F. Polk, Richard McMillen, Kim Taplin, SFWMD Governing Board, Executive Director Drew Bartlett, Jennifer Reynolds, Lawrence Glenn, DEP Secretary Shawn Hamilton

From: Periodic Scientists Conference Call Participants  
 Kevin Godsea & Avery Renshaw - 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: **November 16 – 22, 2021**

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 Conditions Summary:** Flows to the Caloosahatchee Estuary had a 7-day average of **2,116 cfs** at **S-79** with a 7-day average of **1,052 cfs (50%)** coming from the lake at **S-77**. **The 14-day moving average flow at S-79 is 2,303 cfs and has been in the stress flow envelope (2,100 – 2,600; RECOVER 2020) for 3 days and above the optimal flow envelope for 15 days.**

**Recommendation:** In order to maintain a beneficial salinity gradient in the Caloosahatchee Estuary for the health of seagrass and oysters, we recommend that the Corps maintain flows at S-79 within the optimum flow envelope (750 – 2,100 cfs) based on the RECOVER performance measure for salinity.

**USACE Action:** On Saturday, 11/5/21 the USACE increased targeted flows to a 7-day average of 2,000 cfs (pulse) to the Caloosahatchee Estuary as measured at the WP Franklin Lock & Dam (S-79) and continued no releases to the St. Lucie Lock and Dam (S-80). Lake flows will be reduced and may stop completely based on local basin runoff.

**Lake Flows:** In the past 7 days the total outflow from Lake Okeechobee was **14,641 AF** with **14,549 AF** to the Caloosahatchee through **S-77**, **92 AF** through **S-310** in Clewiston, and **0 AF** to the EAA through **S-351**, **S-352**, and **S-354**. The total net inflow to the Lake was **35,468 AF** (33,439 AF from Fisheating Creek, S-71, S-72, S-84s, S-65EX, and S-65EX1) with a total backflow volume of **2,029 AF** from **C10A**. Water conservation areas received flows of **4,614 AF**, **4,124 AF**, and **19,380 AF** at **WCA1**, **WCA2**, and **WCA3**, respectively. Everglades National Park received **22,145 AF**.

**Lake Okeechobee Level:** 16.07 ft (Low sub-band)

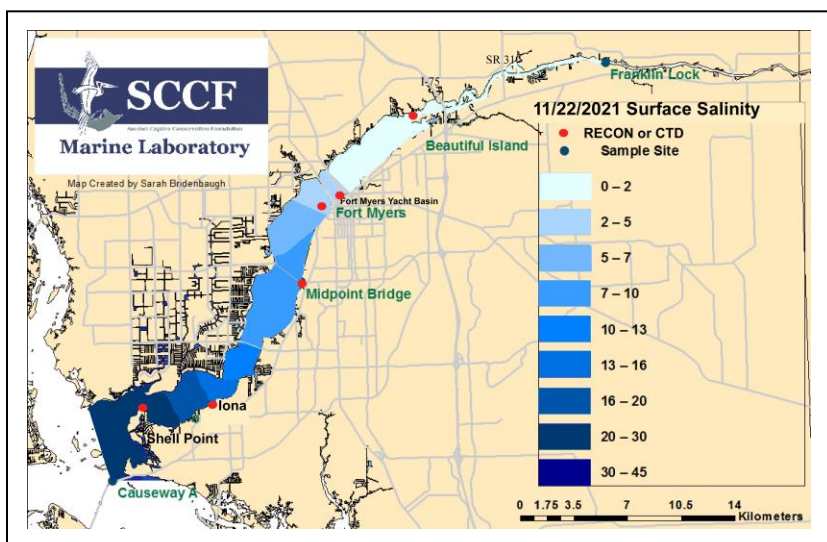
**Last Week:** 16.01 ft

**Lake Okeechobee Inflow:** 2,296 cfs

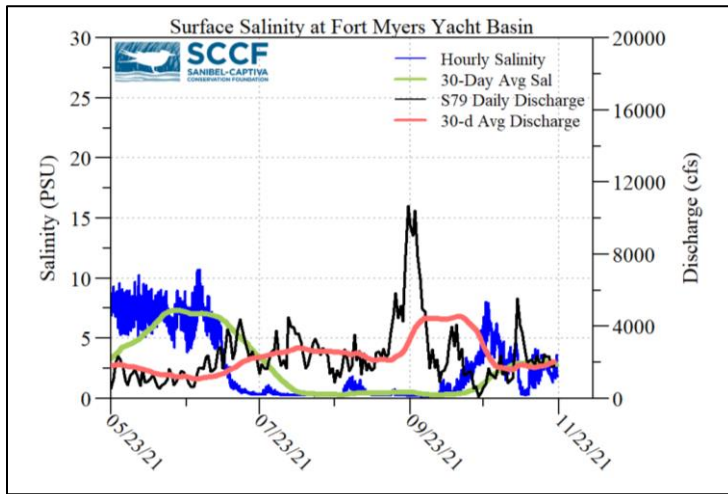
**Lake Okeechobee Outflow:** 587 cfs

**Weekly Rainfall Total:** WP Franklin **0.54"** Ortona **0.26"**

Moore Haven **0.40"**



ACOE Daily Reports			
Date	S79 Flow (cfs)	S78 Flow (cfs)	S77 Flow (cfs)
11/16/21	1834	1307	781
11/17/21	2440	1801	1518
11/18/21	2310	1292	1288
11/19/21	2334	1280	897
11/20/21	1754	1002	587
11/21/21	1836	1286	1134
11/22/21	2303	1158	1160
7-day avg	2116	1304	1052



Light Penetration				
Site	25% Iz	Target Values	Turbidity	Target Values
	meters		NTU	
Fort Myers	0.57 <sup>c</sup>	> 1	2.8	< 18
Shell Point	1.08 <sup>c</sup>	>2.2	1.2	< 18
Causeway	1.50 <sup>c</sup>	> 2.2	2.1	< 5

25% Iz is the depth (z) where irradiance (I) is 25% of surface irradiance. Target values indicate the depth of light penetration needed for healthy seagrass.  
<sup>m</sup> measured, <sup>c</sup> calculated

**Cyanobacteria Status:** On 11/23/21 sampling for cyanobacteria by the Lee County Environmental Lab reported no visible cyanobacteria in the Caloosahatchee.

**Upper Estuary Conditions:** The 30-day average surface salinity at the Fort Myers Yacht Basin was 3.0 psu, within the suitable range for tape grass.

**Lower Estuary Conditions:** The average salinity at Shell Point RECON was 23 psu, within the optimal range for oysters, but below optimal for seagrass.

**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 – 0.9 [0.2 – 0.6]	4.2 – 5.5	362	7.5
Fort Myers Yacht Basin	1.7– 3.9 [0.3 – 4.1]	-----	311	6.8
Shell Point	12 – 30 [11 – 31]	5.5 – 6.8	136	2.7
McIntyre Creek	25.5 – 29.3	3.8 – 12.3	10.4 – 15.7	0.3 – 2.3
Tarpon Bay	-----	-----	-----	-----
Wulfert Flats	13.2 – 30.9	4.6 – 8.6	-----	4.5 – 25.9

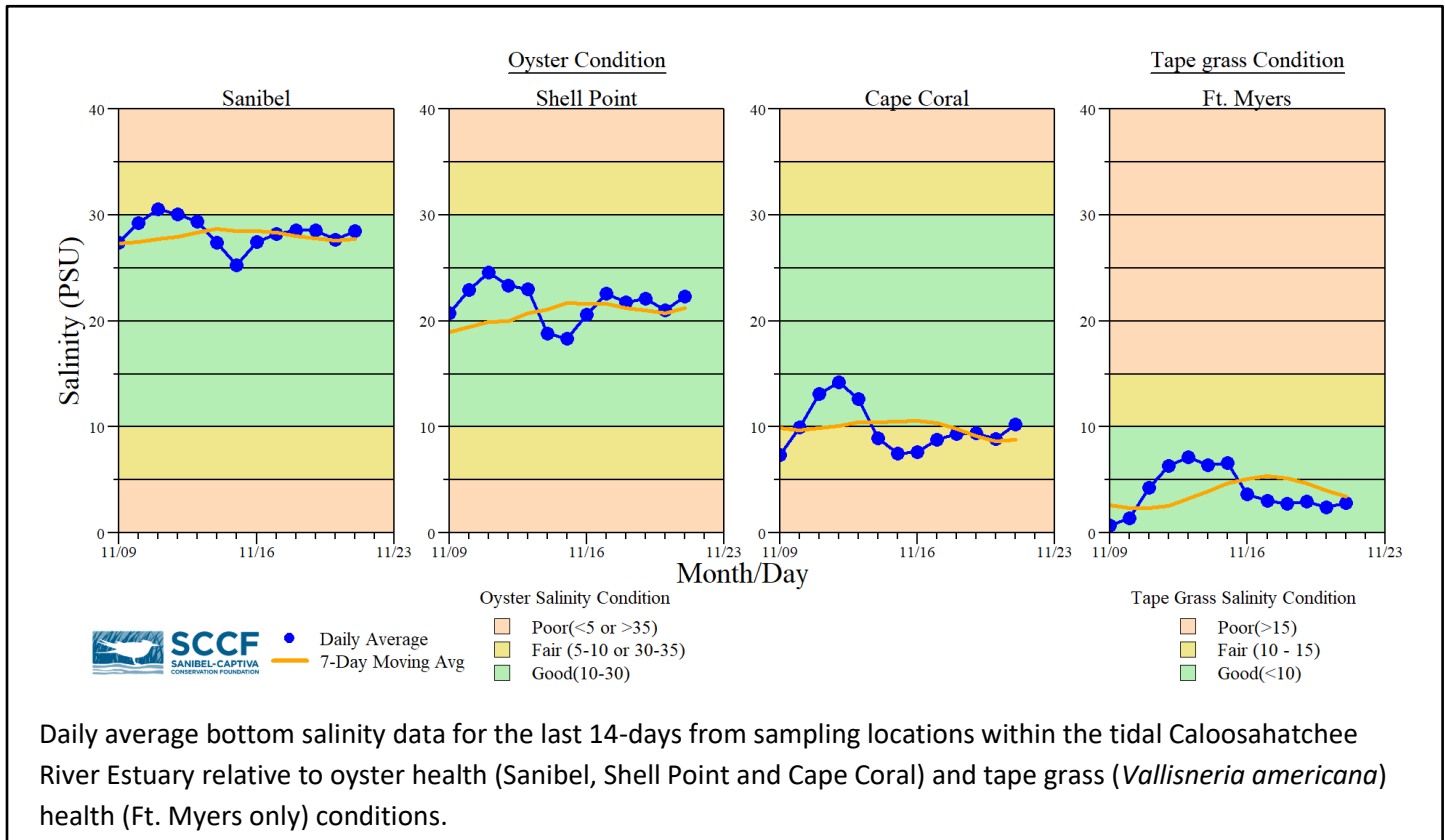
- Red values are outside of the preferred range.
- <sup>a</sup> Salinity target values: BI < 5, FM < 10, SP = 10 – 30
- <sup>b</sup> Dissolved O<sub>2</sub> target values: all sites > 4
- <sup>c</sup> FDOM target values: BI < 70, FM < 70, SP < 11
- <sup>d</sup> Chlorophyll target values: BI < 11, FM < 11, SP < 11
- <sup>s</sup> Single sonde lower and surface layer or surface grab lab measurement

**Red Tide:** On 11/19/21, the FWC reported that *K. brevis* was detected in 37 samples along Florida’s Gulf Coast, with bloom concentrations (>100,000 cells/liter) observed in one sample from Bay County.

In Southwest Florida over the past week, *K. brevis* was observed at background concentrations in and offshore of Pinellas County.

**Wildlife Impacts:** In the past week, the CROW wildlife hospital on Sanibel received 12 toxicosis patients: 1 anhinga, (died), 2 brown pelicans (still at CROW), 8 double crested cormorants (still at CROW), 1 royal tern (still at CROW).

**Fish Kills:** In the past week, the [FWC fish kill hotline](#) received no reports of fish kills in Southwest Florida due to red tide but received reports in Franklin (1 report) and Walton (1 report) counties located in the panhandle.



Water clarity at Lighthouse Beach Park on 11/22/21 at 2:42 PM on a rising tide (High tide: 1.69 ft @ 3:53 PM). [Lighthouse Beach Park Virtual Tour.](#)

