

# 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: **March 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 **1,976 cfs** at **S-79** with a 7-day average of **2,014 cfs (102%)** coming from the lake at **S-77**. **The 14-day moving average flow at S-79 is 1,973 cfs and has been in the optimal flow envelope (750 – 2,100 cfs; RECOVER 2020) for 104 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 **55,635 AF** with **27,965 AF** to the Caloosahatchee through **S-77**, **4,334 AF** to St Lucie through **S-308**, **1,230 AF** through **S-310** in Clewiston, and **19,250 AF** to the EAA through **S-351**, **S-352**, and **S-354**. The total net inflow to the Lake was **12,069 AF** (15,126 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 **4,604 AF** at **WCA1**, **WCA2**, and **WCA3**, respectively. Everglades National Park received **6,399 AF**.

**Lake Level: 14.32 ft (Low sub-band)**

**Last Week: 14.58 ft**

**Last Year: 15.18 ft**

**Lake Okeechobee Inflow: 265 cfs**

**Lake Okeechobee Outflow: 3,675 cfs**

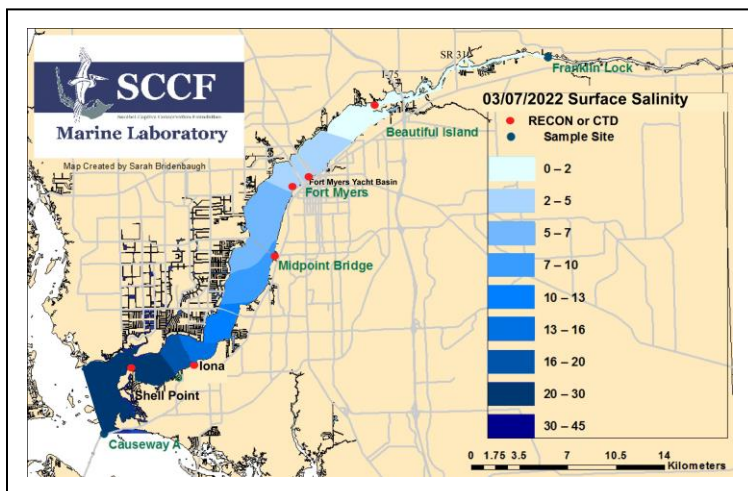
**Weekly Rainfall Total:**

WP Franklin **0.00"**

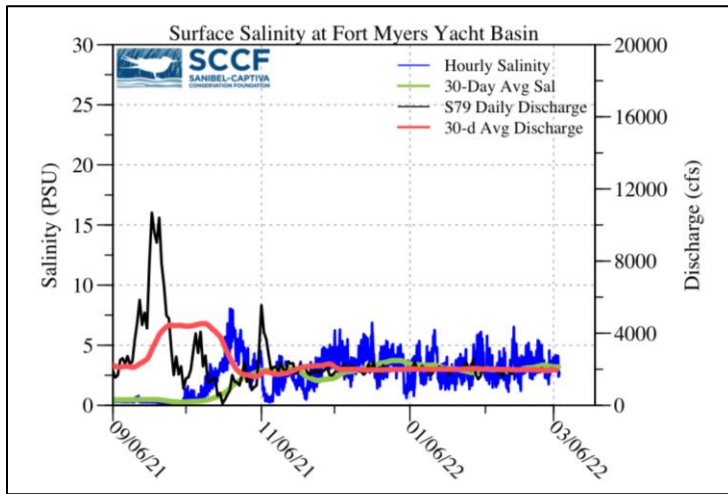
Ortona **≥0.03"**

Moore Haven **0.00"**

**7-Day Lake Recession Rate: -0.26 ft/week**



ACOE Daily Reports			
Date	S79 Flow (cfs)	S78 Flow (cfs)	S77 Flow (cfs)
3/1/22	2055	1479	1752
3/2/22	2007	659	1935
3/3/22	1874	1592	2130
3/4/22	1878	1526	2129
3/5/22	2047	1613	2061
3/6/22	2020	1701	2049
3/7/22	1952	1685	2043
<b>7-day avg</b>	<b>1976</b>	<b>1465</b>	<b>2014</b>



Light Penetration				
Site	25% Iz	Target Values	Turbidity	Target Values
	meters		NTU	
Fort Myers	---	> 1	---	< 18
Shell Point	1.68 <sup>c</sup>	>2.2	1.8	< 18
Causeway	2.26 <sup>c</sup>	> 2.2	2.7	< 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 3/7/22 sampling for cyanobacteria by the Lee County Environmental Lab reported the presence of *Microcystis* upstream of the Franklin Locks with a light accumulation along the lock.

**Upper Estuary Conditions:** The 30-day average surface salinity at the Fort Myers Yacht Basin was 3.4 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 seagrasses. Water column chlorophyll was low at the Causeway.

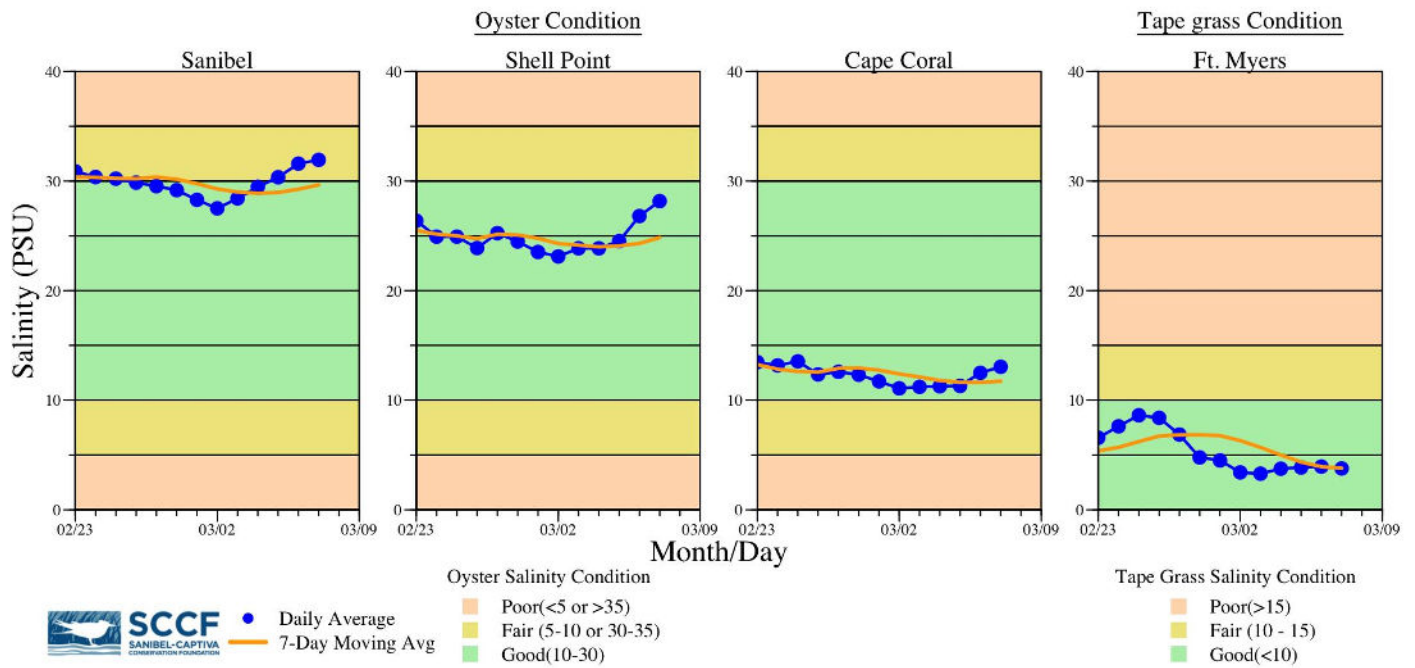
**Water Quality Conditions**

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	0.3 – 0.8 [0.3 – 1.0]	-----	-----	-----
Fort Myers Yacht Basin	2.1 – 5.0 [3.0 – 5.0]	-----	-----	-----
Shell Point	17 – 32 [15 – 32]	6.1 – 7.7	57.5	1.8
McIntyre Creek	29.6 – 31.4 [29.6 – 30.9]	2.8 – 8.8	-----	-----
Tarpon Bay	28.7 – 33.0 [27.5 – 31.7]	5.4 – 8.5	-----	-----
Wulfert Flats	30.2 – 34.0 [31.2 – 32.0]	4.4 – 8.1	-----	3.4 – 28.9

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>e</sup> Single sonde lower and surface layer or surface grab lab measurement  
 ----- no data

**Red Tide:** On 3/4/22, the FWC reported that *K. brevis* was observed in one sample from Northwest Florida. In Southwest Florida, *K. brevis* was not observed.

**Wildlife Impacts:** In the past week (3/1– 3/8), the CROW wildlife hospital on Sanibel received 6 toxicosis patients: 4 double crested cormorants (1 still at CROW, 3 died), 1 laughing gull (still at crow), and 1 ring-billed gull (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 3/7/22 at 1:32 PM on a rising tide (high tide: 2.42 ft @ 2:24 PM). [Lighthouse Beach Park Virtual Tour](#).