

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 11 – 17, 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 **1,946 cfs** at **S-79** with a 7-day average of **1,325 cfs (68%)** coming from the lake at **S-77**. The **14-day moving average flow at S-79 is 2,010 cfs** and has been in the **optimal flow envelope (750 - 2100 cfs; RECOVER 2020)** for 54 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 **38,000 AF** with **18,395 AF** to the Caloosahatchee through **S-77**, **8,374 AF** to St Lucie through **S-308**, **532 AF** through **S-310** in Clewiston, and **9,977 AF** to the EAA through **S-351**, **S-352**, and **S-354**. The total net inflow to the Lake was **3,868 AF** (3,840 AF from Fisheating Creek, S-71, S-72, S-84s, S-65EX, and S-65EX1) with a total backflow volume of **28 AF** from **S310** and **C10A**. Water conservation areas received flows of **0 AF**, **0 AF**, and **2,523 AF** at **WCA1**, **WCA2**, and **WCA3**, respectively. Everglades National Park received **7,325 AF**.

Lake Level: 15.23 ft (Low sub-band)

Last Week: 15.28 ft

Last Year: 15.64 ft

Lake Okeechobee Inflow: 13 cfs

Lake Okeechobee Outflow: 1761 cfs

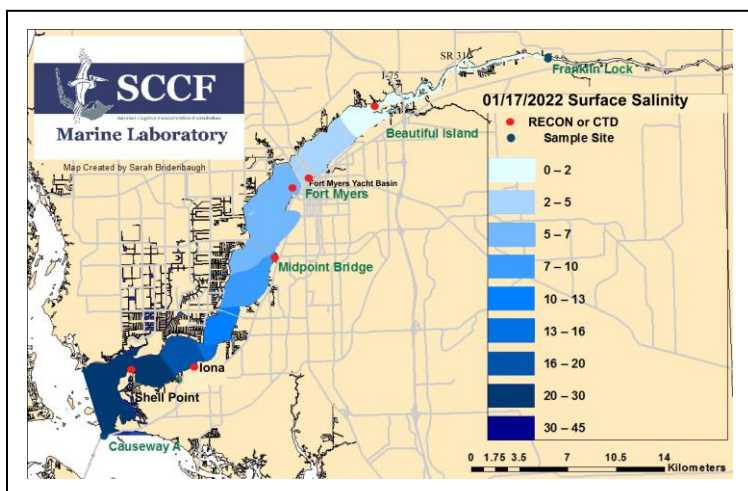
Weekly Rainfall Total:

WP Franklin **1.60"**

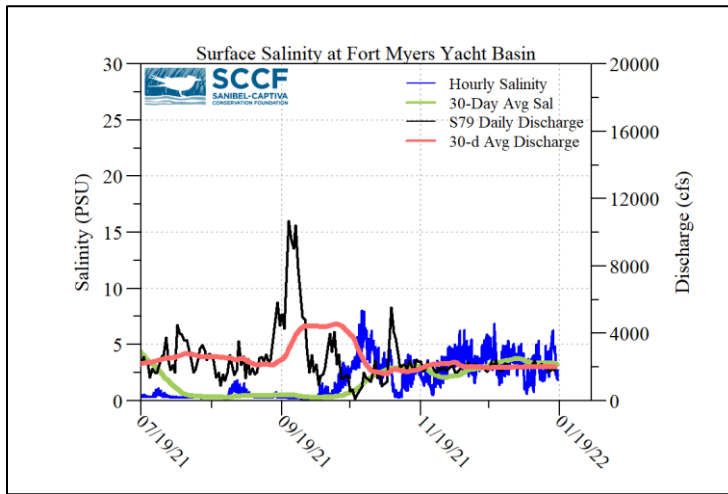
Ortona **≥1.17"**

Moore Haven **≥0.96"**

7-Day Lake Recession Rate: -0.41 ft/wk



ACOE Daily Reports			
Date	S79 Flow (cfs)	S78 Flow (cfs)	S77 Flow (cfs)
1/11/22	2180	1619	1302
1/12/22	1991	1844	1864
1/13/22	2037	1427	1716
1/14/22	1759	1283	1282
1/15/22	1727	1379	1328
1/16/22	1921	1373	1057
1/17/22	2004	1435	725
14-day avg	1946	1480	1325



Light Penetration

Site	25% I _z	Target Values	Turbidity	Target Values
	meters		NTU	
Fort Myers	0.65 ^c	> 1	1.7	< 18
Shell Point	-----	>2.2	-----	< 18
Causeway	1.63 ^m	> 2.2	2.2	< 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: There was no report for cyanobacteria this week.

Upper Estuary Conditions: The 30-day average surface salinity at the Fort Myers Yacht Basin was **3.5 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	0.3 – 0.8 [0.2 – 0.6]	5.1 – 6.3	301	---
Fort Myers Yacht Basin	2.0 – 6.1 [0.9 – 5.8]	-----	267	6.8
Shell Point	ND	ND	ND	ND
McIntyre Creek	26.9 – 33.2 [28.5 – 32.3]	6.4 – 15.4	6.2 – 13.4	0.2 – 1.1
Tarpon Bay	----- [-----]	-----	-----	-----
Wulfert Flats	29.5 – 33.6 [30.4 – 33.5]	5.6 – 8.6	-----	2.9 – 11.7

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

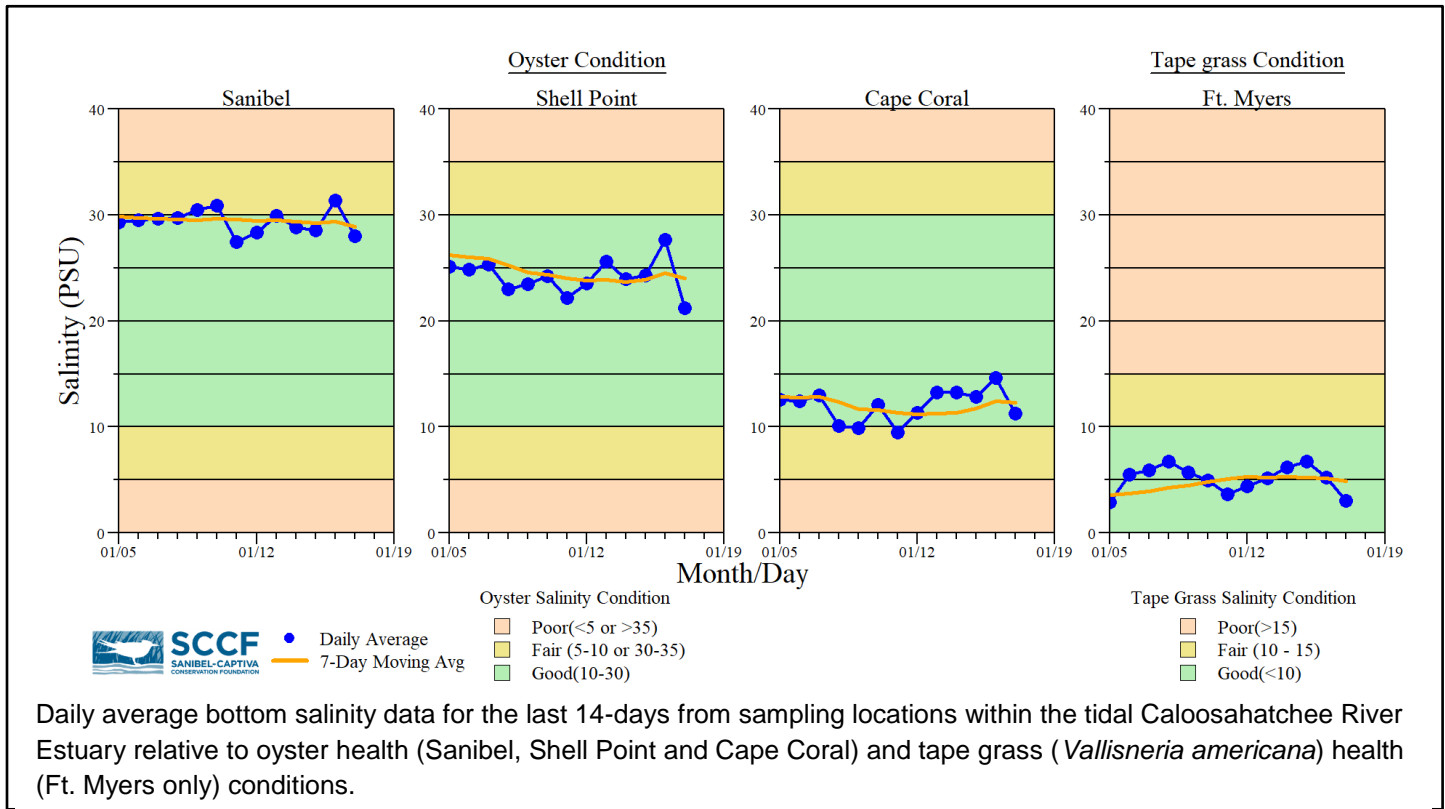
^c FDOM target values: BI < 70, FM < 70, SP < 11

^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 1/14/22, the FWC reported that *K. brevis* was observed at background concentrations in one sample in Manatee County.

Wildlife Impacts: In the past week (1/9 – 1/17), the CROW wildlife hospital on Sanibel received 15 toxicosis patients: 1 anhinga (still at CROW), 4 brown pelicans (2 died, 2 still at CROW), 2 double crested cormorants (both still at CROW), 2 royal terns (1 died, 1 still at CROW), 1 sanderling (died), 1 sandwich tern (died), 1 white ibis (still at CROW), and 3 white pelicans (1 died, 2 still at CROW).



Scallops, sea urchins, macroalgae, and other marine life stranded on Lighthouse Beach Park on 1/18/22. Suspected cause: severe weather. Photos: SCCF



Water clarity at Lighthouse Beach Park on 1/18/22 at 11:27 AM on a rising tide (High tide: 1.29ft @ 2:27 PM). [Lighthouse Beach Park Virtual Tour.](#)