

# 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: **May 24 –30, 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 **997 cfs** at **S-79** with a 7-day average of **909 cfs (91%)** coming from the lake at **S-77**. **The 14-day moving average flow at S-79 is 991 cfs and has been in the optimal flow envelope (750 – 2,100 cfs; RECOVER 2020) for 188 days.**

**Recommendation:** With ongoing spawning activity for many estuarine and marine organisms, including oysters and fishes, **we request that the Corps maintain flows at S-79** at current levels, while monitoring the salinity gradient throughout the estuary for the health of seagrass and oysters.

**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 4/30/21, target flow to the Caloosahatchee Estuary as measured at the WP Franklin Lock & Dam (S-79) was reduced to 1,000 cfs (7-day average, pulse release) and no flow continues to the St. Lucie Lock and Dam (S-80).

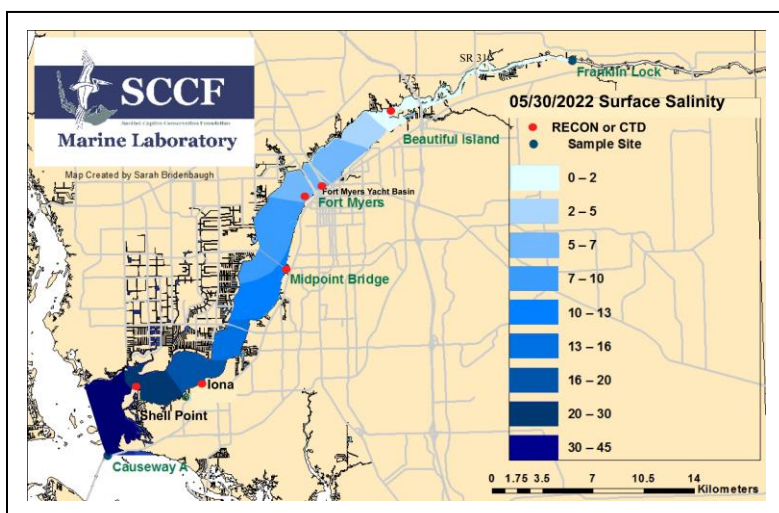
**Lake Flows:** In the past 7 days the total outflow from Lake Okeechobee was **14,368 AF** with **3,507 AF** to the Caloosahatchee through **S-77**, **2,586 AF** through **S-308** in Port Mayaca, **1,144 AF** through **S-310** in Clewiston, and **6,401 AF** to the EAA through **S-351**, **S-352**, and **S-354**. The total net inflow to the Lake was **8,911 AF** (8,872 AF from Fisheating Creek, S-71, S-72, S-84s, S-65EX, and S-65EX1) with a total backflow volume of **39 AF** from **S310**. Water conservation areas received flows of **1,805 AF**, **8,646 AF**, and **2,900 AF** at **WCA1**, **WCA2**, and **WCA3**, respectively. Everglades National Park received **2,586 AF**.

**Lake Level: 12.62 ft (Base Flow sub-band)      Last Week: 12.67 ft      Last Year: 12.82 ft**

**Lake Okeechobee Inflow:      661 cfs      Lake Okeechobee Outflow: 367cfs**

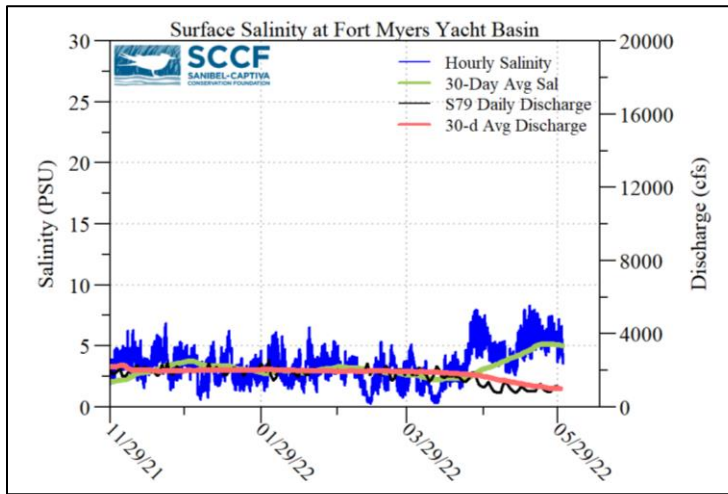
**Weekly Rainfall Total:      WP Franklin ≥ 0.72"      Ortona ≥ 4.35"      Moore Haven ≥ 1.89"**

**7-Day Lake Recession Rate: -0.05 ft/week**



ACOE Daily Reports			
Date	S79 Flow (cfs)	S78 Flow (cfs)	S77 Flow (cfs)
5/24/22	871	498	836
5/25/22	830	493	932
5/26/22	844	494	1026
5/27/22	1030	868	1474
5/28/22	1209	839	NR
5/29/22	1167	847	NR
5/30/22	1029	836	279
<b>7-day avg</b>	<b>997</b>	<b>696</b>	<b>909</b>

\*NR = no report



Light Penetration				
Site	25% Iz	Target Values	Turbidity	Target Values
	meters		NTU	
Fort Myers	ND	> 1	ND	< 18
Shell Point	1.75 <sup>c</sup>	>2.2	1.6	< 18
Causeway	2.35 <sup>c</sup>	> 2.2	0.8	< 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 5/31/22 sampling for cyanobacteria by the Lee County Environmental Lab reported the presence of *Dolichospermum* and cyanobacterial filaments at the **Alva Boat Ramp** as visible specks. *Dolichospermum*, *Microcystis*, and cyanobacterial filaments were **moderately abundant** upstream of the **Franklin Locks** as streaks with some accumulation along the lock and at the **Davis Boat Ramp** with some accumulation along the seawall.

**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. The dissolved oxygen concentration dropped into the hypoxic range at Beautiful Island on 5/28 and 5/29 after the water temperature reached 33° C which is over the thermal maxima of most macroalgae species.

**Lower Estuary Conditions:** The average salinity at Shell Point RECON was 29 psu, within the optimal range for seagrasses, but above optimal for oysters.

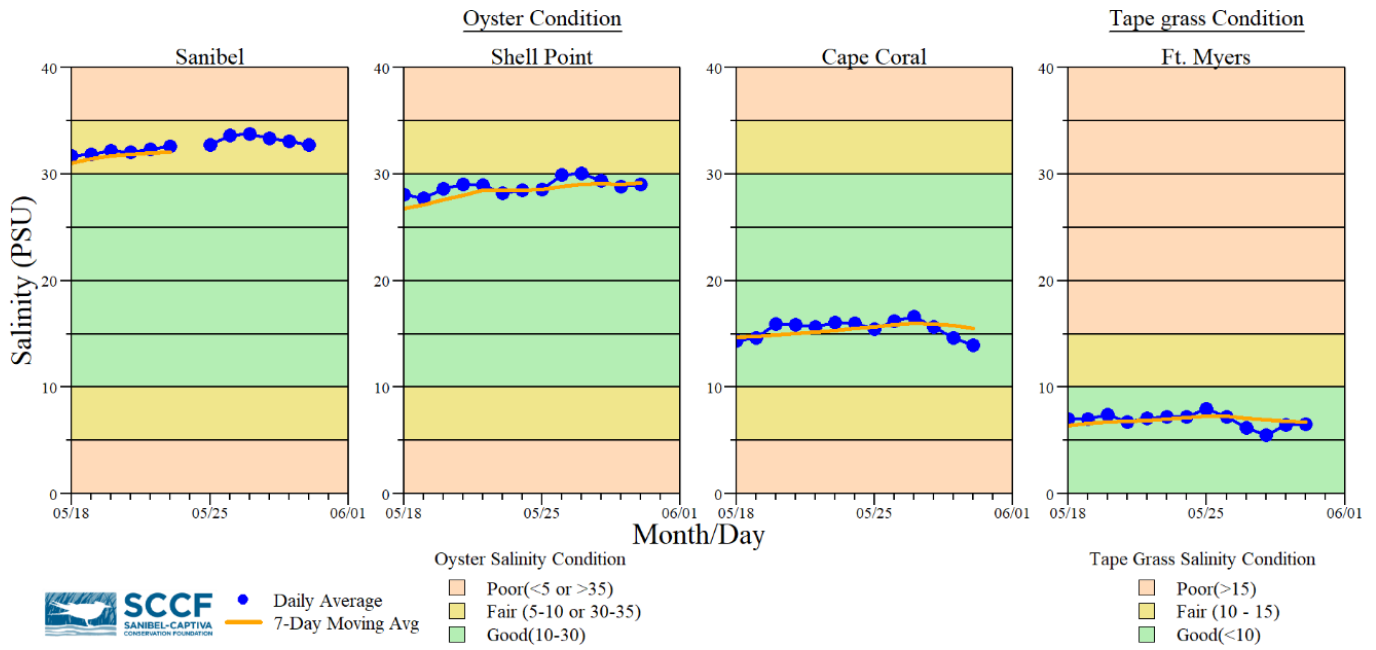
**Water Quality Conditions**

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	0.6 – 1.6 [0.6 – 1.6]	2.8 – 9.0	-----	-----
Fort Myers Yacht Basin	3.8 – 7.0 [4.3 – 7.8]	-----	163	-----
Shell Point	21 – 34 [20 – 33]	4.4 – 7.2	52.8	2.6
McIntyre Creek	32.7 - 35.0 [30.2 – 33.7]	2.5 – 9.1	-----	-----
Tarpon Bay	31.6 – 34.6 [30.8 – 34.4]	4.2 – 9.1	-----	-----
Wulfert Flats	----- [-----]	-----	-----	-----

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 5/27/22, the FWC reported that the red tide organism, *Karenia brevis* was not observed in samples collected statewide over the past week.

**Wildlife Impacts:** In the past two weeks (5/17 – 5/31), the CROW wildlife hospital on Sanibel received 8 toxicosis patients: 1 anhinga (died), 1 cattle egret (released), 1 double crested cormorant (died), 2 laughing gull (1 died, 1 still at CROW), 1 limpkin (died), and 2 ospreys (1 died, 1 released).



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.

