

# 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 8 – 14, 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 **1,945 cfs** at **S-79** with a 7-day average of **1,708 cfs (88%)** coming from the lake at **S-77**. **The 14-day moving average flow at S-79 is 1,961 cfs and has been in the optimal flow envelope (750 – 2,100 cfs; RECOVER 2020) for 111 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 **44,963 AF** with **23,720 AF** to the Caloosahatchee through **S-77**, **3,610 AF** to St Lucie through **S-308**, **753 AF** through **S-310** in Clewiston, and **14,110 AF** to the EAA through **S-351**, **S-352**, and **S-354**. The total net inflow to the Lake was **4,340 AF** (4,340 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 **4,534 AF** at **WCA1**, **WCA2**, and **WCA3**, respectively. Everglades National Park received **6,117 AF**.

**Lake Level: 14.14 ft (Low sub-band)**

**Last Week: 14.33 ft**

**Last Year: 15.02 ft**

**Lake Okeechobee Inflow: 362 cfs**

**Lake Okeechobee Outflow: 1,855 cfs**

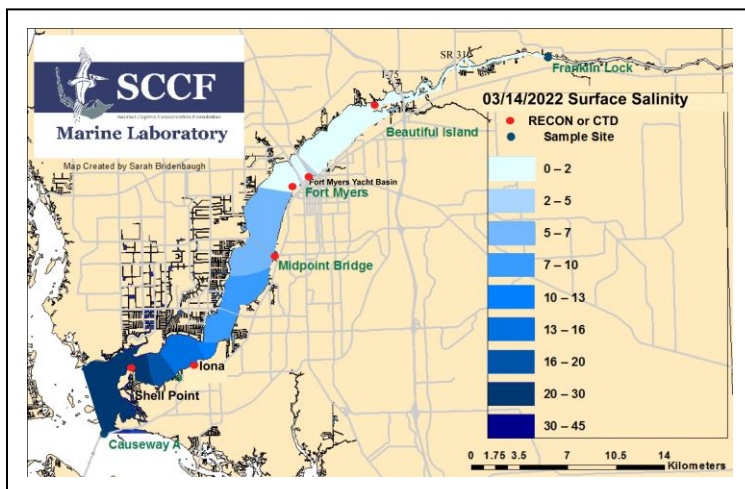
**Weekly Rainfall Total:**

WP Franklin **0.37"**

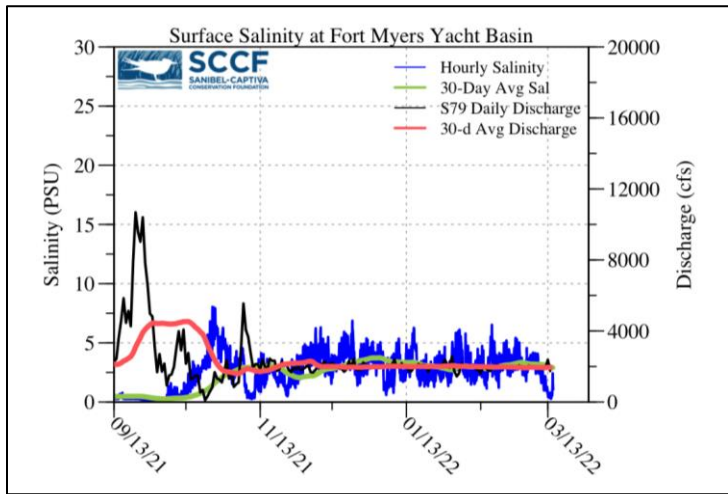
Ortona **0.26"**

Moore Haven **0.08"**

**7-Day Lake Recession Rate: -0.19 ft/week**



ACOE Daily Reports			
Date	S79 Flow (cfs)	S78 Flow (cfs)	S77 Flow (cfs)
3/8/22	1933	1607	1995
3/9/22	1874	1372	1674
3/10/22	1809	1369	1661
3/11/22	1976	1497	1917
3/12/22	1897	1271	1774
3/13/22	2377	1308	1704
3/14/22	1750	1371	1234
<b>7-day avg</b>	<b>1945</b>	<b>1399</b>	<b>1708</b>



Light Penetration				
Site	25% I <sub>z</sub>	Target Values	Turbidity	Target Values
	meters		NTU	
Fort Myers	0.80 <sup>c</sup>	> 1	1.5	< 18
Shell Point	1.78 <sup>c</sup>	>2.2	1.8	< 18
Causeway	1.96 <sup>c</sup>	> 2.2	0.5	< 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 3/14/22 sampling for cyanobacteria by the Lee County Environmental Lab reported the presence of *Dolichospermum* and *Microcystis* at the Alva Boat Ramp as visible specks, upstream of the Franklin Locks with some accumulation and streaks along the lock, and at the Davis Boat Ramp with some streaks visible.

**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 **26 psu**, within the optimal range for oysters and seagrasses. Water column chlorophyll was low at the Causeway.

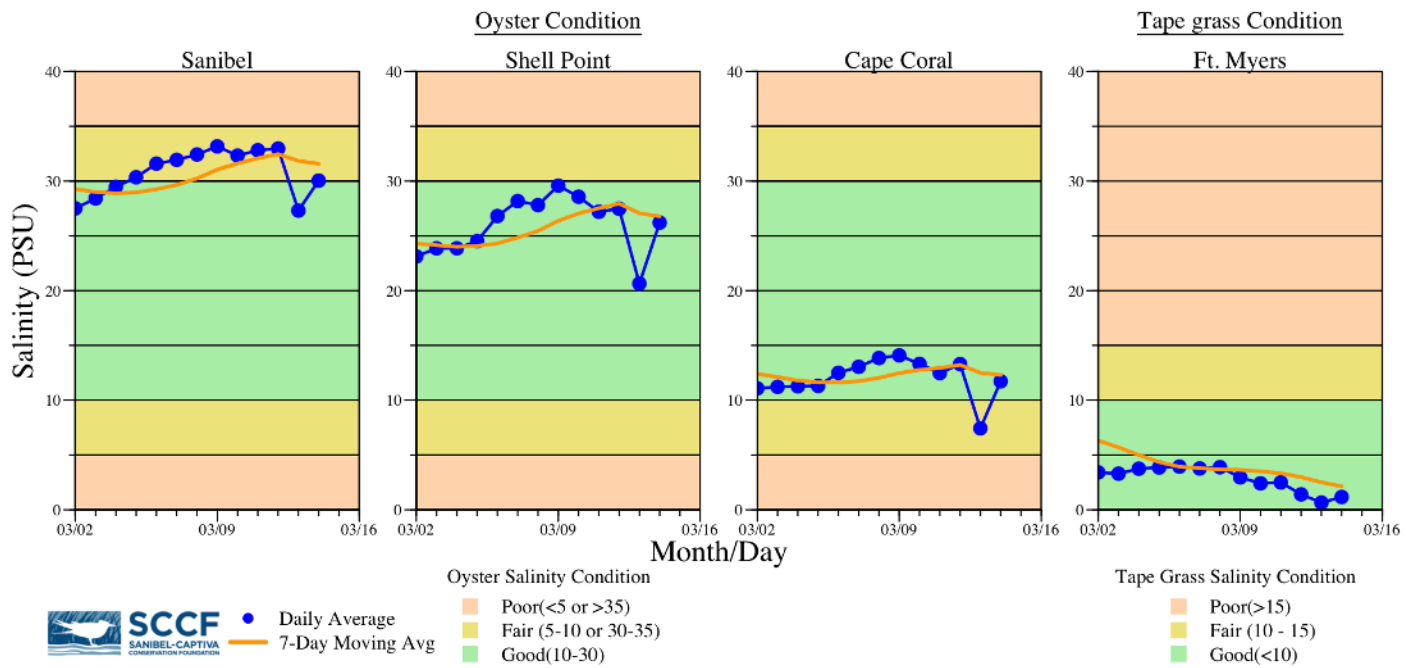
**Water Quality Conditions**

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	0.2 – 0.4 [0.3 – 0.8]	-----	205	----
Fort Myers Yacht Basin	0.4 – 4.0 [2.1 – 5.0]	-----	201	7.2
Shell Point	12 – 34 [17 – 32]	5.5 – 7.2	62.0	3.6
McIntyre Creek	29.6 – 33.9 [29.6 – 31.4]	2.8 – 9.9	-----	-----
Tarpon Bay	26.5 – 34.5 [28.7 – 33.0]	4.7 – 8.3	-----	-----
Wulfert Flats	30.9 – 33.8 [30.2 – 34.0]	3.4 – 8.9	-----	2.4 – 54.9

**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 3/11/22, the FWC reported that *K. brevis* was not observed in samples collected statewide over the past week.

**Wildlife Impacts:** In the past week (3/8– 3/14), the CROW wildlife hospital on Sanibel received 5 toxicosis patients: 1 common gallinule (released), 1 double crested cormorant (still at CROW), 1 herring gull (still at crow), and 1 royal tern (still at CROW) and 1 sanderling (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.



Weather related strandings caused by windy conditions associated with the cold front on 3/12/22. Top: Macroalgae standing on Bunche Beach on 3/12/22. Bottom: Marine fauna including cockles, conchs, crabs, clams, pen shells, and urchins stranded on Sanibel Access beaches on 3/14/22. SCCF

Water clarity at Lighthouse Beach Park on 3/14/22 at 1:16 PM on a high tide (high tide: 1.66 ft @ 12:58 PM). [Lighthouse Beach Park Virtual Tour.](#)