

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: **February 15 – 21, 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 **1,952 cfs** at **S-79** with a 7-day average of **1,670 cfs (85%)** coming from the lake at **S-77**. The **14-day moving average flow at S-79 is 1,936 cfs** and has been in the **optimal flow envelope (750 – 2,100 cfs; RECOVER 2020)** for 90 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 **41,730 AF** with **23,193 AF** to the Caloosahatchee through **S-77**, **12,468 AF** to St Lucie through **S-308**, **668 AF** through **S-310** in Clewiston, and **3,782 AF** to the EAA through **S-351**, **S-352**, and **S-354**. The total net inflow to the Lake was **15,127 AF** (15,126 AF from Fisheating Creek, S-71, S-72, S-84s, S-65EX, and S-65EX1) with a total backflow volume of **1 AF** from **S310**. Water conservation areas received flows of **208 AF**, **0 AF**, and **3,959 AF** at **WCA1**, **WCA2**, and **WCA3**, respectively. Everglades National Park received **9,856 AF**.

Lake Level: 14.71 ft (Low sub-band)

Last Week: 14.82 ft

Last Year: 15.40 ft

Lake Okeechobee Inflow: 1,040 cfs

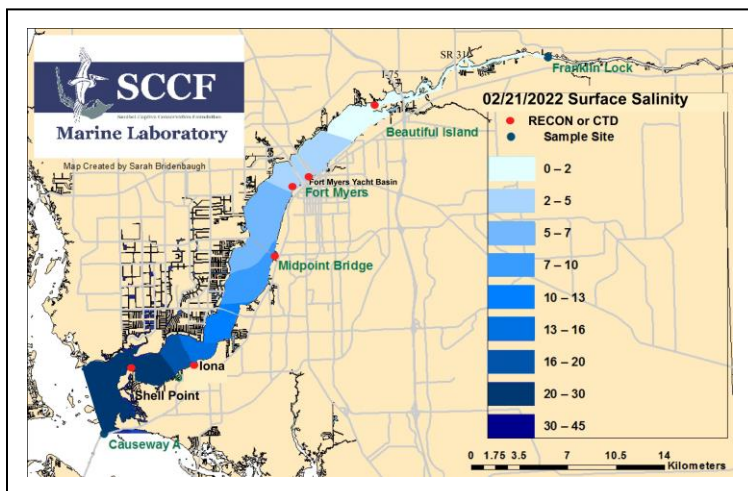
Lake Okeechobee Outflow: 2,914 cfs

Weekly Rainfall Total: WP Franklin 0.13"

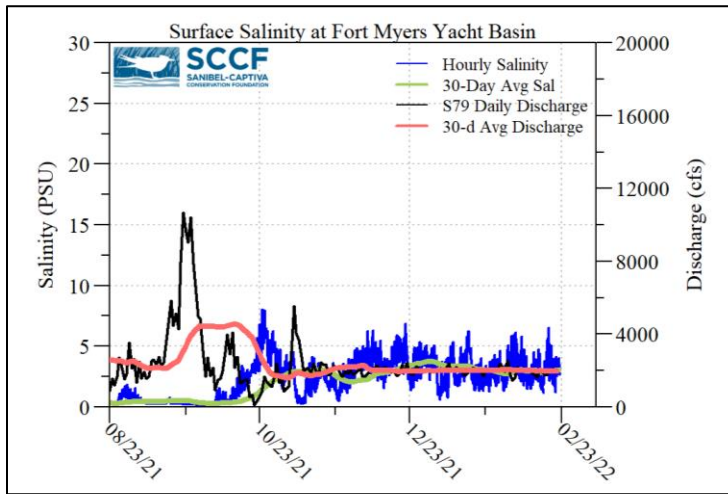
Ortona 0.03"

Moore Haven 0.04"

7-Day Lake Recession Rate: -0.07 ft/week



ACOE Daily Reports			
Date	S79 Flow (cfs)	S78 Flow (cfs)	S77 Flow (cfs)
2/15/22	1942	1742	1809
2/16/22	1776	1485	1519
2/17/22	1745	1477	1488
2/18/22	2023	1454	1690
2/19/22	2073	1499	1828
2/20/22	2080	1714	1609
2/21/22	2024	1511	1750
7-day avg	1952	1555	1670



Light Penetration				
Site	25% I _z	Target Values	Turbidity	Target Values
	meters		NTU	
Fort Myers	---	> 1	---	< 18
Shell Point	1.57 ^c	> 2.2	2.5	< 18
Causeway	2.21 ^c	> 2.2	3.3	< 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 2/21/22 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* and *Dolichospermum* were moderately abundant upstream of the Franklin Locks as streaks with wind-driven accumulation. *Microcystis* and *Dolichospermum* were present at the Davis Boat Ramp as visible specks with slight wind-driven accumulation.

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 seagrasses.

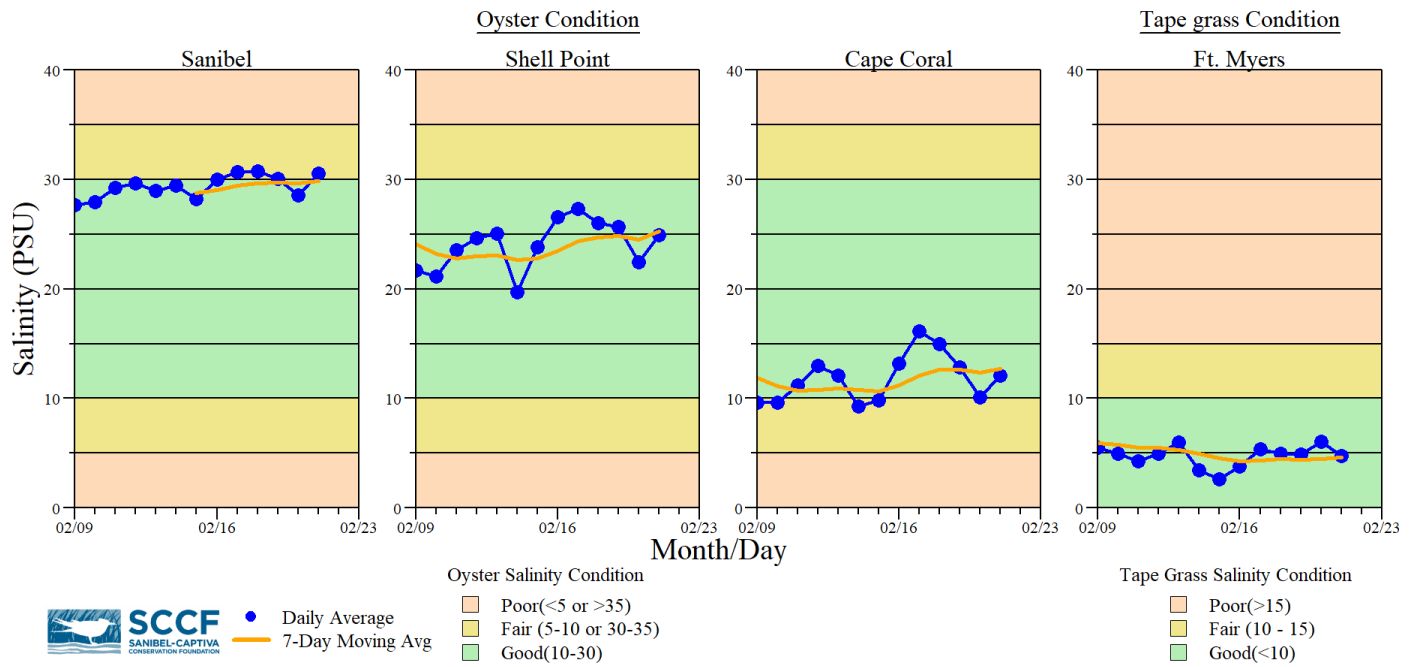
Water Quality Conditions

Monitor Site	Salinity (psu) ^a [previous week]	Diss O ₂ (mg/L) ^b	FDOM (qsde) ^c	Chlorophyll (µg/L) ^d
Beautiful Island	0.3 – 0.6 [0.3 – 0.7]	ND	277	4.0
Fort Myers Yacht Basin	[1.8 – 4.3]	ND	ND	ND
Shell Point	13 – 32 [13 – 30]	6.6 – 8.3	61.8	3.8
McIntyre Creek	29.0 – 31.2 [28.7 – 32.1]	5.5 – 12.6	6.7 – 10.6	0.5 – 5.3
Tarpon Bay	28.6 – 33.2 [-----]	6.4 – 8.4	-----	-----
Wulfert Flats	26.3 – 35.1 [33.0 – 35.0]	5.6 – 8.7	-----	4.8 – 19.3

- 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 2/18/22, the FWC reported that *K. brevis* was not observed in samples collected statewide over the past week.

Wildlife Impacts: In the past week (2/15– 2/21), the CROW wildlife hospital on Sanibel received 4 toxicosis patients: 2 brown pelicans (both died), 1 common gallinule (still at CROW), and 1 cattle egret (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.



Causeway Islands seagrass flats on 2/22/22.
Ralph Arwood & Calusa Waterkeeper

Water clarity at Lighthouse Beach Park on 2/22/22 at 3:05 PM on a high tide (high tide: 2.43 ft @ 3:25 PM). [Lighthouse Beach Park Virtual Tour.](#)