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: **July 23- 29, 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 **2,604 cfs** at **S-79** with a 7-day average of **534 cfs (21%)** coming from the lake at **S-77. The 14-day moving average flow** at **S-79 is 2,491 cfs** and has been in the **stress flow envelope** (2,100- 2,600 cfs; RECOVER 2020) for **13 days** after **34 days** in the **damaging flow envelope** (>2,600 cfs). **The 14-day moving average flow** at **S-77** was **547 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: With Lake Okeechobee stage in the Low Sub-band, the Tributary Hydrologic Conditions in the Normal category, the Seasonal Lake Okeechobee Net Inflow outlook in the Very Wet category, and the Multi-seasonal Lake Okeechobee Net Inflow Outlook in the Normal category, Part D of the 2008 LORS suggests "S-79 up to 450 cfs and S-80 up to 200 cfs".

Lake Flows: In the past 7 days the total outflow from Lake Okeechobee was **8,570 AF** with **7,446 AF** to the Caloosahatchee through **S-77**, **-15 AF** to the St. Lucie canal through **S-308***, **1,139 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 **16,103 AF** (**16,103 AF** from Fisheating Creek, S-71, S-72, S-84s, S-65EX, and S-65EX1). Water conservation areas received flows of **9,042 AF**, **17,274 AF**, and **5,772 AF** at **WCA1, WCA2, and WCA3**, respectively. Everglades National Park received **24,535 AF.**
***Data missing for S-310 from 7/23- 7/29, S-80 on 7/29 and ENP on 7/24.**

Lake Level: 13.52 ft (Low Sub-Band) **Last Week**: **13.56 ft** **Last Year: 15.09 ft**

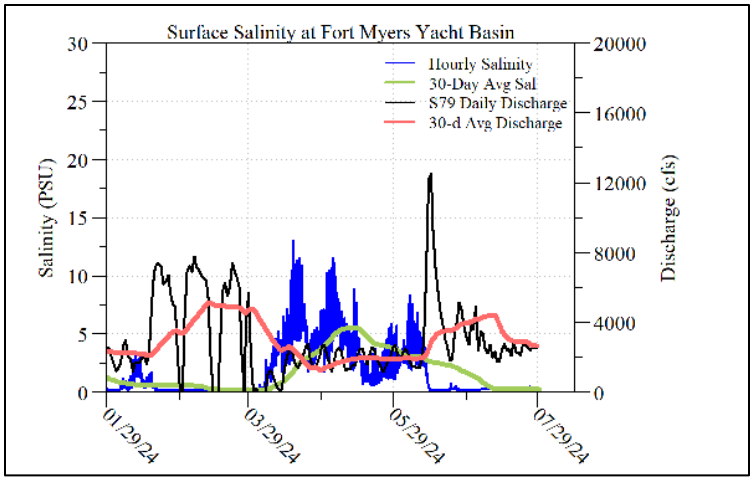
7-Day Lake Recession Rate: -0.04 ft/week

Lake Okeechobee Inflow: 1,050 cfs **Lake Okeechobee Outflow: 649 cfs**

Weekly Rainfall Total: **WP Franklin: 2.33"** **Ortona: 1.11"** **Moore Haven: 1.28"**

Cyanobacteria Status: On 7/29/24, sampling for cyanobacteria by the Lee County Environmental Lab reported *Microcystis* as **present** upstream of the **Franklin Locks** with some accumulation along the Lock and at **the Davis Boat Ramp** with light accumulation along the seawall.

Red Tide: On 7/26/24, 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	
Fort Myers	ND	> 1	ND	< 18
Shell Point	1.0	>2.2	1.0	< 18
Causeway	3.5	> 2.2	1.7	< 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.*

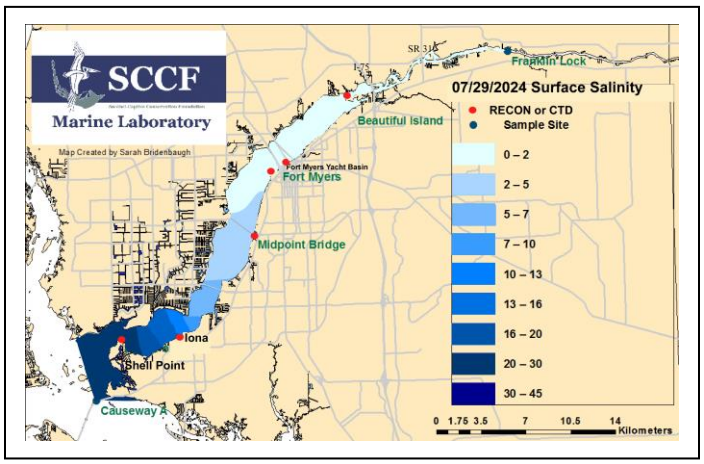
Upper Estuary Conditions: The 30-day average surface salinity at the Fort Myers Yacht Basin was 0.3 psu, within the suitable range for tape grass.
Lower Estuary Conditions: The average salinity at Shell Point RECON was 21 psu, in the optimal range for oysters but below optimal for seagrass.

Water Quality Conditions:

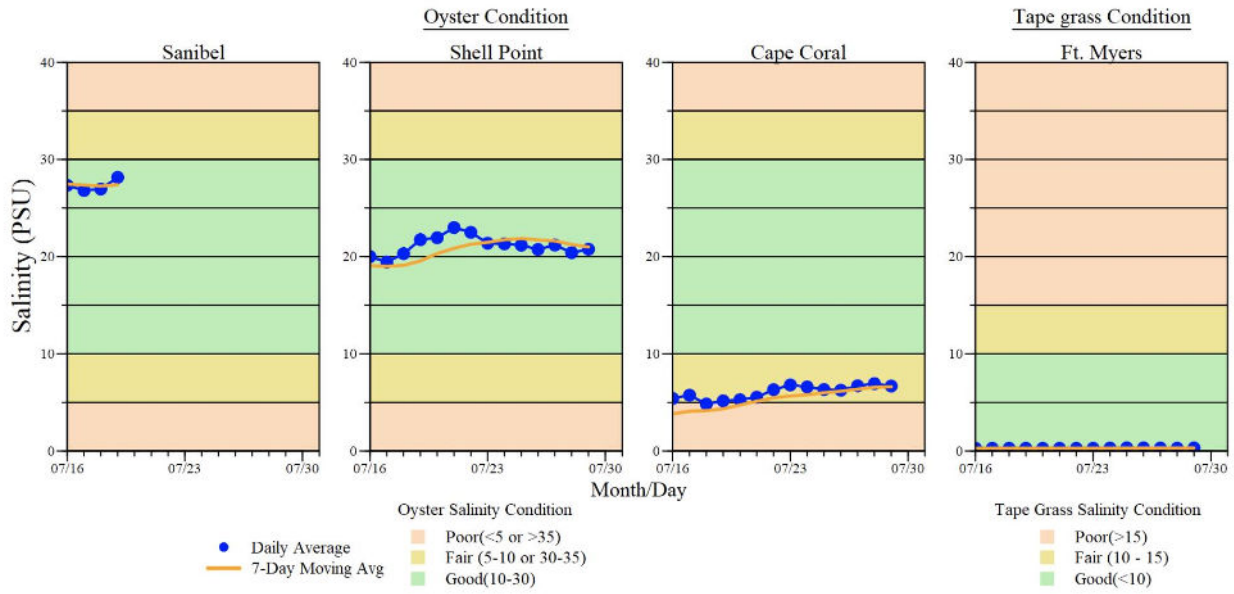
Monitor Site	Salinity (psu)[a] [previous week]	Diss O_2 (mg/L)[b]	FDOM (qsde)[c]	Chlorophyll (µg/L)[d]	Temperature (°F)
Beautiful Island	0.2 – 0.2 [0.2 – 0.2]	ND	220	8.4	88.3 – 92.8
Fort Myers Yacht Basin	0.3 – 0.5 [0.3 – 0.3]	ND	ND	ND	86.2 – 93.5
Shell Point	11 – 30 [7.8 – 29]	4.4 – 7.0	112	1.5	86.1 – 92.2
McIntyre Creek	[25.5 – 27.9]	0.2 – 10.1	55.2 – 77.6	1.9 – 6.6	86.3 – 95.2
Tarpon Bay	[24.7 – 30.4]	2.0 – 9.0	22.5 – 56.7	1.3 – 3.4	86.7 – 93.2
Wulfert Flats	[24.6 – 27.4]	1.3 – 11.0	----	2.1 – 25	86.8 – 95.4

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 2 patients with suspected red tide/toxicosis: 1 juvenile laughing gull (still in care) and 1 juvenile snowy egret (deceased).
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 7/3/2024.



ACOE Daily Reports			
Date	S79 Flow (cfs)	S78 Flow (cfs)	S77 Flow (cfs)
7/23/2024	2786	714	0
7/24/2024	2703	711	742
7/25/2024	2526	746	780
7/26/2024	2427	745	667
7/27/2024	2693	745	661
7/28/2024	2544	758	649
7/29/2024	2551	760	242
7-day avg	**2604**	**740**	**534**



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 at 1:48 PM on 7/29/24 on a falling tide (0.6 ft).