

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 22 – 28, 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 **1,815 cfs** at **S-79** with a 7-day average of **1,842 cfs (101%)** coming from the lake at **S-77**. **The 14-day moving average flow at S-79 is 1,896 cfs and has been in the optimal flow envelope (750 – 2,100 cfs; RECOVER 2020) for 125 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 **60,797 AF** with **25,577 AF** to the Caloosahatchee through **S-77**, **6,897 AF** to St Lucie through **S-308**, **1,412 AF** through **S-310** in Clewiston, and **24,355 AF** to the EAA through **S-351**, **S-352**, and **S-354**. The total net inflow to the Lake was **11,522 AF** (11,522 AF from Fisheating Creek, S-71, S-72, S-84s, S-65EX, and S-65EX1) . Water conservation areas received flows of **208 AF**, **0 AF**, and **3,836 AF** at **WCA1**, **WCA2**, and **WCA3**, respectively. Everglades National Park received **7,712 AF**.

Lake Level: 13.88 ft (Low sub-band)

Last Week: 14.06 ft

Last Year: 14.81 ft

Lake Okeechobee Inflow: 827 cfs

Lake Okeechobee Outflow: 5,292 cfs

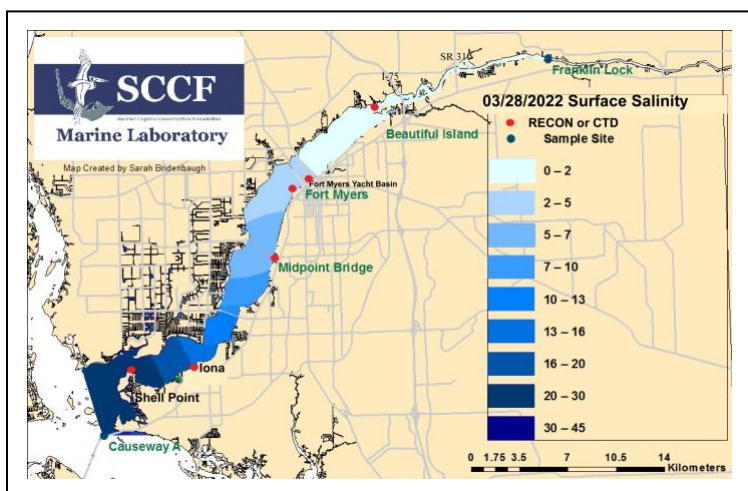
Weekly Rainfall Total:

WP Franklin **≥ 0.00"**

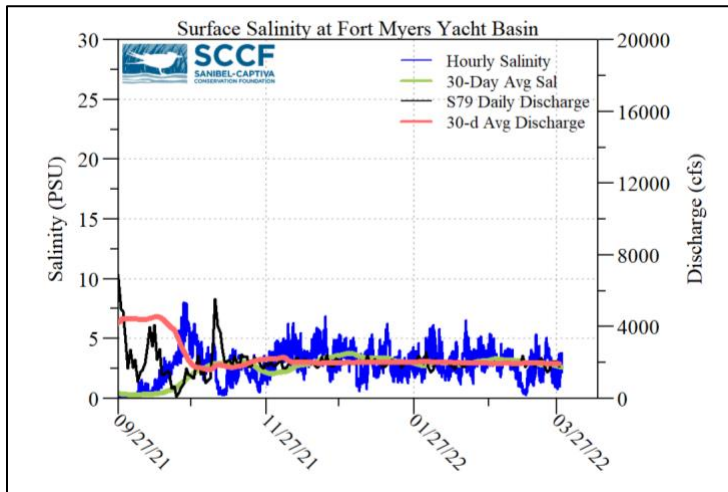
Ortona **≥ 0.00"**

Moore Haven **≥ 0.00"**

7-Day Lake Recession Rate: -0.14 ft/week



ACOE Daily Reports			
Date	S79 Flow (cfs)	S78 Flow (cfs)	S77 Flow (cfs)
3/22/22	1784	1387	1872
3/23/22	1454	1260	1689
3/24/22	1554	1321	1661
3/25/22	2088	1356	1647
3/26/22	2052	1863	1999
3/27/22	2029	1583	2212
3/28/22	1744	1300	1815
7-day avg	1815	1439	1842



Light Penetration				
Site	25% I _z	Target Values	Turbidity	Target Values
	meters		NTU	
Fort Myers	ND	> 1	ND	< 18
Shell Point	1.72 ^c	>2.2	1.9	< 18
Causeway	2.41 ^m	> 2.2	0.7	< 5

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

Cyanobacteria Status: On 3/28/22 sampling for cyanobacteria by the Lee County Environmental Lab reported the presence of *Dolichospermum* and *Microcystis* at the **Alva Boat Ramp** as streaks with no accumulation. *Dolichospermum* and *Microcystis* were **moderately abundant** at the **Davis Boat Ramp** and upstream of the **Franklin Locks** with streaks and accumulation along the seawall.

Upper Estuary Conditions: The 30-day average surface salinity at the Fort Myers Yacht Basin was **2.8 psu**, within the suitable range for tape grass.

Lower Estuary Conditions: The average salinity at Shell Point RECON was **27.5 psu**, within the optimal range for oysters and seagrasses. Water column chlorophyll was low and diatoms were the dominant plankton group at the Sanibel Causeway. *Pseudo-nitzschia* was dominant along a transect off Ft. Myers Beach on 3/23/22.

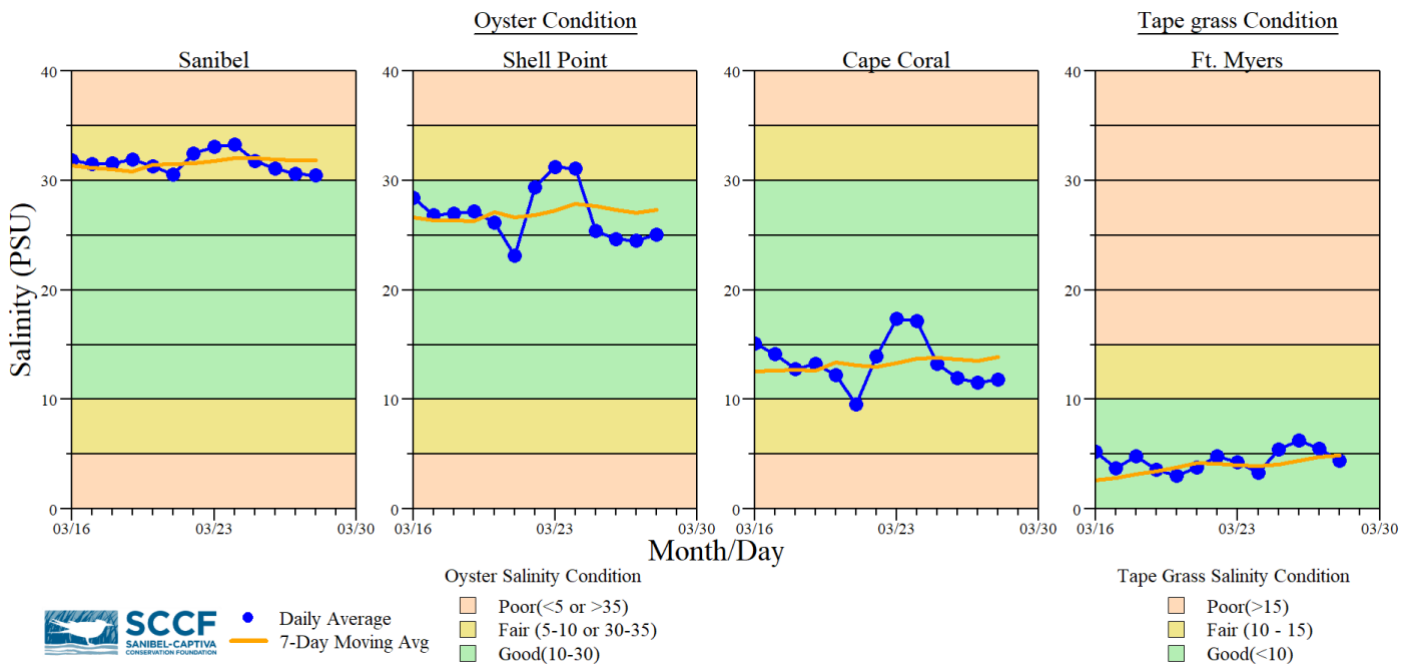
Water Quality Conditions

Monitor Site	Salinity (psu) ^a [previous week]	Diss O ₂ (mg/L) ^b	FDOM (qsde) ^c	Chlorophyll (µg/L) ^d
Beautiful Island	0.2 – 0.6 [-----]	-----	-----	-----
Fort Myers Yacht Basin	1.2 – 4.9 [0.5 – 4.4]	-----	163	-----
Shell Point	15 – 34 [16 – 32]	5.1 – 7.3	53.7	2.9
McIntyre Creek	31.5 – 34.3 [30.0 – 32.4]	3.1 – 9.7	-----	-----
Tarpon Bay	30.6 – 34.6 [30.7 – 33.4]	4.6 – 7.9	-----	-----
Wulfert Flats	25.7 – 34.2 [13.5 – 32.4]	2.7 – 8.3	-----	2.6 – 19.4

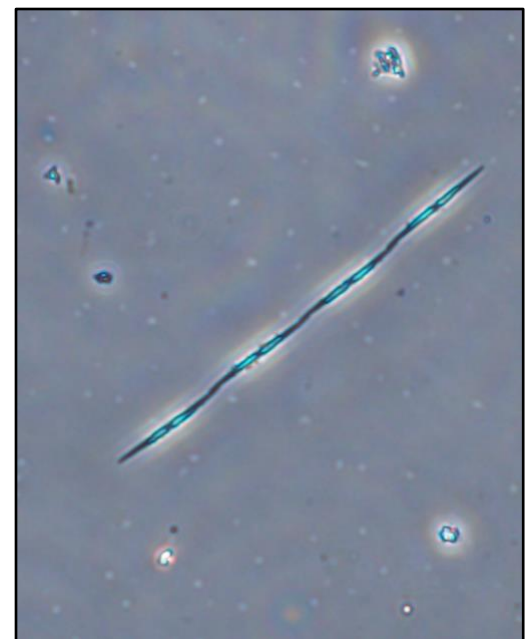
Red values are outside of the preferred range.
^a Salinity target values: BI < 5, FM < 10, SP = 10 – 30
^b Dissolved O₂ target values: all sites > 4
^c FDOM target values: BI < 70, FM < 70, SP < 11
^d Chlorophyll target values: BI < 11, FM < 11, SP < 11
^e Single sonde lower and surface layer or surface grab lab measurement
 ----- no data

Red Tide: On 3/25/22, the FWC reported that *K. brevis* was observed in Southwest Florida over the past week, *K. brevis* was observed at background concentrations in one sample each from offshore of Collier and Monroe counties.

Wildlife Impacts: In the past week (3/20 – 3/29), the CROW wildlife hospital on Sanibel received 7 toxicosis patients: 3 double crested cormorants (1 died, 1 released, 1 still at CROW), and 1 common gallinule (died), 1 herring gull (still at CROW), 1 laughing gull (still at CROW), and 1 royal tern (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.



Pseudo-nitzschia was the dominant diatom along a transect off Ft. Myers Beach on 3/23/22. SCCF

Water clarity at Lighthouse Beach Park on 3/25/22 at 8:22 AM on a rising tide (low tide: -0.46ft @ 2:25 AM). [Lighthouse Beach Park Virtual Tour.](#)



Macroalgal mats in seagrass meadows in Matlacha Pass south of the bridge on 3/29/22. Mats can be found throughout the pass and much of the substrate is covered as well. Water clarity is exceptional, but seagrass is outcompeted by mats for sunlight. *City of Cape Coral*