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: **September 17- 23, 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 **5,417 cfs** at **S-79** with a 7-day average of **0 cfs (0%)** coming from the lake at **S-77. The 14-day moving average flow** at **S-79 is 6,871 cfs** and has been in the **damaging flow envelope** (>2,600 cfs; RECOVER 2020) for **17 days** after **12 days** in the **stress flow envelope** (2,100- 2,600 cfs)**. The 14-day moving average flow** at **S-77** was **0 cfs.**

Recommendation: Given the predictions for increased rainfall and basin runoff following Tropical Storm Helene, we ask the USACE to refrain from making releases to the Caloosahatchee estuary for as long as basin runoff causes flows at S-79 to measure above RECOVER 2020 optimum flow targets (750- 2,100 cfs).

USACE Action: Lake Okeechobee stage is in the bottom third of Zone D (Zone D2 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). The District recommends USACE implements a non-harmful release from Lake Okeechobee to the Caloosahatchee Estuary with an average discharge of 2,000 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 **1,613 AF** with **39 AF** to the Caloosahatchee through **S-77**, **10 AF** to the St. Lucie canal through **S-308**, **1,564 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 **87,352 AF** (**87,352 AF** from Fisheating Creek, S-71, S-72, S-84s, S-65EX, and S-65EX1). Water conservation areas received flows of **12,725 AF**, **35,260 AF**, and **25,890 AF** at **WCA1, WCA2, and WCA3**, respectively. Everglades National Park received **32,524 AF.**
***Data missing for S-310 from 9/17- 9/23.**

Lake Level: 15.13 ft (Low Sub-Band) **Last Week**: **14.93 ft** **Last Year: 15.48 ft**

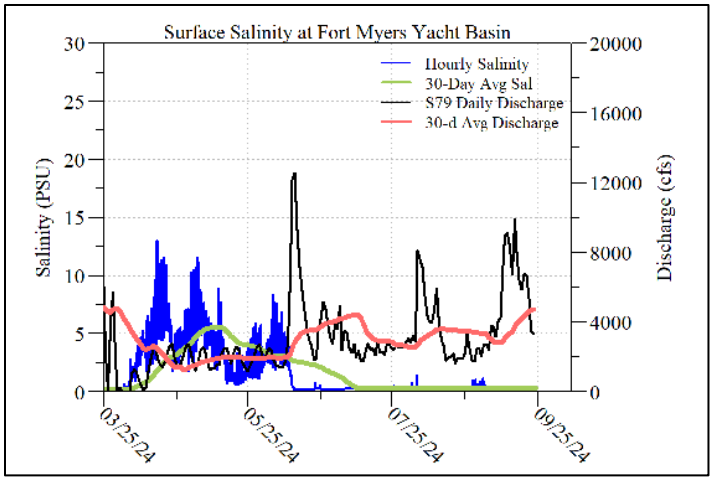
7-Day Lake Recession Rate: +0.20 ft/week

Lake Okeechobee Inflow: 4,782 cfs **Lake Okeechobee Outflow: 0 cfs**

Weekly Rainfall Total: **WP Franklin: 0.37"** **Ortona: 2.78"** **Moore Haven: 0.33"**

Cyanobacteria Status: On 9/23/24, sampling for cyanobacteria by the Lee County Environmental Lab reported no visible cyanobacteria across all sites.

Red Tide: On 9/20/24, the FWC reported that the red tide organism, *Karenia brevis*, was detected in **11 samples from Southwest Florida** over the past week. *K. brevis* was observed at background to **very low** concentrations in Pinellas County, background concentrations in Manatee County, background to **low** concentrations in Sarasota County, and background concentrations in Charlotte County.



Light Penetration

Site	25% Iz	Target Values	Turbidity	Target Values
	meters		NTU	
Beautiful Is	0.6	> 1	1.7	< 18
Shell Point	1.0	>2.2	1.5	< 18
Causeway	2.3	> 2.2	2.1	< 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 17 psu, in the optimal range for oysters but below optimal for seagrass.

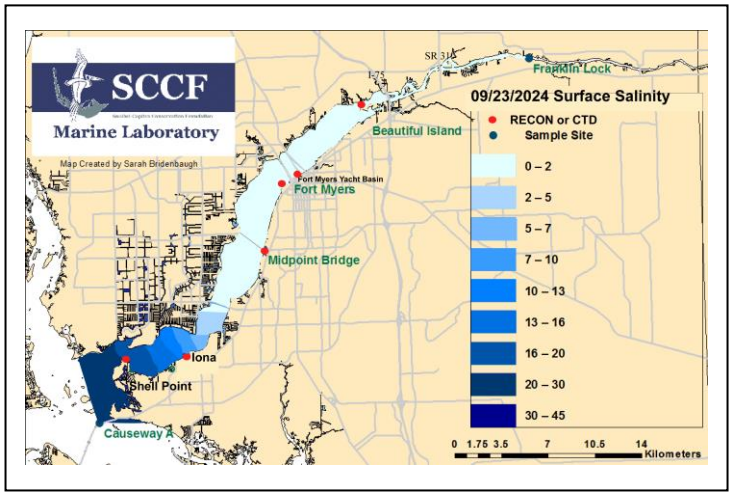
Water Quality Conditions:

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	190	9.3	85.5– 89.0
Fort Myers Yacht Basin	0.2 – 0.2 [0.2 – 0.3]	ND	ND	ND	86.2– 90.0
Shell Point	3.7 – 27 [3.8 - 28]	3.8 – 5.8	141	3.5	87.1– 91.3
McIntyre Creek	[----]	----	----	----	----
Tarpon Bay	[20.2 - 28.3]	[----]	[----]	[----]	[----]
Wulfert Flats	[24.8 – 27.7]	[----]	[----]	[----]	[----]

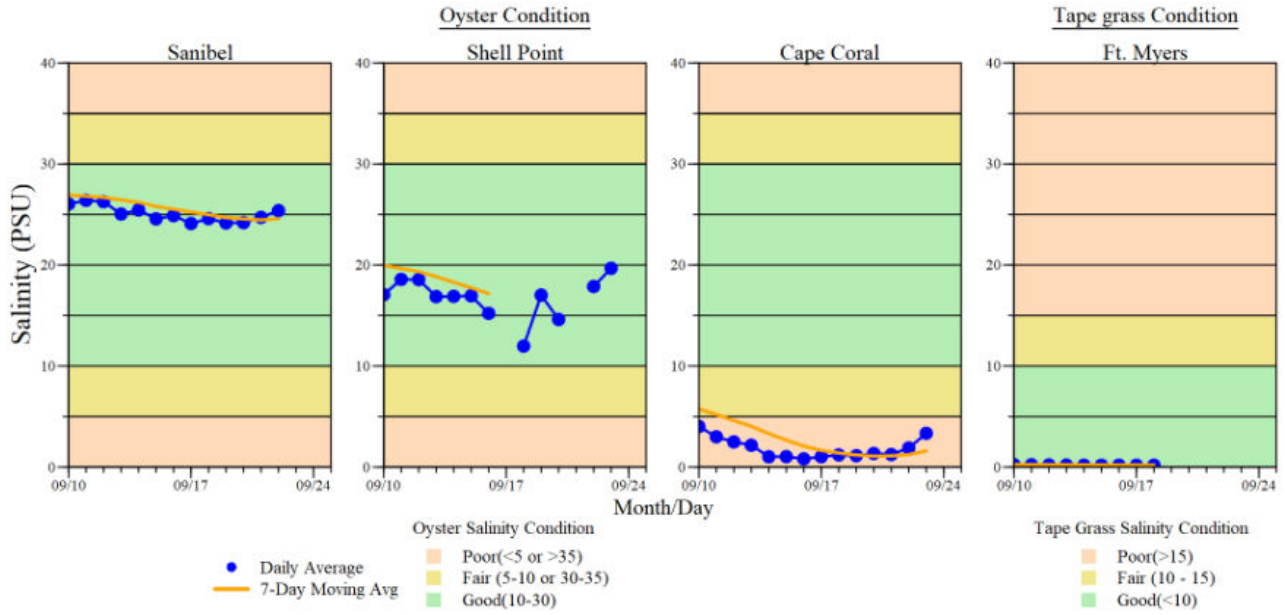
Red values are outside of the preferred range.
[a] Salinity target values: BI < 5, FM < 10, SP = 10 – 30
[b] Dissolved O_2 target values: all sites > 4
[c] FDOM target values: BI < 70, FM < 70, SP < 11
[d] Chlorophyll target values: BI < 11, FM < 11, SP < 11
[f] Temperature target values: < 90
[s] Single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

Wildlife Impacts: In the past week, the CROW wildlife hospital on Sanibel admitted 4 patients with suspected red tide/toxicosis: 1 adult ruddy turnstone (released), 1 adult black skimmer (deceased), 1 adult greater yellowlegs (still in care) and 1 adult western sandpiper (deceased).

Shellfish Advisory: Shellfish harvest area #6212 (Pine Island Sound Section 1; Aquaculture Lease and Public Reef) are **OPEN** by the Florida Department of Agriculture and Consumer Services (FDACS) as of 9/11/24. 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)
9/17/24	6410	2682	0
9/18/2024	5882	2352	0
9/19/2024	6776	2681	0
9/20/2024	6641	2365	0
9/21/2024	5354	1931	0
9/22/2024	3524	1099	0
9/23/2024	3335	1228	0
7-day avg	**5417**	**2262**	**0**



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 9/24/24 at 1:31 PM on a falling tide (0.7 ft).