

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: **January 3 – 10, 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 **2,087 cfs** at **S-79** with a 7-day average of **1,763 cfs (84%)** coming from the lake at **S-77**. The **14-day moving average flow at S-79 is 2,014 cfs** and has been in the **optimal flow envelope (750 - 2100 cfs; RECOVER 2020)** for 47 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 **54,993 AF** with **24,476 AF** to the Caloosahatchee through **S-77**, **8,235 AF** to St Lucie through **S-308**, **434 AF** through **S-310** in Clewiston, and **19,755 AF** to the EAA through **S-351**, **S-352**, and **S-354**. The total net inflow to the Lake was **6,992 AF** (**6,990 AF** from Fisheating Creek, S-71, S-72, S-84s, S-65EX, and S-65EX1) with a total backflow volume of **2 AF** from **S310**. Water conservation areas received flows of **177 AF**, **272 AF**, and **1,833 AF** at **WCA1**, **WCA2**, and **WCA3**, respectively. Everglades National Park received **16,302 AF**.

Lake Level: 15.28 ft (Low sub-band)

Last Week: 15.46 ft

Last Year: 15.67 ft

Lake Okeechobee Inflow: 524 cfs

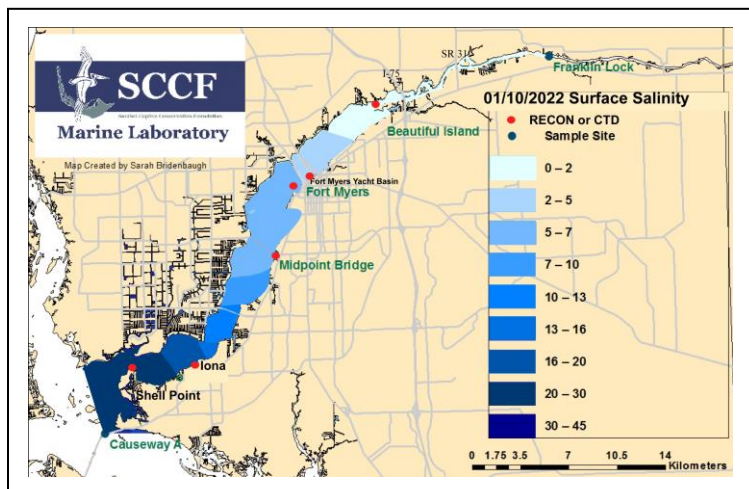
Lake Okeechobee Outflow: 2,877 cfs

Weekly Rainfall Total: WP Franklin ≥0.00"

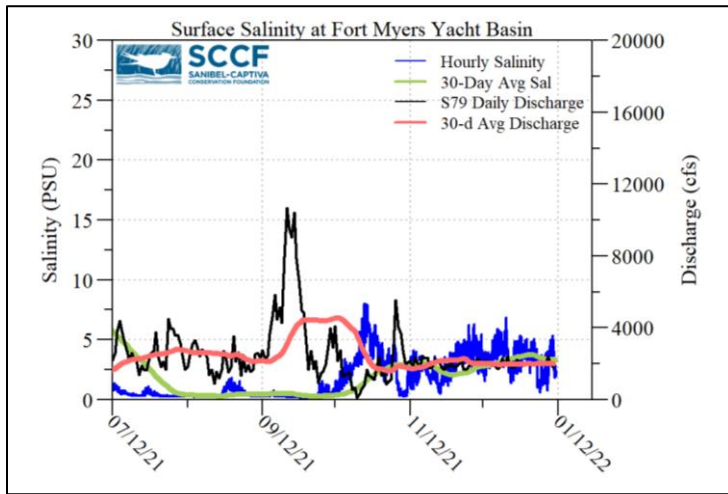
Ortona ≥0.02"

Moore Haven ≥0.00"

7-Day Lake Recession Rate: -0.17 ft/wk



ACOE Daily Reports			
Date	S79 Flow (cfs)	S78 Flow (cfs)	S77 Flow (cfs)
1/4/22	2040	1860	1832
1/5/22	2034	1563	2319
1/6/22	2093	1643	1847
1/7/22	2112	1855	1884
1/8/22	2387	1681	1670
1/9/22	1957	1631	1393
1/10/22	1955	1459	1395
7-day avg	2083	1670	1763



Light Penetration				
Site	25% I _z	Target Values	Turbidity	Target Values
	meters		NTU	
Fort Myers	0.69 ^c	> 1	1.8	< 18
Shell Point	-----	>2.2	-----	< 18
Causeway	1.67 ^c	> 2.2	2.5	< 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 1/10/22 sampling for cyanobacteria by the Lee County Environmental Lab reported the presence of *Microcystis* and *Dolichospermum* at the Alva Boat Ramp as visible specks with no accumulation/streaks and upstream of the Franklin Locks as visible specks and streaks.

Upper Estuary Conditions: The 30-day average surface salinity at the Fort Myers Yacht Basin was **3.6 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.

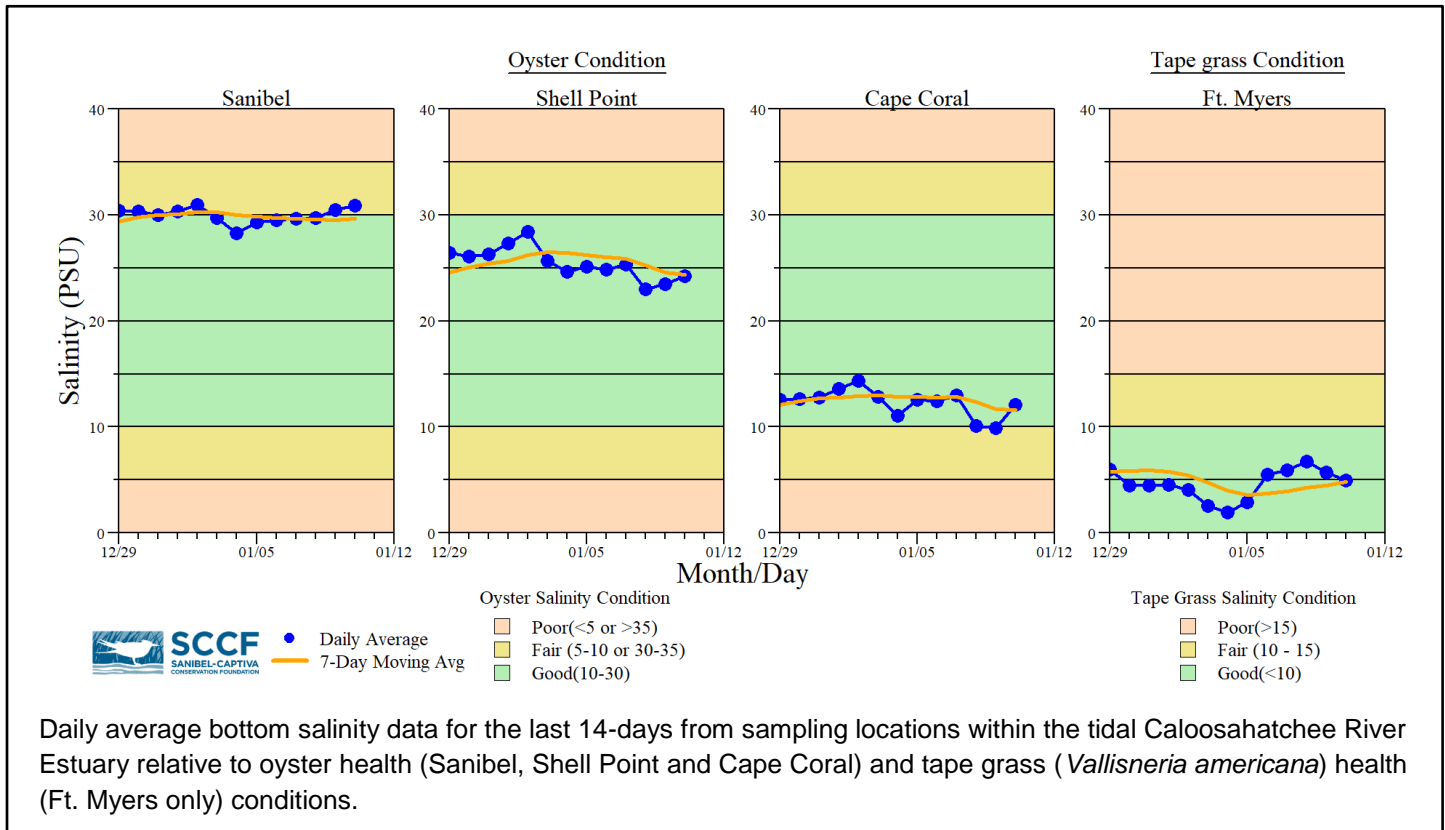
Water Quality Conditions

Monitor Site	Salinity (psu) ^a [previous week]	Diss O ₂ (mg/L) ^b	FDOM (qsde) ^c	Chlorophyll (µg/L) ^d
Beautiful Island	0.2 – 0.6 [0.3 – 0.7]	4.7 – 6.2	305	---
Fort Myers Yacht Basin	0.9 - 5.8 [1.8 – 5.0]	-----	250	6.8
Shell Point	ND	ND	ND	ND
McIntyre Creek	28.5 – 32.3 [28.0 – 32.3]	5.3 – 13.6	6.0 – 11.7	0.4 – 1.2
Tarpon Bay	----- [-----]	-----	-----	-----
Wulfert Flats	30.4 – 33.5 [29.7 – 33.9]	4.7 – 8.6	-----	3.1 – 20.2

- 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
- ^s Single sonde lower and surface layer or surface grab lab measurement

Red Tide: On 1/7/22, the FWC reported that *K. brevis* was not observed in samples collected statewide over the past week.

Wildlife Impacts: In the past week (1/3 – 1/9), the CROW wildlife hospital on Sanibel received 13 toxicosis patients: 2 brown pelicans (both died), 4 double crested cormorants (1 died, 3 still at CROW), 2 laughing gulls (both died), and 5 white pelicans (3 died, 2 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 1/10/22 at 11:43 AM on a falling tide (Low tide: 0.69ft @ 12:24 PM). [Lighthouse Beach Park Virtual Tour.](#)