MEMORANDUM

To: USACE Colonel Brandon L. Bowman, Major Cory Bell, Richard McMillen, 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
Harry Phillips & Maya Robert - City of Cape Coral
Allie Pecenka, Rick Bartleson PhD & Matt Depaolis- Sanibel-Captiva Conservation Foundation
In coordination with Lee County

Subject: Caloosahatchee & Estuary Conditions Report

Reporting Period: **August 20- 26, 2024**

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 **2,163 cfs** at **S-79** with a 7-day average of **170 cfs (8%)** coming from the lake at **S-77. The 14-day moving average flow** at **S-79 is 2,582 cfs** and has been in the **stress** **flow envelope** (2,100- 2,600 cfs; RECOVER 2020) **for 1 day** after **23 days** in the **damaging** **flow envelope** (>2,600 cfs). **The 14-day moving average flow** at **S-77** was **85 cfs.**

Recommendation: With the onset of the rainy season and predictions for increased Atlantic storm intensity in the upcoming hurricane season, we ask the Army Corps to remain reactive to changing conditions in Lake Okeechobee and the Caloosahatchee River and estuary to support the ecological health of this system. In addition, we request the USACE manage flows to align with RECOVER 2020 optimum flow targets for the Caloosahatchee; being 750– 2,100 cfs as measured at S-79.

USACE Action: Lake Okeechobee stage is in the bottom third of Zone D (Zone D3 of the PA25 simulation) of the LOSOM regulation schedule, above the ecological envelope. The current climate outlook is for ENSO-neutral with La Niña favored to develop during September-November (ENSO- increased likelihood of below normal dry season rainfall north of the Lake, major risk to water supply). The District recommends USACE implements a non-harmful release from Lake Okeechobee to the Caloosahatchee Estuary with an average discharge of 2000 cfs (7-day pulse) as measured at the S-79 structure, zero lake releases to the St. Lucie Estuary and zero lake releases to the Lake Worth Lagoon. The USACE should continue to track Red Tide and Blue Green Algae conditions, and should conditions change during this operational period, the USACE should look to reassess releases as needed.

Lake Flows: In the past 7 days the total outflow from Lake Okeechobee was **3,681 AF** with **2,391 AF** to the Caloosahatchee through **S-77**, **-1 AF** to the St. Lucie canal through **S-308**, **1,291 AF** through the **L8 canal**, and **0 AF** to the EAA through **S-351**, **S-352**, and **S-354**. The total net inflow to the Lake was **34,487 AF** (**34,487 AF** from Fisheating Creek, S-71, S-72, S-84s, S-65EX, and S-65EX1). Water conservation areas received flows of **3,742 AF**, **17,629 AF**, and **7,377 AF** at **WCA1, WCA2, and WCA3**, respectively. Everglades National Park received **11,542 AF.**
***Data missing for S-310 from 8/20- 8/26, S-80 from 8/24- 8/25 and ENP from 8/23- 8/26.**

Lake Level: 14.16 ft (Low Sub-Band) **Last Week**: **14.05 ft** **Last Year: 15.33 ft**

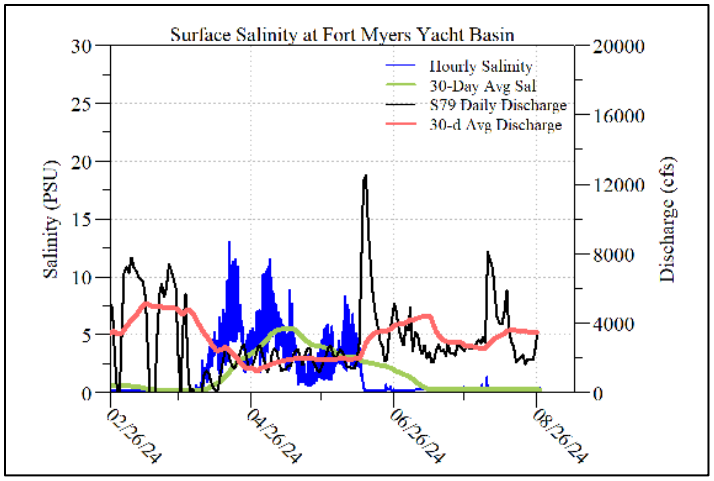
7-Day Lake Recession Rate: +0.11 ft/week

Lake Okeechobee Inflow: 2,217 cfs **Lake Okeechobee Outflow: 858 cfs**

Weekly Rainfall Total: **WP Franklin: 1.75"** **Ortona: 0.18"** **Moore Haven: 0.84"**

Cyanobacteria Status: On 8/26/24, sampling for cyanobacteria by the Lee County Environmental Lab reported no visible cyanobacteria across all sites.

Red Tide: On 8/23/24, the FWC reported that the red tide organism, *Karenia brevis*, was not observed in samples collected statewide over the past week.



Light Penetration

Site	25% Iz	Target Values	Turbidity	Target Values
	meters		NTU	
Beautiful Is	0.7	> 1	3.8	< 18
Shell Point	1.2	>2.2	2.2	< 18
Causeway	3.0	> 2.2	1.3	< 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.*

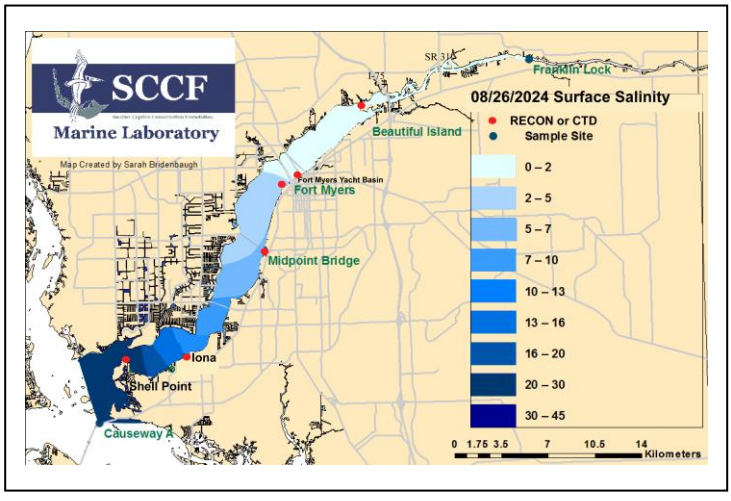
Upper Estuary Conditions: The 30-day average surface salinity at the Fort Myers Yacht Basin was 0.3 psu, within the suitable range for tape grass.
Lower Estuary Conditions: The average salinity at Shell Point RECON was 21 psu, in the optimal range for oysters but below optimal for seagrass.

Water Quality Conditions:

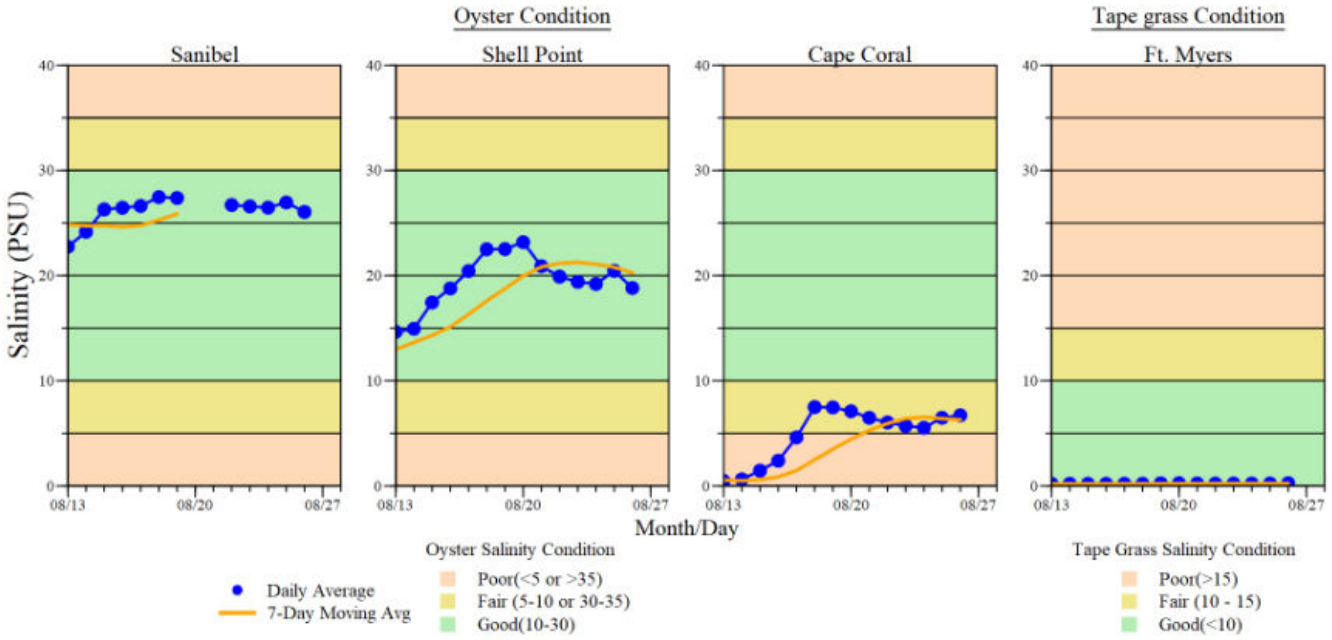
Monitor Site	Salinity (psu)[a] [previous week]	Diss O_2 (mg/L)[b]	FDOM (qsde)[c]	Chlorophyll (µg/L)[d]	Temperature (°F)
Beautiful Island	0.2 – 0.2 [0.2 – 0.2]	2.3 - 4.7	198	8.5	86.1– 91.2
Fort Myers Yacht Basin	0.2 – 0.5 [0.2 – 0.3]	ND	ND	ND	84.4– 89.8
Shell Point	11 – 29 [2.9 – 29]	3.2 – 5.8	60	1.2	84.6– 89.6
McIntyre Creek	27.1 – 23.5 [22.5 - 28.4]	0.5 – 7.3	69.6 – 87.5	3.4 – 11.7	84.6 – 92.7
Tarpon Bay	21.1 - 30.8 [30.6 – 21.1]	2.4 – 8.4	32.4 – 70.1	1.8 – 7.3	84.8 – 90.8
Wulfert Flats	25.3 - 27 [15.2 - 31.0]	2.2 – 10.9	----	6.7 – 50	84.7 – 92.6

Red values are outside of the preferred range.
[a] Salinity target values: BI < 5, FM < 10, SP = 10 – 30
[b] Dissolved O_2 target values: all sites > 4
[c] FDOM target values: BI < 70, FM < 70, SP < 11
[d] Chlorophyll target values: BI < 11, FM < 11, SP < 11
[f] Temperature target values: < 90
[s] Single sonde lower and surface layer or surface grab lab measurement

Wildlife Impacts: In the past week, the CROW wildlife hospital on Sanibel admitted 0 patients with suspected red tide/toxicosis.
Shellfish Advisory: Shellfish harvest area #6212 (Pine Island Sound Section 1; Aquaculture Leases) is **OPEN** while the public reef is **CLOSED** by the Florida Department of Agriculture and Consumer Services (FDACS) as of 7/13/24 due to presence of HAB *Pyrodinium bahamense*. SHA's 6222 (Pine Island Sound Sec. 2) and 6232 (Pine Island Sound Sec. 3) are **OPEN** as of 8/17/2024.



ACOE Daily Reports			
Date	S79 Flow (cfs)	S78 Flow (cfs)	S77 Flow (cfs)
8/20/24	2205	453	0
8/21/24	1629	114	0
8/22/24	1967	432	0
8/23/24	1873	600	0
8/24/24	1905	584	0
8/25/24	2255	981	858
8/26/24	3310	1234	333
7-day avg	**2163**	**628**	**170**



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

Water clarity at Lighthouse Beach Park, Sanibel on 8/26/24 at 2:10 PM on a falling tide (0.7 ft).