MEMORANDUM

To: USACE Colonel James L. Booth, 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 2- 8, 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 **3,220 cfs** at **S-79** with a 7-day average of **149 cfs** coming from the lake at **S-77. The 14-day moving average flow at S-79 is 3,579 cfs and has been in the damaging flow envelope** (>2,600 cfs, RECOVER 2020) for **26 days. The 14-day moving average flow at S-77 was 281 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 Army Corps to continue to refrain from releasing while we are above the optimal flow envelope.

USACE Action: With Lake Okeechobee stage in the Low Sub-band, the Tributary Hydrologic Conditions in the Very Wet category, Lake stage more than 1.0 ft below the Intermediate Sub-band, and the Multi-seasonal Lake Okeechobee Net Inflow Outlook in the Wet category, Part D of the 2008 LORS suggests "S-79 up to 3,000 cfs and S80 up to 1,170 cfs".

Lake Flows: In the past 7 days the total outflow from Lake Okeechobee was **7,226 AF** with **6,118 AF** to the Caloosahatchee through **S-77**, **-23 AF** to the St. Lucie canal through **S-308**, **1,131 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 **33,609 AF** (**33,609 AF** from Fisheating Creek, S-71, S-72, S-84s, S-65EX, and S-65EX1). Water conservation areas received flows of **4,583 AF**, **27,708 AF**, and **14,773 AF** at **WCA1, WCA2, and WCA3**, respectively. Everglades National Park received **23,415 AF.**
***Data missing for S-310 from 7/2- 7/8, S-80 on 7/8 and Fisheating Creek on 7/2.**

Lake Level: 13.50 ft (Low Sub-Band) **Last Week**: **13.45 ft** **Last Year: 14.82 ft**

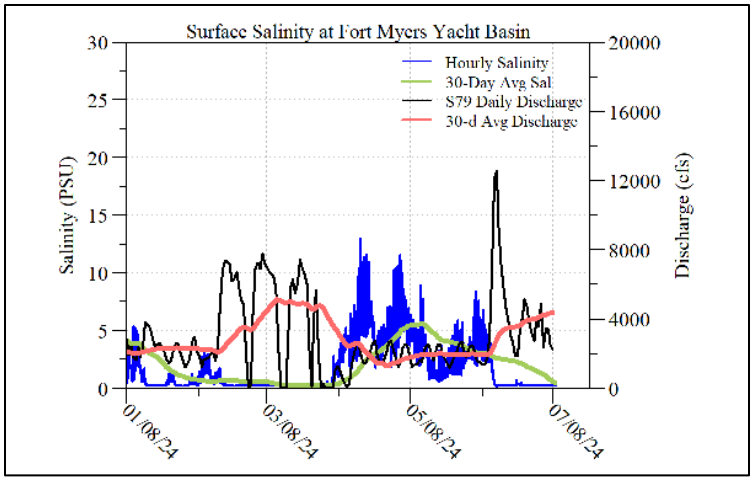
7-Day Lake Recession Rate: +0.05 ft/week

Lake Okeechobee Inflow: 1,783 cfs **Lake Okeechobee Outflow: 0 cfs**

Weekly Rainfall Total: **WP Franklin: 0.46"** **Ortona: 1.35"** **Moore Haven: 0.70"**

Cyanobacteria Status: On 7/8/24, sampling for cyanobacteria by the Lee County Environmental Lab reported *Microcystis* as **present** upstream of the **Franklin Locks** as specks with slight accumulation along the Lock and at the **Davis Boat Ramp** as specks.

Red Tide: On 7/3/24, 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	ND	>2.2	ND	< 18
Causeway	3.8	> 2.2	1. 0	< 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 0.8 psu, within the suitable range for tape grass.

Lower Estuary Conditions: The average salinity at Shell Point RECON was 20 psu, in the optimal range for oysters but below optimal for seagrass. Salinities dropped below 6 psu at Shell Point on four days. Drifting macroalgae was clogging RECON optical sensors. Diatoms were the dominant phytoplankton group at the Causeway, with *Coscinodiscus* having the highest biomass.

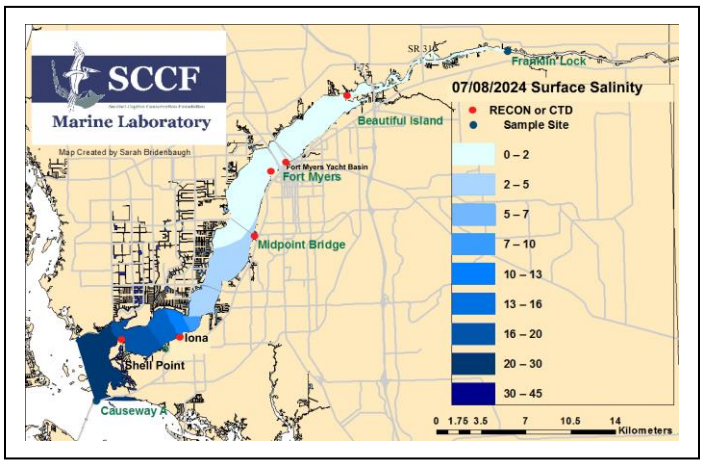
Water Quality Conditions:

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	199 – 232	8.8	85.9 – 92.6
Fort Myers Yacht Basin	0.2 – 0.3 [0.2 – 0.6]	ND	ND	ND	83.0 – 91.9
Shell Point	5.4 – 29 [4.4 – 30]	2.7 – 6.5	ND	ND	85.6 – 91.5
McIntyre Creek	22.3 – 26.7 [21.6 – 26.6]	1.1 – 7.0	52.2 – 78.4	2.4 – 6.9	85.9 – 93.1
Tarpon Bay	22.5 – 31.3 [20.8 – 31.4]	3.9 – 7.8	15.7 – 58.2	0.9 – 2.6	87.2 – 92.2
Wulfert Flats	11.5 – 25.4 [19.1 – 25.8]	2.6 – 8.6	----	0.7 – 25.6	86.9 – 93.0

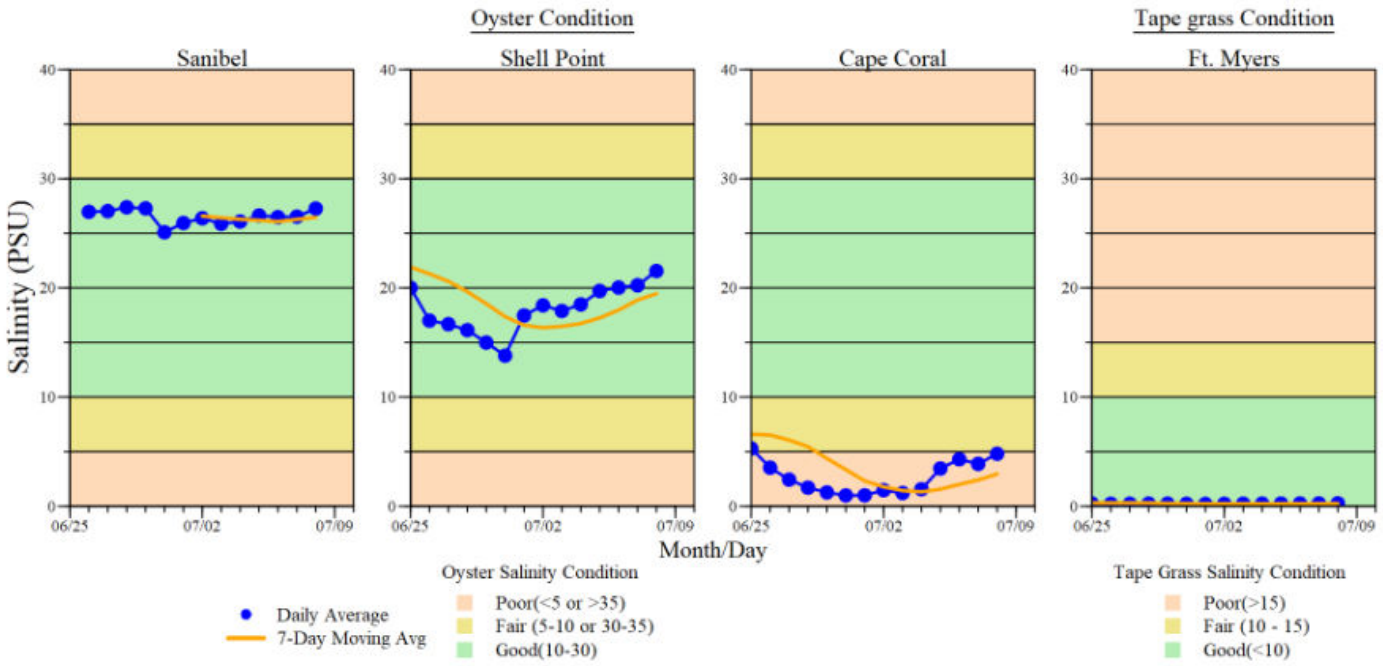
Red values are outside of the preferred range.
[a] Salinity target values: BI < 5, FM < 10, SP = 10 – 30
[b] Dissolved O_2 target values: all sites > 4
[c] FDOM target values: BI < 70, FM < 70, SP < 11
[d] Chlorophyll target values: BI < 11, FM < 11, SP < 11
[f] Temperature target values: < 90
[s] Single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

Wildlife Impacts: In the past week, the CROW wildlife hospital on Sanibel admitted 3 patients with suspected red tide/toxicosis: 1 adult laughing gull (still in care), 1 adult sandwich tern (deceased) and 1 adult white ibis (deceased).

Shellfish Advisory: Shellfish harvest area #6212 (Pine Island Sound Section 1) is **CLOSED** by the Florida Department of Agriculture and Consumer Services (FDACS) as of 6/10/24 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)
7/2/2024	3586	1771	374
7/3/2024	4919	2538	922
7/4/2024	2379	1162	1353
7/5/2024	3503	1218	246
7/6/2024	3374	1082	0
7/7/2024	2544	576	0
7/8/2024	2232	696	149
7-day avg	**3220**	**1292**	**435**



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

Red drift algae at Lighthouse Beach Park on Sanibel Island on 7/9/2024.