

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
 Leah Reidenbach, Rick Bartleson PhD, & Matt Depaolis - SCCF (Sanibel-Captiva Conservation Foundation)

Subject: Caloosahatchee & Estuary Conditions Report

Reporting Period: **August 23 – 29, 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: Flow to the Caloosahatchee Estuary had a 7-day average of **1704 cfs** at **S-79** with a 7-day average of **114 cfs (7%)** coming from the lake at **S-77**. **The 14-day moving average flow at S-79 is 1254 cfs and has been the optimal flow envelope (750 - 2100 cfs; RECOVER 2020) for 15 days.**

Recommendation: To keep the Caloosahatchee River and Estuary in the optimal salinity envelope we encourage the Corps to maintain flows within the RECOVER 2020 optimal flow envelope of 750 – 2,100 cfs at S-79 for the Caloosahatchee Estuary.

USACE Action: On 8/13/22 the USACE reduced target flows at the W.P. Franklin Lock and Dam (S-79) to a 7-day average pulse release of 457 cfs from the previous target of 650 cfs. Local basin runoff has been exceeding the targets set for the past several months, so little water has left the lake from the Julian Keen Jr. Lock and Dam (S-77).

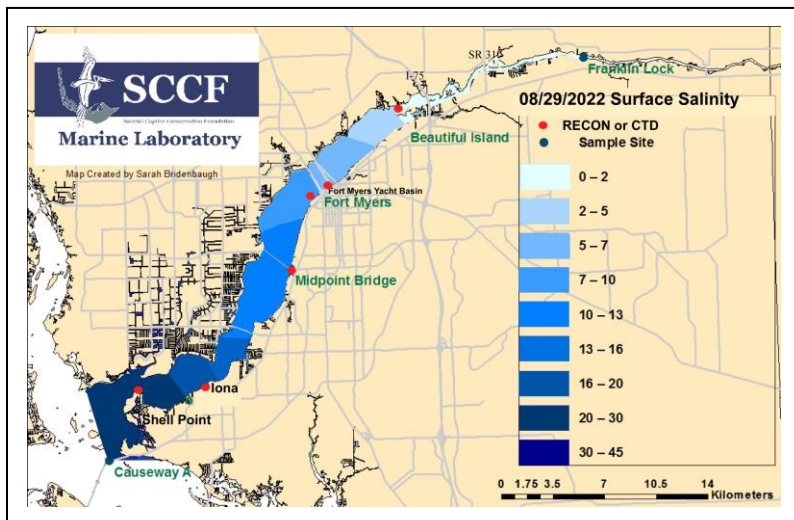
Lake Flows: In the past 7 days the total outflow from Lake Okeechobee was **14,133 AF** with **1,144 AF** to the Caloosahatchee through **S-77**, **344 AF** through **S-310** in Clewiston, and **10,965 AF** to the EAA through **S-351**, **S-352**, and **S-354**. The total net inflow to the Lake was **6,478 AF** (6,242 AF from Fisheating Creek, S-71, S-72, S-84s, S-65EX, and S-65EX1) with a total backflow volume of **236 AF** from **S310**. Water conservation areas received flows of **30 AF**, **228 AF**, and **821 AF** at **WCA1**, **WCA2**, and **WCA3**, respectively. Everglades National Park received **8,896 AF**.

Lake Level: 12.59 ft (Beneficial Use sub-band) Last Week: 12.65 ft Last Year: 14.67 ft

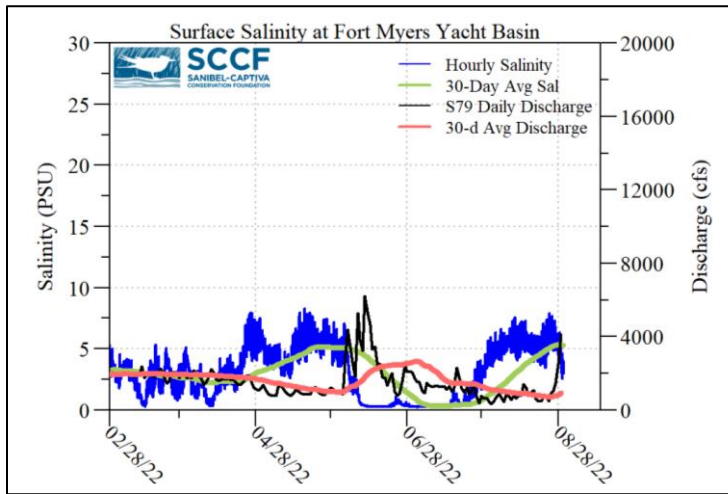
Lake Okeechobee Inflow: 709 cfs Lake Okeechobee Outflow: 95 cfs

Weekly Rainfall Total: WP Franklin ≥ 3.89" Ortona ≥ 2.99" Moore Haven ≥ 1.28"

7-Day Lake Recession Rate: -0.06 ft/week



ACOE Daily Reports			
Date	S79 Flow (cfs)	S78 Flow (cfs)	S77 Flow (cfs)
8/23/22	780	443	222
8/24/22	484	163	423
8/25/22	880	343	154
8/26/22	1086	391	0
8/27/22	1495	659	0
8/28/22	2540	984	0
8/29/22	4664	978	0
7-day avg	1704	566	114



Light Penetration				
Site	25% Iz	Target Values	Turbidity	Target Values
	meters		NTU	
Fort Myers	ND	> 1	ND	< 18
Shell Point	1.60 ^c	>2.2	2.4	< 18
Causeway	2.40 ^m	> 2.2	3.0	< 5

25% Iz 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 8/29/22 sampling for cyanobacteria by the Lee County Environmental Lab reported the presence of *Microcystis* upstream of the Franklin Locks with slight scum along the lock. *Microcystis* and *Dolichospermum* were moderately abundant at the Davis Boat Ramp with visible specks and some small streaks.

Upper Estuary Conditions: The 30-day average surface salinity at the Fort Myers Yacht Basin was 5.6 psu, within the suitable range for tape grass.

Lower Estuary Conditions: The average salinity at Shell Point RECON was 27 psu, within the optimal range for oysters and seagrass. Chlorophyll spikes to 5 µg/L continued at Shell Point and one water sample from the Causeway on 8/29/22 had elevated chlorophyll (5 µg/L) and a high diatom count dominated by *Rhizosolenia*.

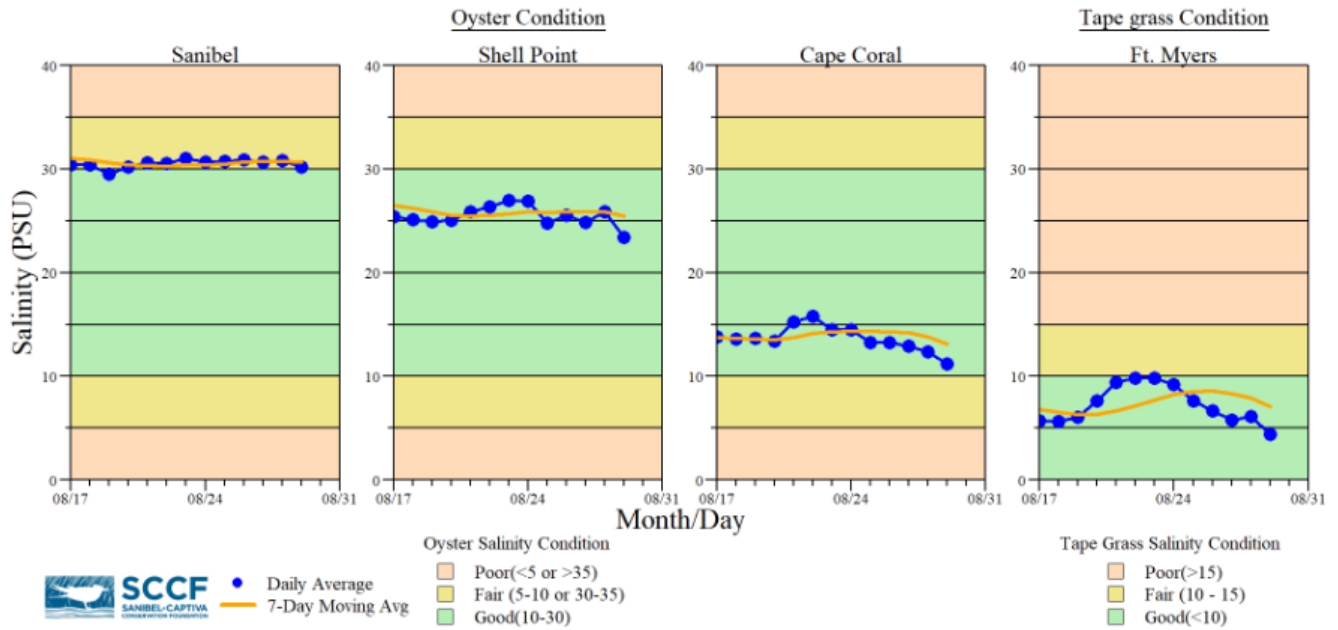
Water Quality Conditions:

Monitor Site	Salinity (psu) ^a [previous week]	Diss O ₂ (mg/L) ^b	FDOM (qsde) ^c	Chlorophyll (µg/L) ^d
Beautiful Island	0.6 – 2.0 [-----]	3.2 – 6.2	320	6.8
Fort Myers Yacht Basin	4.2 – 7.3 [4.1 – 7.0]	3.2 – 6.7	253	-----
Shell Point	18 – 33 [18 – 32]	3.3 – 6.8	85.3	5.3
McIntyre Creek	30.1 – 31.8 [30.6 – 31.7]	1.2 – 7.2	-----	-----
Tarpon Bay	30.0 – 33.8 [30.6 – 32.2]	2.7 – 8.7	-----	-----
Wulfert Flats	30.0 – 31.4 [30.0 – 31.1]	3.1 – 9.1	-----	8.5 – 50.7

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
^e Single sonde lower and surface layer or surface grab lab measurement
 ----- no data

Red Tide: On 8/26/22, the FWC reported that the red tide organism, *Karenia brevis* was not observed in samples collected statewide.

Wildlife Impacts: In the past week, the CROW wildlife hospital on Sanibel received 5 toxicosis patients: 1 anhinga (still at CROW), 1 double-crested cormorant (died), 1 laughing gull (still at CROW), and 2 sandwich terns (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.

Data are provisional and subject to change.



Cyanobacteria (*Dolichospermum helicoideum*) at the Four Mile ECO preserve kayak launch on 08/29/22. City of Cape Coral.

Water clarity at Lighthouse Beach Park on 8/29/22 at 12:27 PM on a rising tide (High tide: 3.04 ft @ 2:06 PM). [Lighthouse Beach Park Virtual Tour](#).