

# 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 9 – 15, 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 **1,826 cfs** at **S-79** with a 7-day average of **1,869 cfs (102%)** coming from the lake at **S-77**. **The 14-day moving average flow at S-79 is 1,632 cfs and has been in the optimal flow envelope (750 - 2100 cfs; RECOVER 2020) for 33 days.**

**Recommendation:** As the rainy season approaches, we remain concerned with the high level of the lake and that it will not meet the Corps' target level of 13.09 ft by June 1. 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.

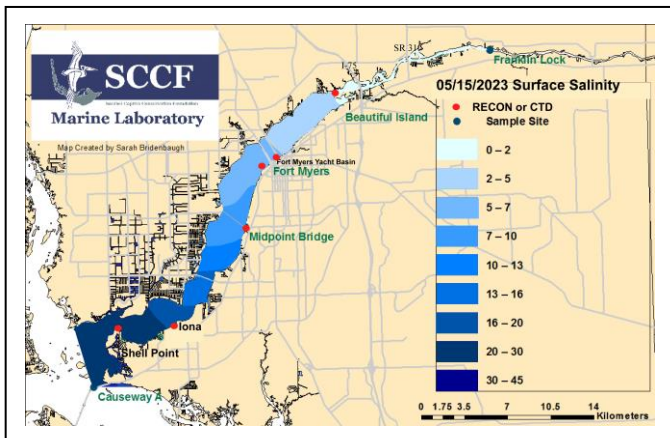
**Lake Flows:** In the past 7 days the total outflow from Lake Okeechobee was **41,880 AF** with **27,207 AF** to the Caloosahatchee through **S-77, 869 AF** through **S-308** in Port Mayaca, **1,703 AF** through **S-310** in Clewiston, and **9,195 AF** to the EAA through **S-351, S-352, and S-354**. The total net inflow to the Lake was **3,070 AF** (3,070 AF from Fisheating Creek, S-71, S-72, S-84s, S-65EX, and S-65EX1). Water conservation areas received flows of **577 AF, 3,677 AF, and 4,181 AF** at **WCA1, WCA2, and WCA3**, respectively. Everglades National Park received **10,366 AF**.

**Lake Level: 13.88 ft (Operational Management Band)      Last Week: 14.11 ft      Last Year: 12.86 ft**

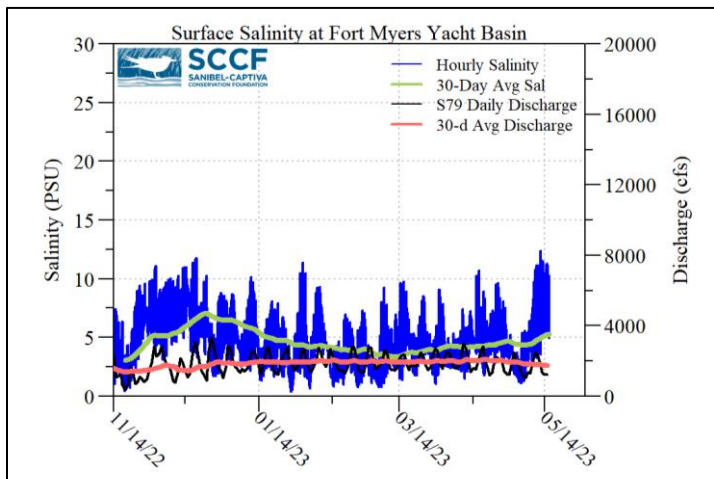
**7-Day Lake Recession Rate: -0.23 ft/week**

**Lake Okeechobee Inflow: 253 cfs      Lake Okeechobee Outflow: 2,135 cfs**

**Weekly Rainfall Total:      WP Franklin: 0.00"      Ortona: 0.00"      Moore Haven: 0.00"**



ACOE Daily Reports			
Date	S79 Flow (cfs)	S78 Flow (cfs)	S77 Flow (cfs)
5/9/23	1952	1609	2041
5/10/23	2490	2013	2072
5/11/23	2359	1855	2690
5/12/23	1899	1465	2095
5/13/23	1374	990	1770
5/14/23	1241	874	1051
5/15/23	1464	856	1367
<b>7-day avg</b>	<b>1826</b>	<b>1468</b>	<b>1869</b>



Light Penetration				
Site	25% Iz	Target Values	Turbidity	Target Values
	meters		NTU	
Fort Myers	ND	> 1	ND	< 18
Shell Point	ND	>2.2	ND	< 18
Causeway	3.75	> 2.2	1.9	< 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 5/15/23 sampling for cyanobacteria by the Lee County Environmental Lab reported the presence of *Dolichospermum* at the **Alva Boat Ramp** as visible specks on the surface and in the water column with no accumulation. *Dolichospermum* and *Microcystis* were **moderately abundant** upstream of the **Franklin Locks** and at the **Davis Boat Ramp** as some streaks with wind driven accumulation along the shore/Lock and some streaks with slight accumulation along the seawall, respectively.

**Upper Estuary Conditions:** The 30-day average surface salinity at the Fort Myers Yacht Basin was 5.2 psu, within the suitable range for tape grass.

**Lower Estuary Conditions:** The average salinity at Shell Point RECON was 28 psu, in the optimal range for seagrass and oysters.

**Water Quality Conditions:**

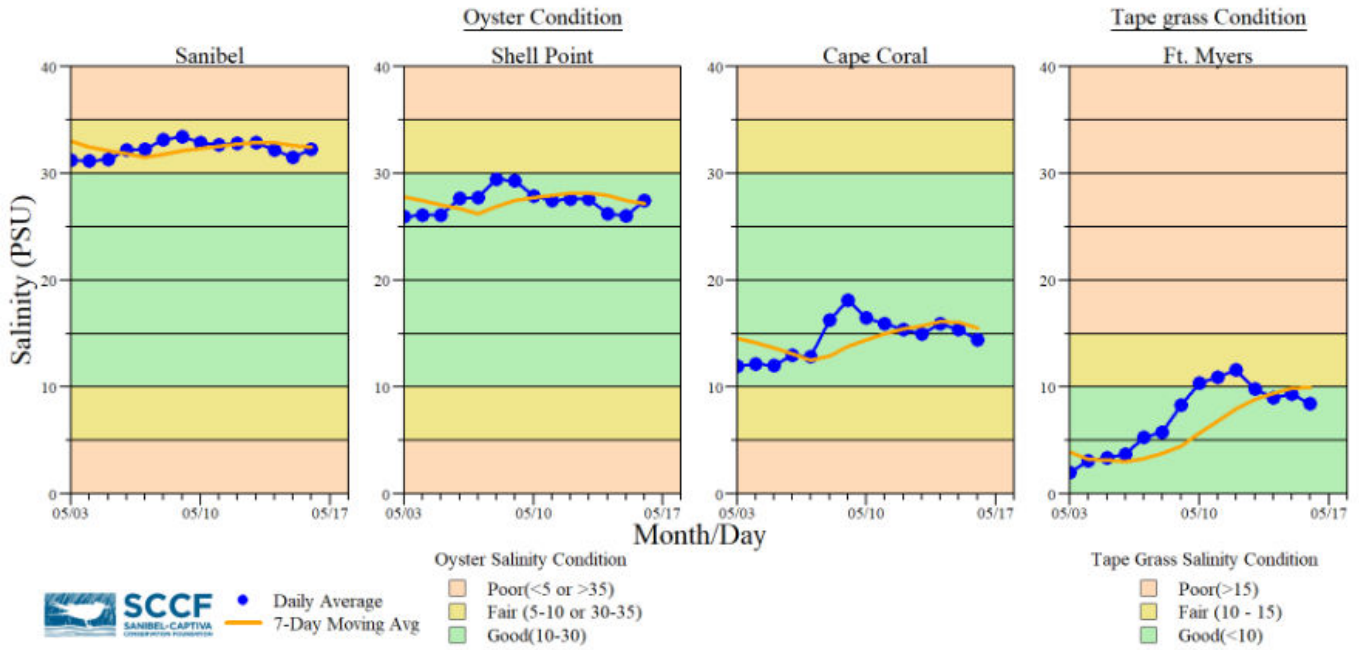
Monitor Site	Salinity (psu) <sup>a</sup> [previous week]	Diss O <sub>2</sub> (mg/L) <sup>b</sup>	FDOM (qsde) <sup>c</sup>	Chlorophyll (µg/L) <sup>d</sup>
Beautiful Island	0.3 – 1.9 [0.3 – 0.4]	4.7 – 9.5	-----	9.0
Fort Myers Yacht Basin	----- [-----]	-----	-----	-----
Shell Point	----- [17 – 33]	-----	-----	-----
McIntyre Creek	31.3 – 33.6 [31.6 – 34.3]	2.5 – 11.0	-----	-----
Tarpon Bay	31.0 – 34.0 [32.3 – 35.4]	3.8 – 9.5	2.0 – 4.2	0.9 – 3.8
Wulfert Flats	32.5 – 34.5 [32.9 – 35.5]	3.5 – 9.0	-----	2.2 – 9.2

- 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 5/12/23, the FWC reported that over the past week the red tide organism, *Karenia brevis*, was detected in 54 samples collected from Florida’s Gulf Coast. Bloom concentrations (>100,000 cells/liter) were present in one sample from Sarasota County.

In Southwest Florida over the past week, *K. brevis* was observed at background to very low concentrations in and offshore of Pinellas County, background concentrations in Manatee County, background to medium concentrations in Sarasota County, **background to very low concentrations in Lee County**, background to low concentrations in Collier County, and background concentrations offshore of Monroe County. For additional information, view the Southwest Coast report and map.

**Wildlife Impacts:** In the past week, the CROW wildlife hospital on Sanibel received 0 patients with toxicosis symptoms.



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.



Exceptional water clarity and beautiful seagrass in Pine Island Sound on 5/13/23. Lee County Department of Natural Resources.

Water clarity at Lighthouse Beach Park on 5/12/23 at 1:46 PM on a rising tide (2.0 ft). [Lighthouse Beach Park Virtual Tour.](#)