

# 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 16 – 22, 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 **804 cfs** at **S-79** with a 7-day average of **32 cfs (4%)** coming from the lake at **S-77**. **The 14-day moving average flow at S-79 is 843 cfs and has been the optimal flow envelope (750 - 2100 cfs; RECOVER 2020) for 8 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 **20,272 AF** with **3,416 AF** to the Caloosahatchee through **S-77**, **459 AF** through **S-310** in Clewiston, and **15,550 AF** to the EAA through **S-351**, **S-352**, and **S-354**. The total net inflow to the Lake was **1,713 AF** (1,620 AF from Fisheating Creek, S-71, S-72, S-84s, S-65EX, and S-65EX1) with a total backflow volume of **93 AF** from **S310**. Water conservation areas received flows of **0 AF**, **426 AF**, and **444 AF** at **WCA1**, **WCA2**, and **WCA3**, respectively. Everglades National Park received **17,486 AF**.

**Lake Level: 12.65 ft (Base Flow sub-band)**

**Last Week: 12.78 ft**

**Last Year: 14.47 ft**

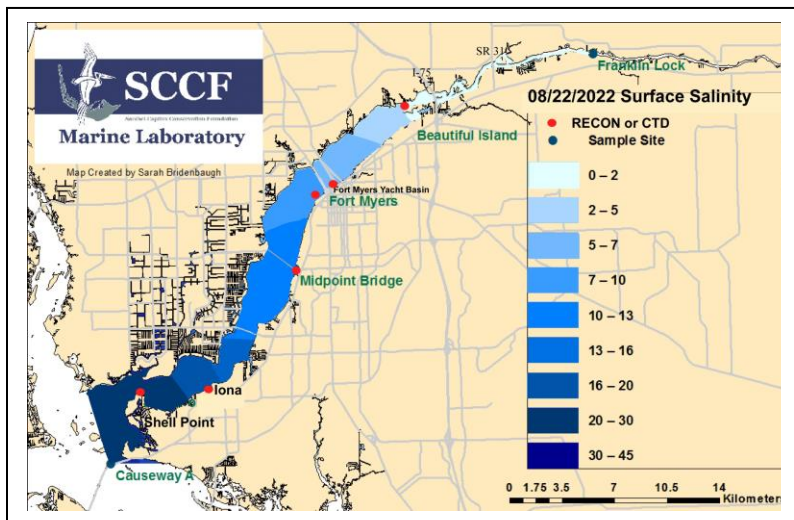
**Lake Okeechobee Inflow: 235 cfs**

**Lake Okeechobee Outflow: 978 cfs**

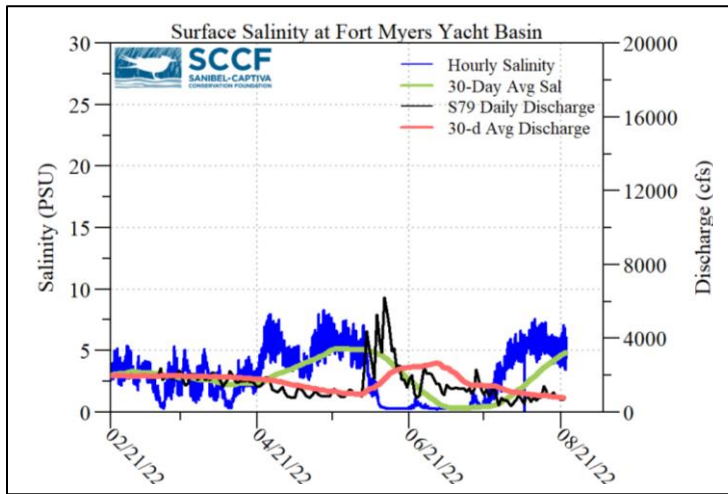
**Weekly Rainfall Total: WP Franklin ≥ 0.10" Ortona ≥ 0.05"**

**Moore Haven ≥ 0.45"**

**7-Day Lake Recession Rate: -0.13 ft/week**



ACOE Daily Reports			
Date	S79 Flow (cfs)	S78 Flow (cfs)	S77 Flow (cfs)
8/16/22	787	0	0
8/17/22	921	213	0
8/18/22	1076	202	0
8/19/22	726	0	0
8/20/22	735	0	0
8/21/22	678	0	0
8/22/22	704	355	222
<b>7-day avg</b>	<b>804</b>	<b>110</b>	<b>32</b>



Site	Light Penetration		Turbidity	Target Values
	25% Iz	Target Values		
		meters	NTU	
Fort Myers	ND	> 1	ND	< 18
Shell Point	1.54 <sup>c</sup>	>2.2	1.5	< 18
Causeway	3.65 <sup>m</sup>	> 2.2	4.5	< 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.  
<sup>m</sup> measured. <sup>c</sup> calculated

**Cyanobacteria Status:** On 8/22/22 sampling for cyanobacteria by the Lee County Environmental Lab reported the presence of *Microcystis* at the **Alva Boat Ramp** and **Davis Boat Ramp** as sparse visible specks. *Microcystis* and *Dolichospermum* were present **upstream of the Franklin Locks** as sparse visible specks with slight accumulation along the locks.

**Upper Estuary Conditions:** The 30-day average surface salinity at the Fort Myers Yacht Basin was 5.0 psu, within the suitable range for tape grass.

**Lower Estuary Conditions:** The average salinity at Shell Point RECON was 26 psu, within the optimal range for oysters and seagrass. Chlorophyll spiked to 5 µg/L at Shell Point and one water sample from the Causeway on 8/22/22 had elevated chlorophyll (5 µg/L) and a high diatom count dominated by *Chaetoceros* (7.5 x 10<sup>5</sup> filaments/L).

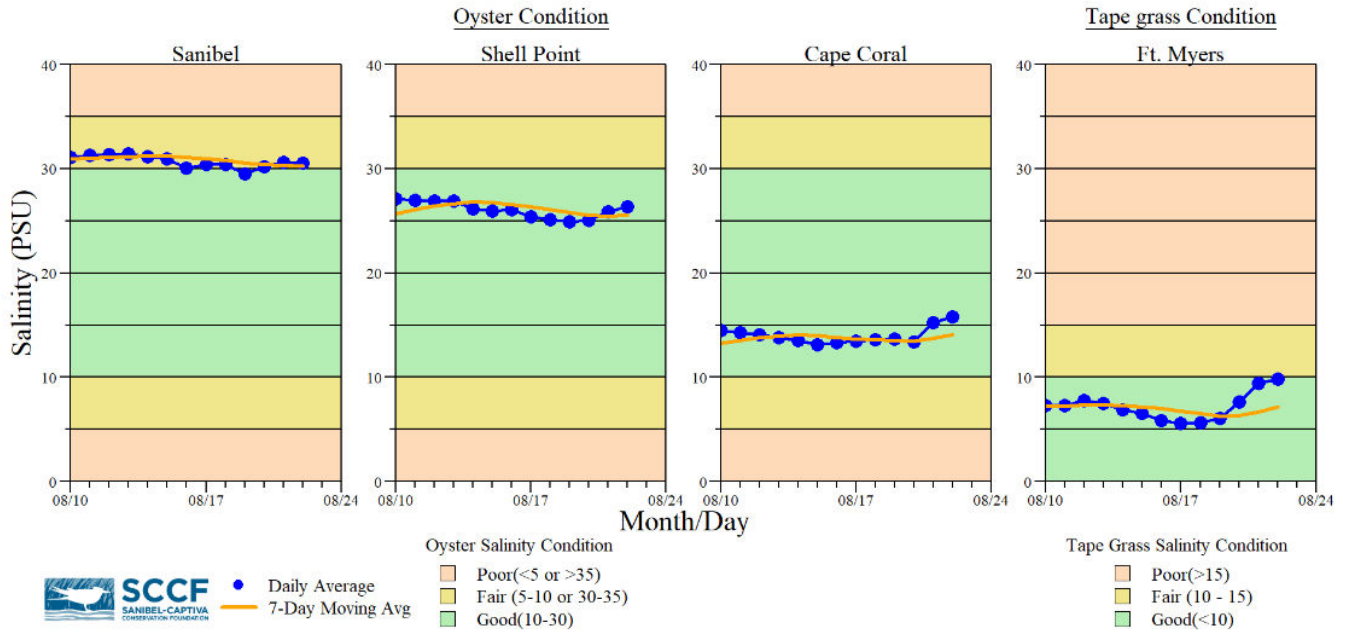
**Water Quality Conditions:**

Monitor Site	Salinity (psu) <sup>a</sup> [previous week]	Diss O <sub>2</sub> (mg/L) <sup>b</sup>	FDOM (qsde) <sup>c</sup>	Chlorophyll (µg/L) <sup>d</sup>
Beautiful Island	----- [------]	-----	-----	-----
Fort Myers Yacht Basin	4.1 – 7.0 [4.9 – 7.4]	4.1 – 8.2	253	-----
Shell Point	18 – 32 [19 – 33]	3.7 – 6.5	94.4	4.5
McIntyre Creek	30.6 – 31.7 [28.6 – 30.7]	2.0 – 9.9	-----	-----
Tarpon Bay	30.6 – 32.2 [28.8 – 32.9]	3.2 – 11.7	-----	-----
Wulfert Flats	30.0 – 31.1 [29.0 – 30.2]	3.5 – 9.5	-----	3.5 – 31.5

Red values are outside of the preferred range.  
<sup>a</sup> Salinity target values: BI < 5, FM < 10, SP = 10 – 30  
<sup>b</sup> Dissolved O<sub>2</sub> target values: all sites > 4  
<sup>c</sup> FDOM target values: BI < 70, FM < 70, SP < 11  
<sup>d</sup> Chlorophyll target values: BI < 11, FM < 11, SP < 11  
<sup>e</sup> Single sonde lower and surface layer or surface grab lab measurement  
 ----- no data

**Red Tide:** On 8/19/22, the FWC reported that the red tide organism, *Karenia brevis* was observed at background concentrations in and offshore of Collier County.

**Wildlife Impacts:** In the past week (8/15 – 8/21), the CROW wildlife hospital on Sanibel received 5 toxicosis patients: 5 sandwich terns (5 died). Additionally, sick sandwich terns, laughing gulls, and royal terns are being reported on Causeway Islands Park, Sanibel Island, and Fort Myers Beach. Several have been collected by the Fish and Wildlife Research Institute (FWRI) for testing.



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.



Moderate drift algae were reported along Sanibel east end beaches on 8/17/22. *City of Sanibel*.

Sick sandwich terns, laughing gulls, and royal terns are being reported on the causeway, Sanibel Island, and Fort Myers Beach. Cause unknown. *SCCF*.



One water sample from the Causeway on 8/22/22 had elevated chlorophyll (5 µg/L) and a high diatom count dominated by *Chaetoceros* (pictured on the left) ( $7.5 \times 10^5$  filaments/L). The spines of *Chaetoceros* can be detrimental to fish gills. *SCCF*.





8/23/22

Water clarity at Lighthouse Beach Park on 8/23/22 at 11:31 AM on a falling tide (High tide: 3.03 ft @ 9:46 AM). [Lighthouse Beach Park Virtual Tour.](#)