

# 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 9 – 15, 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 **882 cfs** at **S-79** with a 7-day average of **246 cfs (28%)** coming from the lake at **S-77**. **The 14-day moving average flow at S-79 is 792 cfs and has been the optimal flow envelope (750 - 2100 cfs; RECOVER 2020) for 1 day.**

**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: 12.78 ft (Base Flow sub-band)**

**Last Week: 12.87 ft**

**Last Year: 14.38 ft**

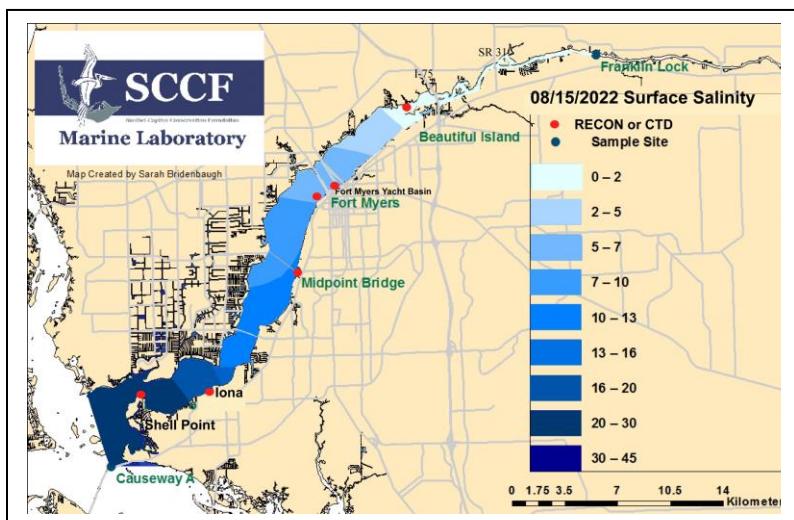
**Lake Okeechobee Inflow: 203 cfs**

**Lake Okeechobee Outflow: 703 cfs**

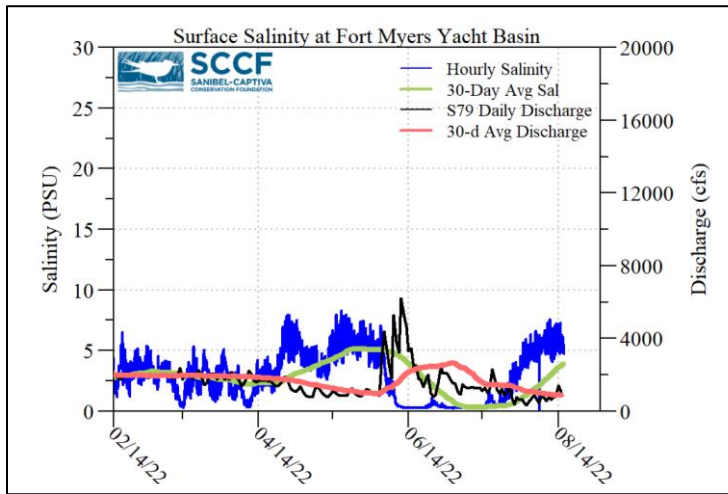
**Weekly Rainfall Total: WP Franklin  $\geq$  0.52" Ortona  $\geq$  2.37"**

**Moore Haven  $\geq$  1.46"**

**7-Day Lake Recession Rate: -0.09 ft/week**



ACOE Daily Reports			
Date	S79 Flow (cfs)	S78 Flow (cfs)	S77 Flow (cfs)
8/9/22	570	147	68
8/10/22	803	307	148
8/11/22	630	288	162
8/12/22	770	294	397
8/13/22	807	296	388
8/14/22	1423	538	389
8/15/22	1173	312	170
<b>7-day avg</b>	<b>882</b>	<b>312</b>	<b>246</b>



Light Penetration				
Site	25% I <sub>z</sub>	Target Values	Turbidity	Target Values
	meters		NTU	
Fort Myers	ND	> 1	ND	< 18
Shell Point	1.84 <sup>m</sup>	>2.2	1.2	< 18
Causeway	2.97 <sup>c</sup>	> 2.2	1.5	< 5

25% I<sub>z</sub> 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 8/15/22 sampling for cyanobacteria by the Lee County Environmental Lab reported the presence of *Microcystis* at the **Alva Boat Ramp** and **upstream of the Franklin Locks** as sparse visible specks. *Microcystis* and *Dolichospermum* were present at the **Davis Boat Ramp** as sparse visible specks.

**Upper Estuary Conditions:** The 30-day average surface salinity at the Fort Myers Yacht Basin was 4.1 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. One water sample from Pine Island Sound on 8/15/22 had elevated chlorophyll (12 µg/L) and a high diatom count with biomass dominated by *Leptocylindricus* filaments up to 6 mm long.

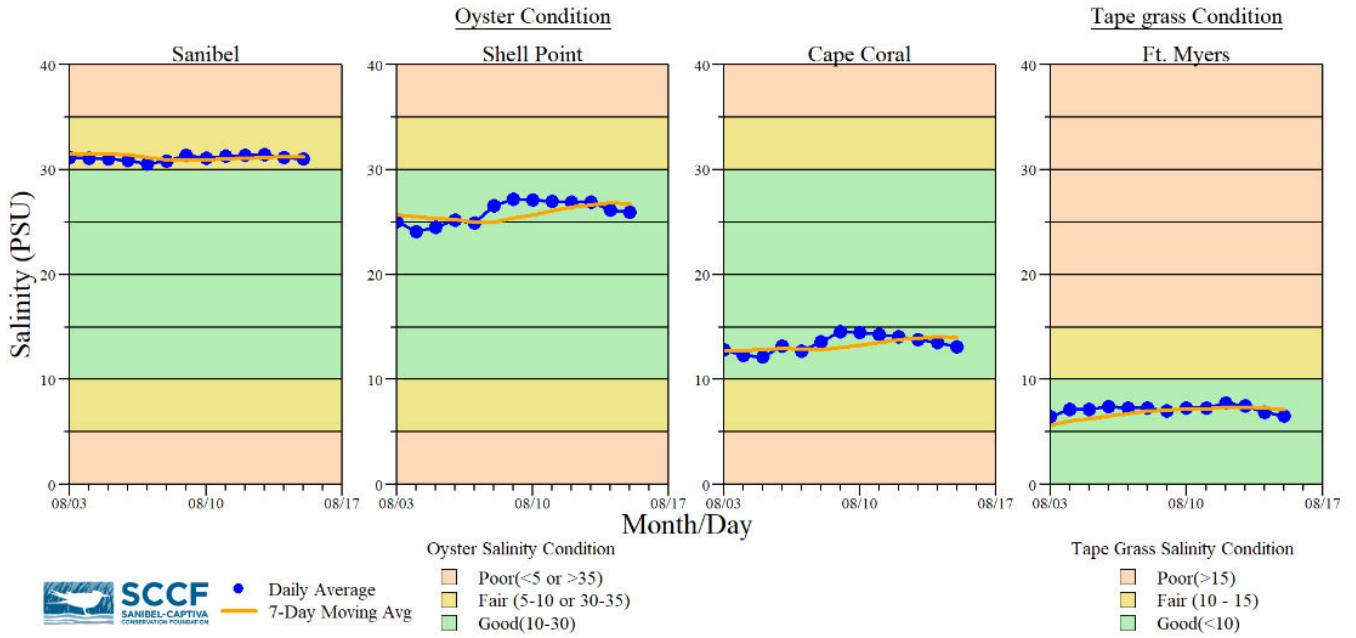
**Water Quality Conditions:**

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	----- [0.7 – 1.7]	-----	-----	-----
Fort Myers Yacht Basin	4.9 – 7.4 [4.2 – 6.3]	4.1 – 6.5	249	-----
Shell Point	19 – 33 [18 – 33]	3.7 – 6.5	88.5	2.1
McIntyre Creek	28.6 – 30.7 [27.7 – 30.8]	1.7 – 7.5	-----	-----
Tarpon Bay	28.8 – 32.9 [28.0 – 31.4]	3.1 – 8.3	-----	-----
Wulfert Flats	29.0 – 30.2 [29.1 – 30.3]	3.2 – 7.5	-----	4.3 – 23.6

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 8/12/22, the FWC reported that the red tide organism, *Karenia brevis* was not observed in samples collected statewide.

**Wildlife Impacts:** In the past week (8/8 – 8/14), the CROW wildlife hospital on Sanibel received 3 toxicosis patients: 1 royal tern (died), 1 sandwich tern (died), and 1 white ibis (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.

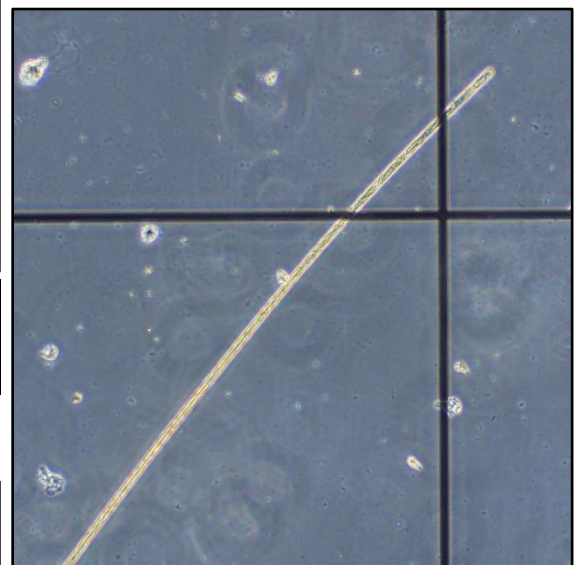
Data are provisional and subject to change.



Water clarity at Lighthouse Beach Park on 8/15/22 at 1:28 PM on a rising tide (High tide: 2.85 ft @ 3:31 PM). [Lighthouse Beach Park Virtual Tour](#).



Above: Light to moderate drift algae was reported along most Sanibel beaches on 8/16/22. *City of Sanibel*.



Right: *Leptocylindricus* filaments up to 6 mm long sampled in Pine Island Sound on 8/16/22. SCCF