

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 25 – 31, 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 **2,104 cfs** at **S-79** with a 7-day average of **2,022 cfs (96%)** coming from the lake at **S-77**. The **14-day moving average flow at S-79 is 2,061 cfs** and has been in the **optimal flow envelope (750 – 2,100 cfs; RECOVER 2020)** for 68 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 **50,103 AF** with **28,068 AF** to the Caloosahatchee through **S-77**, **571 AF** to St Lucie through **S-308**, **883 AF** through **S-310** in Clewiston, and **18,280 AF** to the EAA through **S-351**, **S-352**, and **S-354**. The total net inflow to the Lake was **13,720 AF** (13,720 AF from Fisheating Creek, S-71, S-72, S-84s, S-65EX, and S-65EX1). Water conservation areas received flows of **1,220 AF**, **0 AF**, and **4,852 AF** at **WCA1**, **WCA2**, and **WCA3**, respectively. Everglades National Park received **12,460 AF**.

Lake Level: 14.94 ft (Low sub-band)

Last Week: 15.09 ft

Last Year: 15.47 ft

Lake Okeechobee Inflow: 1,039 cfs

Lake Okeechobee Outflow: 4,328 cfs

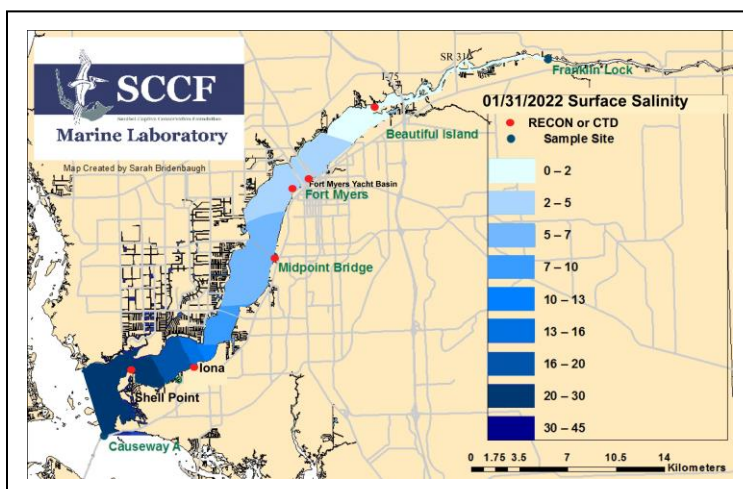
Weekly Rainfall Total:

WP Franklin **≥ 0.15"**

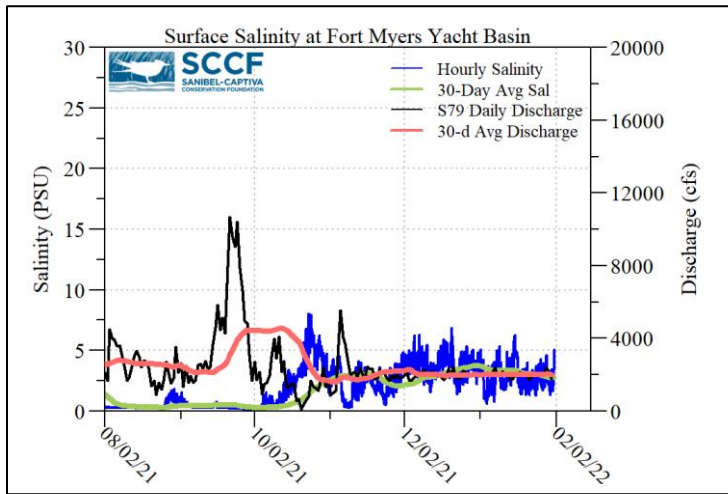
Ortona **≥ 0.02"**

Moore Haven **≥ 0.00"**

7-Day Lake Recession Rate: -0.12 ft/week



ACOE Daily Reports			
Date	S79 Flow (cfs)	S78 Flow (cfs)	S77 Flow (cfs)
1/25/22	2040	1527	1358
1/26/22	2050	1321	1363
1/27/22	2102	1575	1688
1/28/22	2076	1820	2414
1/29/22	2389	1622	2452
1/30/22	2141	1890	2508
1/31/22	1927	1785	2368
7-day avg	2104	1649	2022



Light Penetration				
Site	25% I _z	Target Values	Turbidity	Target Values
	meters		NTU	
Fort Myers	0.74 ^c	> 1	1.9	< 18
Shell Point	1.43 ^c	>2.2	1.7	< 18
Causeway	1.34 ^c	> 2.2	12	< 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 1/31/22 sampling for cyanobacteria by the Lee County Environmental Lab reported the presence of *Microcystis* and *Dolichospermum* at the Alva Boat Ramp as visible specks. *Microcystis*, *Dolichospermum* and nostocalean filaments were present upstream of the Franklin Locks as visible specks with some wind-driven accumulation along the shore. *Microcystis*, *Dolichospermum*, and nostocalean filaments were moderately abundant at the Davis Boat Ramp as streaks with wind driven accumulation on the seawall.

Upper Estuary Conditions: The 30-day average surface salinity at the Fort Myers Yacht Basin was 3.0 psu, within the suitable range for tape grass.

Lower Estuary Conditions: The average salinity at Shell Point RECON was 23 psu, within the optimal range for oysters.

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	0.3 – 1.4 [0.3 – 0.8]	6.5 – 8.1	276	5.9
Fort Myers Yacht Basin	1.6 – 4.3 [1.5 – 4.3]	-----	227	6.8
Shell Point	12 - 32	7.2 – 9.0	80.2	3.8
McIntyre Creek	27.5 – 34.4 [28.0 – 33.1]	7.3 – 13.6	6.7 – 18.0	0.4 – 1.4
Tarpon Bay	----- [-----]	-----	-----	-----
Wulfert Flats	30.9—35.5 [31.3 – 34.4]	6.0 – 9.2	-----	2.4 – 15.3

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

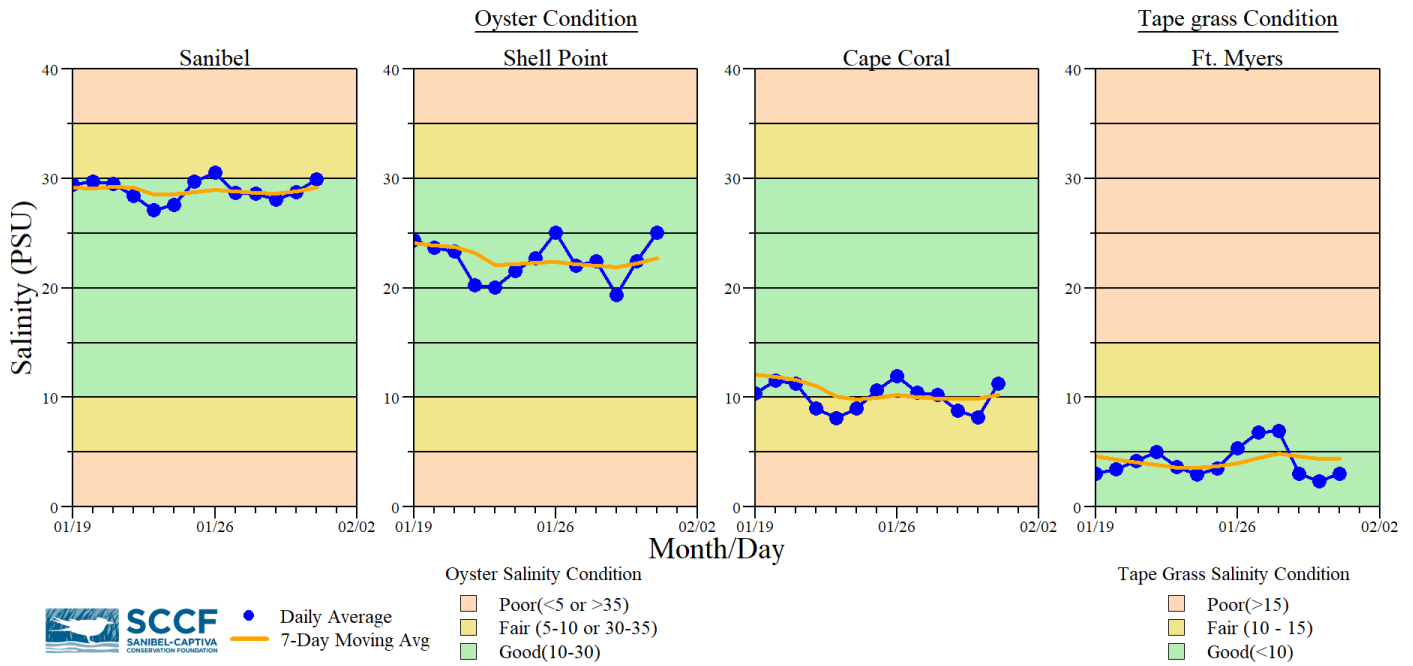
^c FDOM target values: BI < 70, FM < 70, SP < 11

^d Chlorophyll target values: BI < 11, FM < 11, SP < 11

^e Single sonde lower and surface layer or surface grab lab measurement

Red Tide: On 1/28/22, the FWC reported that *K. brevis* was not observed in samples collected statewide over the past week.

Wildlife Impacts: In the past week (1/24 – 1/31), the CROW wildlife hospital on Sanibel received 15 toxicosis patients: 1 anhinga (died), 5 brown pelicans (1 died, 4 still at CROW), 1 common loons (died), 2 double crested cormorant (both still at CROW), 1 ring-billed gull (died), 4 royal terns (2 died, 2 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.



Top photo: Drift algae and seagrass leaves accumulated at the Sanibel Boat Ramp on 1/31/22. SCCF. Bottom photo: Accumulation of marine plants and animals on the shoreline at light house beach park on 1/28/22. City of Sanibel.

Water clarity at Lighthouse Beach Park on 1/31/22 at 1:16 PM on a high tide (high tide: 1.33 ft @ 2:00PM). [Lighthouse Beach Park Virtual Tour.](#)

