

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 30 – December 6, 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 **1,840 cfs** at **S-79** with a 7-day average of **1,422 cfs (77%)** coming from the lake at S-77. **The 14-day moving average flow at S-79 is 1,875 cfs and has been in the optimal flow envelope (750 - 2100 cfs; RECOVER 2020) for 12 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:** Part D of the 2008 LORS suggests flows up to 450 cfs at S-79 and up to 200 cfs at S-80. As of 11/5/21, target flow to the Caloosahatchee Estuary as measured at the WP Franklin Lock & Dam (S-79) is 2,000 cfs (7-day average, pulse release) and no flow 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 **31,147 AF** with **19,749 AF** to the Caloosahatchee through **S-77**, **223 AF** through **S-310** in Clewiston, and **11,167 AF** to the EAA through **S-351**, **S-352**, and **S-354**. The total net inflow to the Lake was **12,215 AF** (11,347 AF from Fisheating Creek, S-71, S-72, S-84s, S-65EX, and S-65EX1) with a total backflow volume of **868 AF** from **S310 and C10A**. Water conservation areas received flows of **466 AF**, **1,462 AF**, and **4,090 AF** at **WCA1**, **WCA2**, and **WCA3**, respectively. Everglades National Park received **23,343 AF**.

**Lake Level: 15.86 ft (Low sub-band)**

**Last Week: 15.97 ft**

**Last Year: 15.95 ft**

**Lake Okeechobee Inflow: 880 cfs**

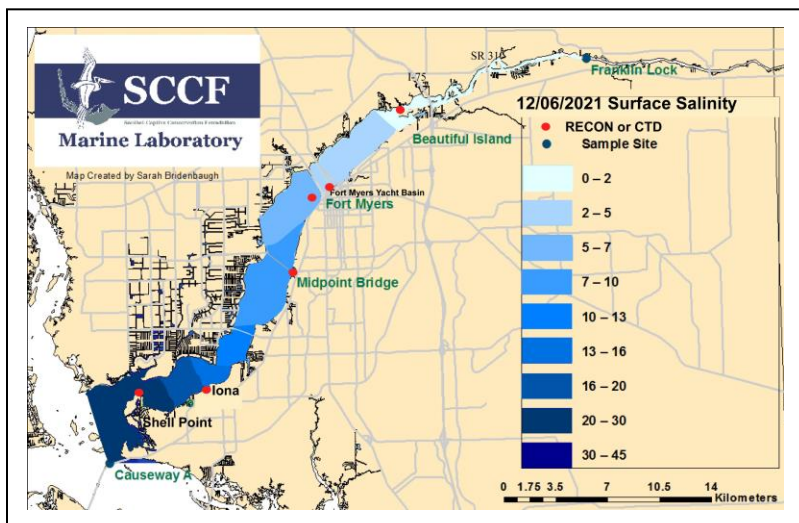
**Lake Okeechobee Outflow: 1,777 cfs**

**Weekly Rainfall Total: WP Franklin 0.00"**

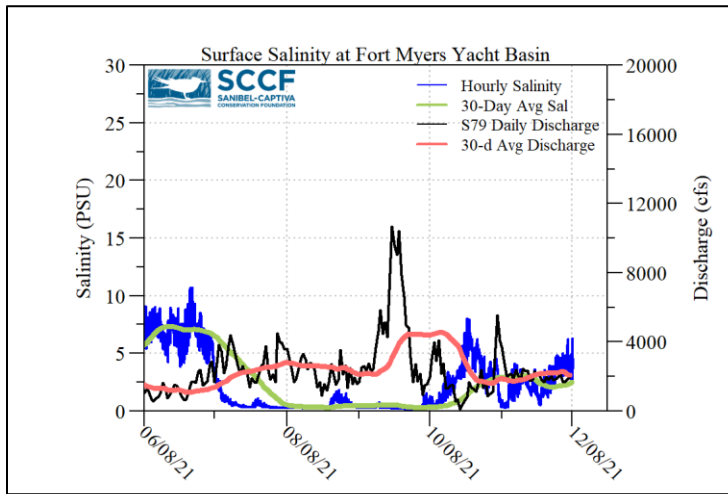
**Ortona 0.00"**

**Moore Haven ≥0.00"**

**7-Day Lake Recession Rate: -0.11 ft/wk**



ACOE Daily Reports			
Date	S79 Flow (cfs)	S78 Flow (cfs)	S77 Flow (cfs)
11/30/21	1768	1343	1514
12/01/21	1874	1339	1696
12/02/21	1965	1362	1876
12/03/21	2117	1373	1371
12/04/21	1684	1098	1374
12/05/21	1661	1093	1036
12/06/21	1808	1260	1090
<b>7-day avg</b>	<b>1840</b>	<b>1267</b>	<b>1422</b>



Light Penetration				
Site	25% I <sub>z</sub>	Target Values	Turbidity	Target Values
	meters		NTU	
Fort Myers	0.62 <sup>c</sup>	> 1	1.2	< 18
Shell Point	1.09 <sup>c</sup>	>2.2	1.3	< 18
Causeway	2.04 <sup>c</sup>	> 2.2	1.5	< 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.*  
<sup>m</sup> measured, <sup>c</sup> calculated

**Cyanobacteria Status:** On 12/07/21 sampling for cyanobacteria by the Lee County Environmental Lab reported the presence of *Microcystis* at the Alva Boat Ramp (90 colonies/L), Franklin Locks (140 colonies/L), and the Davis Boat Ramp (160 colonies/L). No visible cyanobacteria were visible at Royal Palm Park, North Shore Park or Midpoint Bridge Park.

**Upper Estuary Conditions:** The 30-day average surface salinity at the Fort Myers Yacht Basin was **2.6 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	0.4 – 1.7 [0.2 – 0.7]	4.8 – 6.2	347	5.7
Fort Myers Yacht Basin	2.2 – 5.8 [1.0 – 4.4]	-----	290	6.8
Shell Point	14 – 32 [12 – 31]	6.4 – 7.6	136	2.5
McIntyre Creek	28.0 – 30.9	5.4 – 11.8	9.1 – 12.9	0.4 - .8
Tarpon Bay	27.7– 30.5	-----	0.52 – 13.7	-----
Wulfert Flats	30.6 – 33.1	4.9 – 8.7	-----	3.0 – 18.0

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

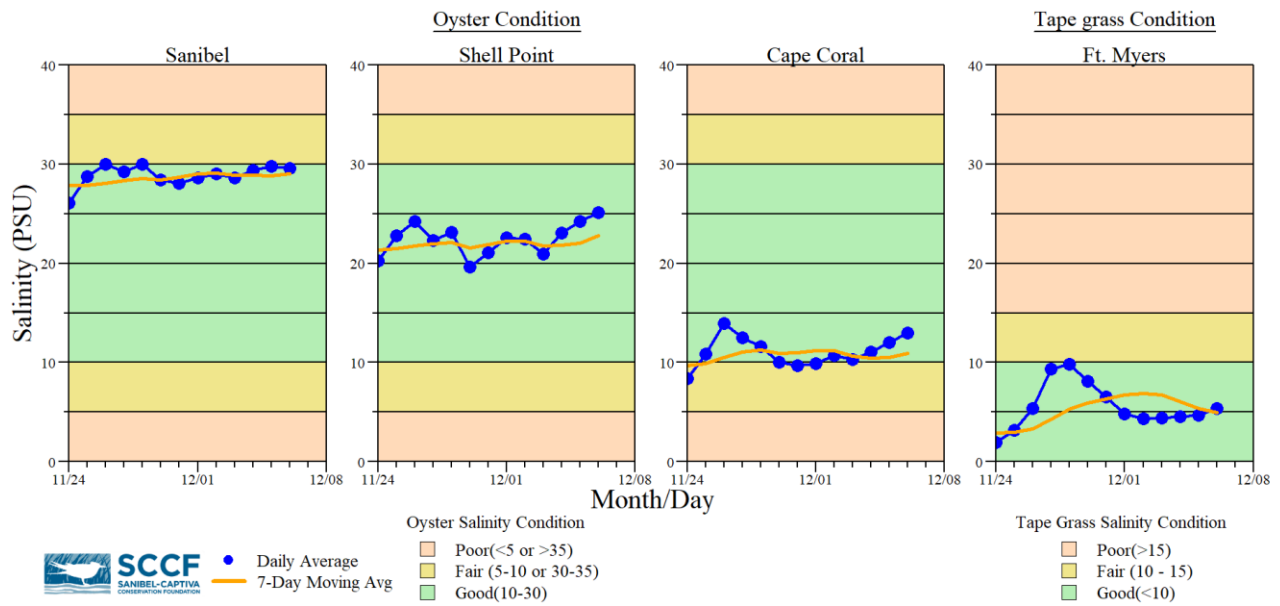
<sup>d</sup> Chlorophyll target values: BI < 11, FM < 11, SP < 11

<sup>s</sup> Single sonde lower and surface layer or surface grab lab measurement

**Red Tide:** On 12/3/21, the FWC reported that *K. brevis* was detected in six samples along Florida’s Gulf Coast.

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

**Wildlife Impacts:** : In the past week (11/29 – 12/5), the CROW wildlife hospital on Sanibel received 10 toxicosis patients: 1 aninga (released), 3 brown pelicans (1 died, 2 still at CROW), 1 common gallinule (died), 1 double crested cormorant (still at CROW), 1 great blue heron (still at CROW), 2 laughing gulls (1 died, 1 still at CROW), and 1 white pelican (still at CROW).



Daily average bottom salinity data for the last 14-days from sampling locations within the tidal Caloosahatchee River Estuary relative to oyster health (Sanibel, Shell Point and Cape Coral) and tape grass (*Vallisneria americana*) health (Ft. Myers only) conditions.



Water clarity at Lighthouse Beach Park on 12/8/21 at 12:08 PM on a rising tide (Low tide: -0.33 ft @ 11:32 AM). [Lighthouse Beach Park Virtual Tour.](#)