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 9- 15, 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 **2,261 cfs** at **S-79** with a 7-day average of **602 cfs** coming from the lake at **S-77. The 14-day moving average flow at S-79 is 2,740 cfs and has been in the damaging flow envelope** (>2,600 cfs, RECOVER 2020) for **33 days. The 14-day moving average flow at S-77 was 519 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 to use the minimal flows necessary to carry out testing at S-77 to lessen the impacts on the CRE from increased flows compounded with elevated basin runoff.

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 **9,554 AF** with **8,437 AF** to the Caloosahatchee through **S-77**, **-14 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 **22,985 AF** (**22,985 AF** from Fisheating Creek, S-71, S-72, S-84s, S-65EX, and S-65EX1). Water conservation areas received flows of **8,600 AF**, **20,987 AF**, and **4,995 AF** at **WCA1, WCA2, and WCA3**, respectively. Everglades National Park received **25,930 AF.**
***Data missing for S-310 from 7/9- 7/15 and S-80 from 7/13- 7/14.**

Lake Level: 13.53 ft (Low Sub-Band) **Last Week**: **13.50 ft** **Last Year: 14.88 ft**

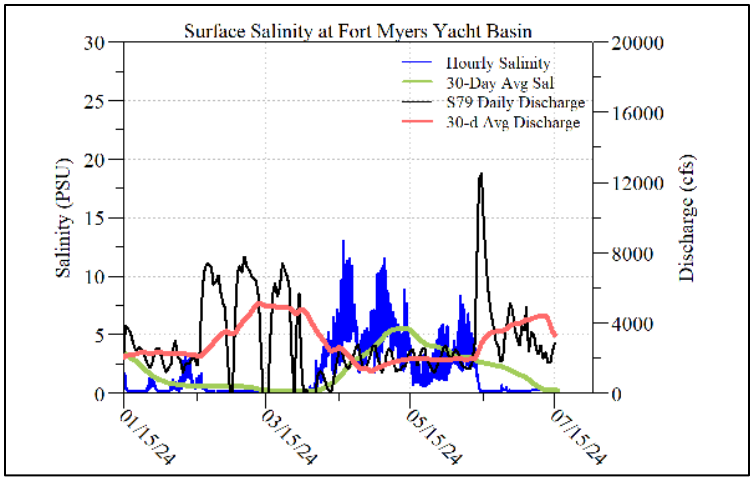
7-Day Lake Recession Rate: +0.03 ft/week

Lake Okeechobee Inflow: 1,789 cfs **Lake Okeechobee Outflow: 454 cfs**

Weekly Rainfall Total: **WP Franklin: 0.97"** **Ortona: 0.10"** **Moore Haven: 1.21"**

Cyanobacteria Status: On 7/15/24, sampling for cyanobacteria by the Lee County Environmental Lab reported *Microcystis* as **present** at **Royal Palm Park** as specks, upstream of the **Franklin Locks** as specks with slight accumulation along the Lock and at **Midpoint Bridge Park** as specks. *Microcystis* was **moderately abundant** at the **Davis Boat Ramp** with some accumulation along the seawall and some streaks.

Red Tide: On 7/12/24, 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	2.9	> 2.2	2.5	< 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. The Fort Myers RECON piling was broken.

Lower Estuary Conditions: The average salinity at Shell Point RECON was 19 psu, in the optimal range for oysters but below optimal for seagrass. Salinities dropped below 10 psu at Shell Point seven times. Drifting macroalgae was clogging RECON optical sensors.

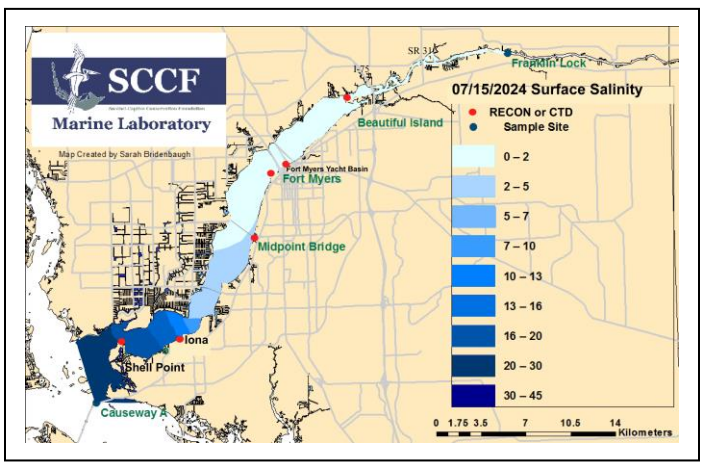
Water Quality Conditions:

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	210 – 230	8.7	87.9 – 93.0
Fort Myers Yacht Basin	0.3 – 0.3 [0.2 – 0.3]	ND	ND	ND	85.0 – 91.2
Shell Point	7.8 – 29 [5.4 – 29]	2.4 – 6.7	ND	ND	86.9 – 91.4
McIntyre Creek	24.3 – 26.9 [22.3 – 26.7]	0.6 – 11.2	53.0 – 74.4	1.9 – 5.1	86.5 – 93.6
Tarpon Bay	22.7 – 27.8 [22.5 – 31.3]	3.1 – 8.1	35.6 – 63.6	1.4 – 7.6	86.6 – 91.9
Wulfert Flats	18.5 – 26.2 [11.5 – 25.4]	2.6 – 10.0	----	4.6 – 26.9	86.9 – 93.7

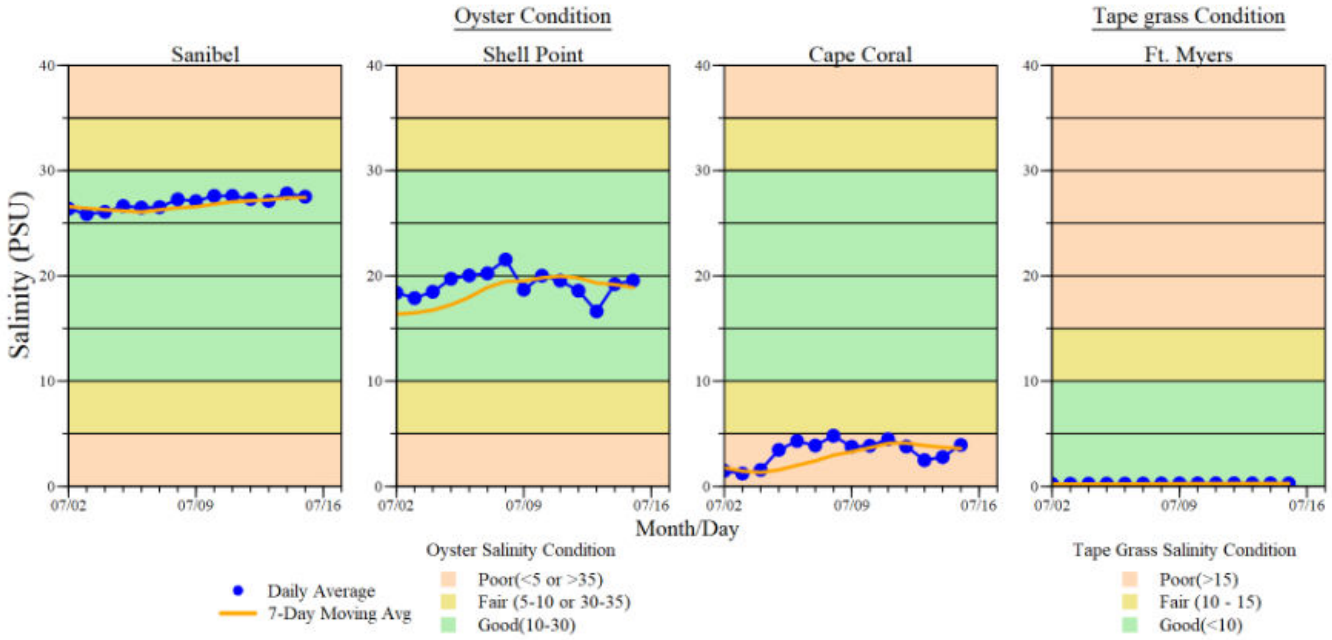
Red values are outside of the preferred range.
[a] Salinity target values: BI < 5, FM < 10, SP = 10 – 30
[b] Dissolved O_2 target values: all sites > 4
[c] FDOM target values: BI < 70, FM < 70, SP < 11
[d] Chlorophyll target values: BI < 11, FM < 11, SP < 11
[f] Temperature target values: < 90
[s] Single 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: 2 adult laughing gulls (1 still in care, 1 deceased) and 1 adult osprey (deceased).

Shellfish Advisory: Shellfish harvest area #6212 (Pine Island Sound Section 1; Aquaculture Leases) is **OPEN** at sunrise for oysters only 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)
7/9/2024	2744	1036	496
7/10/2024	2000	1024	678
7/11/2024	2362	894	1003
7/12/2024	1729	560	484
7/13/2024	1792	0	0
7/14/2024	2420	1353	412
7/15/2024	2779	1381	1142
7-day avg	**2261**	**893**	**602**



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 on 7/15/24 at 2:11 PM on a falling tide (0.7 ft).

Aerial photo of cyanobacteria on Lake Okeechobee on 7/15/24. (Ralph Arwood & Calusa Waterkeeper)