

# 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: **February 1 – 7, 2022**

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 **1,937 cfs** at **S-79** with a 7-day average of **1,737 cfs (89%)** coming from the lake at **S-77**. **The 14-day moving average flow at S-79 is 2,020 cfs and has been in the optimal flow envelope (750 – 2,100 cfs; RECOVER 2020) for 75 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 **29,156 AF** with **24,113 AF** to the Caloosahatchee through **S-77**, **371 AF** to St Lucie through **S-308**, **471 AF** through **S-310** in Clewiston, and **1,993 AF** to the EAA through **S-351**, **S-352**, and **S-354**. The total net inflow to the Lake was **14,932 AF** (14,932 AF from Fisheating Creek, S-71, S-72, S-84s, S-65EX, and S-65EX1). Water conservation areas received flows of **0 AF**, **0 AF**, and **5,078 AF** at **WCA1**, **WCA2**, and **WCA3**, respectively. Everglades National Park received **12,908 AF**.

**Lake Level: 14.89 ft (Low sub-band)**

**Last Week: 14.94 ft**

**Last Year: 15.39 ft**

**Lake Okeechobee Inflow: 1,087 cfs**

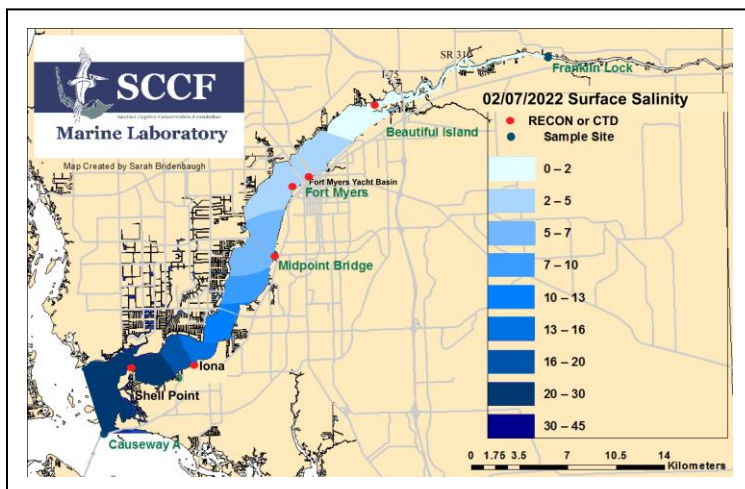
**Lake Okeechobee Outflow: 2,041 cfs**

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

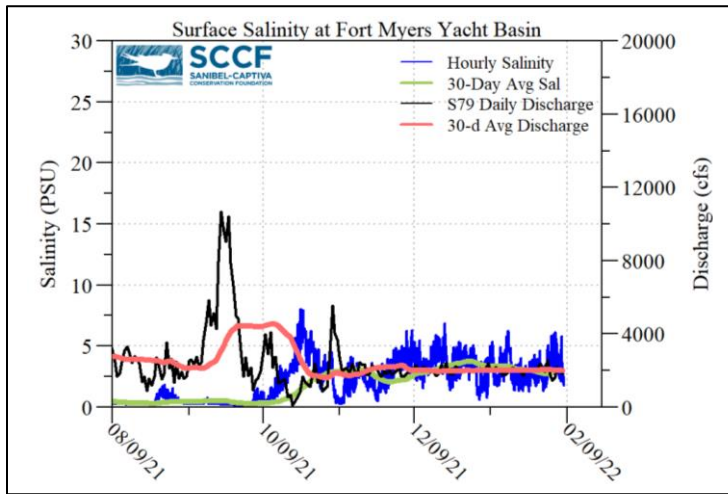
**Ortona ≥ 0.00"**

**Moore Haven ≥ 0.00"**

**7-Day Lake Recession Rate: -0.05 ft/week**



ACOE Daily Reports			
Date	S79 Flow (cfs)	S78 Flow (cfs)	S77 Flow (cfs)
2/1/22	2567	1197	2070
2/2/22	1732	933	1845
2/3/22	1445	1136	1791
2/4/22	1622	1191	1408
2/5/22	2190	1544	1607
2/6/22	2055	1790	1844
2/7/22	1946	1437	1592
<b>7-day avg</b>	<b>1937</b>	<b>1318</b>	<b>1737</b>



Light Penetration				
Site	25% I <sub>z</sub>	Target Values	Turbidity	Target Values
	meters		NTU	
Fort Myers	0.80 <sup>c</sup>	> 1	1.6	< 18
Shell Point	1.54 <sup>c</sup>	>2.2	1.6	< 18
Causeway	1.62 <sup>c</sup>	> 2.2	2.5	< 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 2/7/22 sampling for cyanobacteria by the Lee County Environmental Lab reported the presence of *Microcystis* and *Dolichospermum* at the **Alva Boat Ramp** (overcast/fog, specks not visible). *Microcystis* and *Dolichospermum* were **moderately abundant** upstream of the **Franklin Locks** as streaks with wind-driven accumulation. *Microcystis* and *Dolichospermum* were **moderately abundant** at the **Davis Boat Ramp** as streaks with wind driven accumulation.

**Upper Estuary Conditions:** The 30-day average surface salinity at the Fort Myers Yacht Basin was **3.2 psu**, within the suitable range for tape grass.

**Lower Estuary Conditions:** The average salinity at Shell Point RECON was **25 psu**, within the optimal range for oysters and 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 – 0.9 [0.3 – 1.4]	7.2 – 8.3	274	6.1
Fort Myers Yacht Basin	1.9 – 5.2 [1.6 – 4.3]	-----	204	6.8
Shell Point	16 – 32 [12 – 32]	7.1 – 9.2	67.5	4.9
McIntyre Creek	28.7 – 31.4 [27.5 – 34.4]	7.0 – 13.3	7.0 – 11.4	0.5 – 1.4
Tarpon Bay	----- [-----]	-----	-----	-----
Wulfert Flats	32.2 – 35.3 [30.9 – 35.5]	5.9 – 9.0	-----	4.0 – 15.7

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

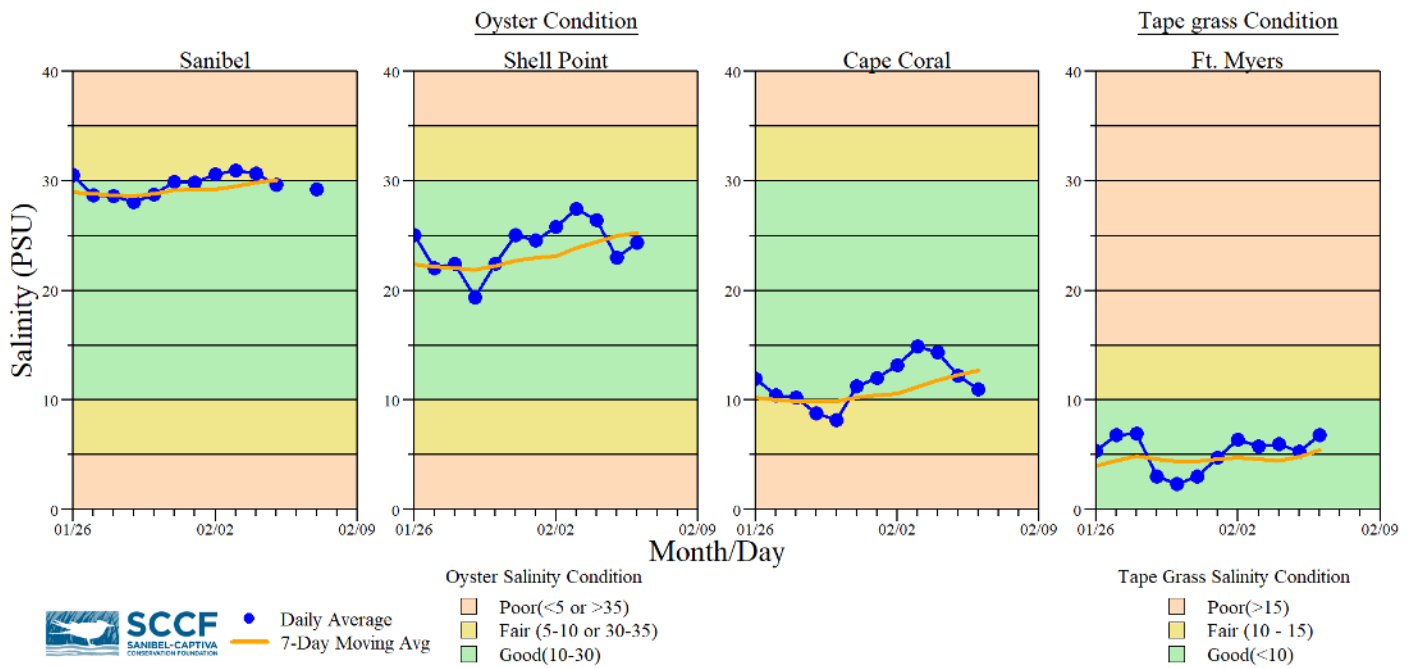
<sup>c</sup> FDOM target values: BI < 70, FM < 70, SP < 11

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

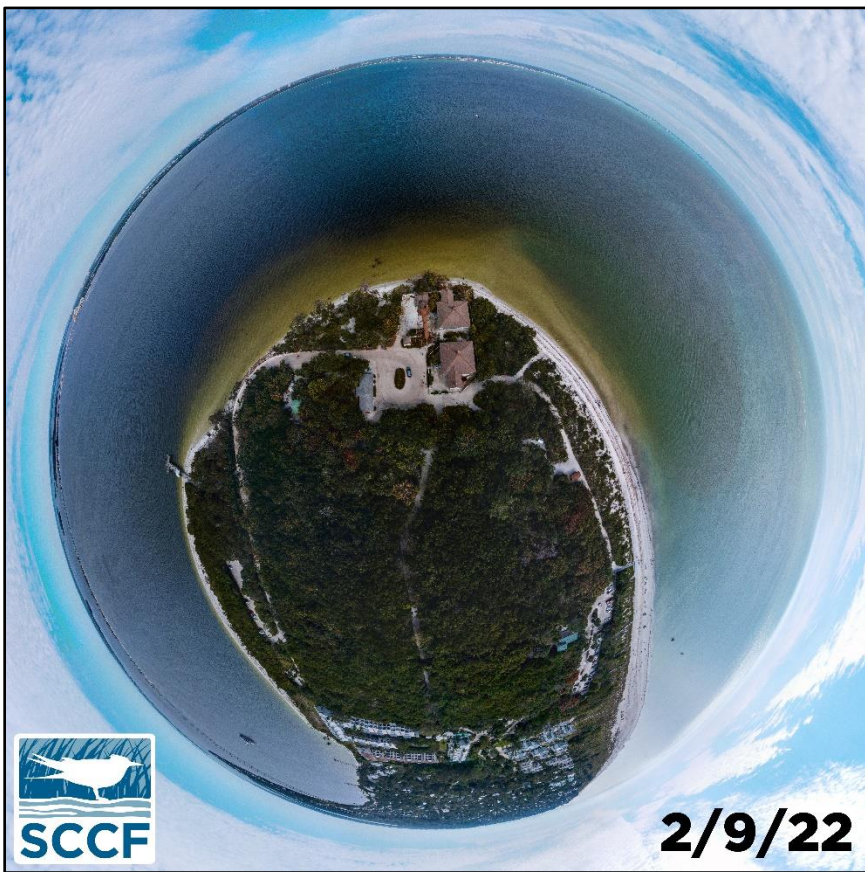
<sup>s</sup> Single sonde lower and surface layer or surface grab lab measurement

**Red Tide:** On 2/4/22, the FWC reported that *K. brevis* was not observed in samples collected statewide over the past week.

**Wildlife Impacts:** In the past week (2/1– 2/7), the CROW wildlife hospital on Sanibel received 9 toxicosis patients: 4 brown pelicans (1 died, 3 still at CROW), 2 double crested cormorants (both still at CROW), 1 royal terns (died), 1 green sea turtle (still at CROW), and 1 loggerhead sea turtle (died).



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 2/9/22 at 2:11 PM on a rising tide (high tide: 2.2 ft @ 5:33PM). [Lighthouse Beach Park Virtual Tour](#).

Cyanobacteria at the Davis Boat Ramp on 2/7/22. *Lee County Environmental Laboratory*.