

# 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: **May 23 – 29, 2023**

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 **1,884 cfs** at **S-79** with a 7-day average of **842 cfs (45%)** coming from the lake at **S-77**. **The 14-day moving average flow at S-79 is 1,820 cfs and has been in the optimal flow envelope (750 - 2100 cfs; RECOVER 2020) for 47 days.**

**Recommendation:** As the rainy season approaches, we remain concerned with the high level of the lake. We strongly encourage the Corps to utilize all options to reduce lake levels prior to the wet season to prevent damaging releases to the estuaries and to maintain an optimum flow envelope of 750 – 2,100 cfs at S-79 (RECOVER 2020) to support an optimal salinity gradient and spawning activities of oysters in the estuary.

**USACE Action:** With Lake Okeechobee in the Low sub band and dry tributary hydrologic conditions, LORS08 Part D suggests up to 650 cfs at S-79. On 4/15/23 the USACE decreased releases from Lake Okeechobee to the St. Lucie Estuary (S-80) to 0 cfs and to the Caloosahatchee Estuary from the W.P. Franklin Lock and Dam (S-79) to 1,800 cfs. **Since entering the low sub band on 2/13/23 the USACE began utilizing banked releases** from a make-up release tool which allowed them to make releases at levels lower than suggested in LORS08 since 11/18/22 and bank the volume not released for beneficial releases throughout the dry season.

**Lake Flows:** In the past 7 days the total outflow from Lake Okeechobee was **4,304 AF** with **1,573 AF** to the Caloosahatchee through **S-77, 34 AF** through **S-308** in Port Mayaca, **347 AF** through **S-310** in Clewiston, and **1,220 AF** to the EAA through **S-351, S-352, and S-354**. The total net inflow to the Lake was **13,482 AF** (11,804 AF from Fisheating Creek, S-71, S-72, S-84s, S-65EX, and S-65EX1) with a total backflow volume of **1,679 AF** from **S310 and C10A**. Water conservation areas received flows of **5,998 AF, -2,321 AF, and 7,027 AF** at **WCA1, WCA2, and WCA3**, respectively. Everglades National Park received **9,515 AF**.

**Lake Level: 13.88 ft (Operational Management Band)**

**Last Week: 13.72 ft**

**Last Year: 12.60 ft**

**7-Day Lake Recession Rate: +0.16 ft/week**

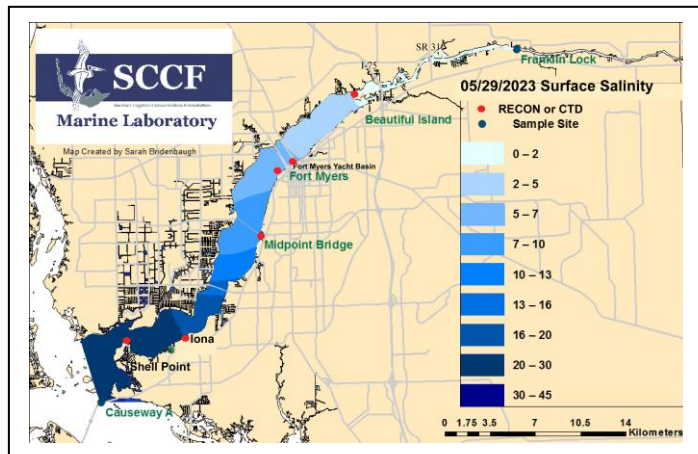
**Lake Okeechobee Inflow: 541 cfs**

**Lake Okeechobee Outflow: 48 cfs**

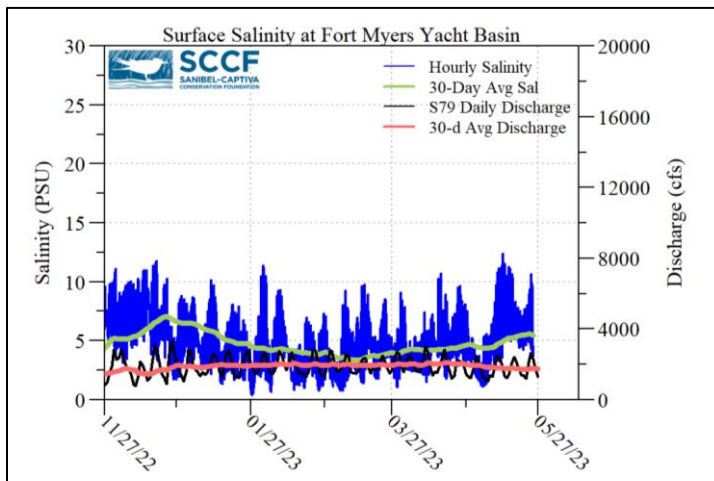
**Weekly Rainfall Total: WP Franklin: 1.57"**

**Ortona: 4.27"**

**Moore Haven: 1.72"**



Date	S79 Flow (cfs)	S78 Flow (cfs)	S77 Flow (cfs)
5/23/23	2099	1616	2031
5/24/23	2630	1837	2188
5/25/23	2268	1395	759
5/26/23	1752	884	449
5/27/23	1307	813	306
5/28/23	1610	995	115
5/29/23	1524	917	48
<b>7-day avg</b>	<b>1884</b>	<b>1257</b>	<b>842</b>



Site	Light Penetration		Turbidity	Target Values
	25% I <sub>z</sub>	Target Values		
	meters		NTU	
Fort Myers	ND	> 1	ND	< 18
Shell Point	ND	>2.2	ND	< 18
Causeway	3.37	> 2.2	2.0	< 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 5/30/23 sampling for cyanobacteria by the Lee County Environmental Lab reported the presence of *Microcystis* at the **Alva Boat Ramp** as visible specks with some light streaks, and upstream of the **Franklin Locks** with some wind driven accumulation along the shore/lock. *Microcystis* and *Dolichospermum* and were **moderately abundant** at the **Davis Boat Ramp** as streaks and wind driven accumulation along the seawall.

**Blue Green Algae Health Alert:** The Florida Department of Health in Lee County has issued a Health Alert for the presence of harmful blue-green algal toxins in **Caloosahatchee River - Fort Myers Shores**. This is in response to a water sample taken on 5/23/2023. The public should exercise caution in and around Caloosahatchee River - Fort Myers Shores.

**Upper Estuary Conditions:** The 30-day average surface salinity at the Fort Myers Yacht Basin was 5.6 psu on 5/24/23, within the suitable range for tape grass.

**Lower Estuary Conditions:** The average salinity at Shell Point RECON was 28 psu on 5/24/23, in the optimal range for seagrass and 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	0.5 – 1.2 [0.6 – 2.5]	2.4 – 8.2	-----	7.6
Fort Myers Yacht Basin	3.8 – 8.5 [-----]	-----	-----	-----
Shell Point	17 – 34 [19 – 35]	-----	-----	-----
McIntyre Creek	25.0 – 34.0 [31.4 – 33.5]	0.7 – 11.1	-----	-----
Tarpon Bay	30.3 – 33.3 [31.9 – 33.8]	4.2 – 11.4	2.8 – 4.8	1.2 – 2.4
Wulfert Flats	33.0 – 34.7 [32.5 – 33.8]	2.0 – 8.4	-----	2.0 – 11.8

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

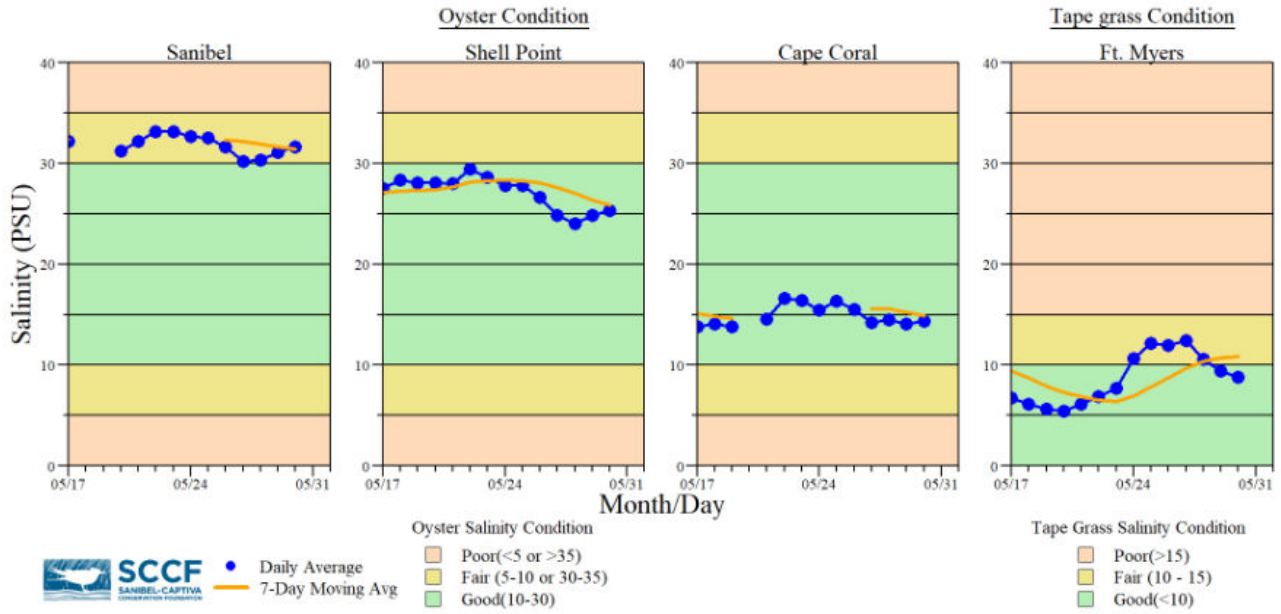
<sup>d</sup> Chlorophyll target values: BI < 11, FM < 11, SP < 11

<sup>s</sup> Single sonde lower and surface layer or surface grab lab measurement  
 ----- no data

**Red Tide:** On 5/26/23, the FWC reported that over the past week the red tide organism, *Karenia brevis*, was detected in 27 samples collected from Florida’s Gulf Coast. **Bloom concentrations (>100,000 cells/liter) were not observed.**

In Southwest Florida over the past week, *K. brevis* was observed at background concentrations in and offshore of Pinellas County, background concentrations offshore of Manatee County, background and very low concentrations in and offshore of Sarasota County, background to low concentrations in Charlotte County, **background to very low concentrations in Lee County**, background concentrations in and offshore of Collier County, and background concentrations offshore of Monroe County.

**Wildlife Impacts:** In the past week, the CROW wildlife hospital on Sanibel received 2 patients with toxicosis symptoms: 1 juvenile laughing gull (still at CROW) and 1 juvenile great egret (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.

\*Ft. Myers sensor is in the lower strata

Data are provisional and subject to change.



Water clarity at Lighthouse Beach Park on 5/30/23 at 11:30 AM on a falling tide (2.2 ft). [Lighthouse Beach Park Virtual Tour.](#)