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: **October 8- 14, 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 **5,445 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 4,862 cfs** and has been in the **damaging flow envelope** (>2,600 cfs; RECOVER 2020) for **38 days. The 14-day moving average flow** at **S-77** was **0 cfs.**

Recommendation: 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 middle 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 **58 AF** with **37 AF** to the Caloosahatchee through **S-77**, **21 AF** to the St. Lucie canal through **S-308** and **0 AF** to the EAA through **S-351**, **S-352**, and **S-354**. The total net inflow to the Lake was **123,491 AF** (**123,491 AF** from Fisheating Creek, S-71, S-72, S-84s, S-65EX, and S-65EX1). Water conservation areas received flows of **14,023 AF**, **28,758 AF**, and **21,337 AF** at **WCA1, WCA2, and WCA3**, respectively. Everglades National Park received **32,580 AF.**
***Data missing for S-78 on 10/11, S-310 & L8 from 10/8- 10/14 and ENP on 10/14.**

Lake Level: 15.96 ft **Last Week**: **15.50 ft** **Last Year: 16.31 ft**

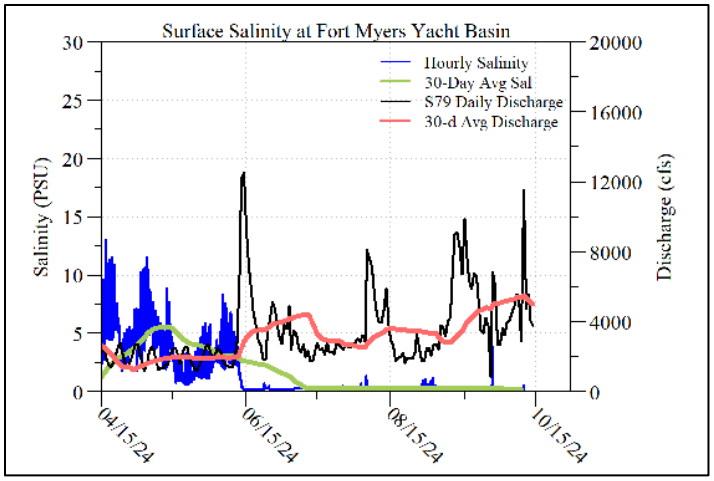
7-Day Lake Recession Rate: +0.46 ft/week

Lake Okeechobee Inflow: 8,122 cfs **Lake Okeechobee Outflow: 0 cfs**

Weekly Rainfall Total: **WP Franklin: 2.25"** **Ortona: 1.22"** **Moore Haven: 1.98"**

Cyanobacteria Status: On 10/14/24, sampling for cyanobacteria by the Lee County Environmental Lab reported no visible cyanobacteria across all sites.

Red Tide: On 10/4/24, the FWC reported that the red tide organism, *Karenia brevis*, was detected in **28 samples from Southwest Florida** over the past week. *K. brevis* was observed at background to **high** concentrations in and offshore of Pinellas County and background concentrations in Sarasota County.



Light Penetration

Site	25% Iz	Target Values	Turbidity	Target Values
	meters		NTU	
Beautiful Is	0.6	> 1	2.6	< 18
Shell Point	ND	>2.2	ND	< 18
Causeway	2.4	> 2.2	3.0	< 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 0.3 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.

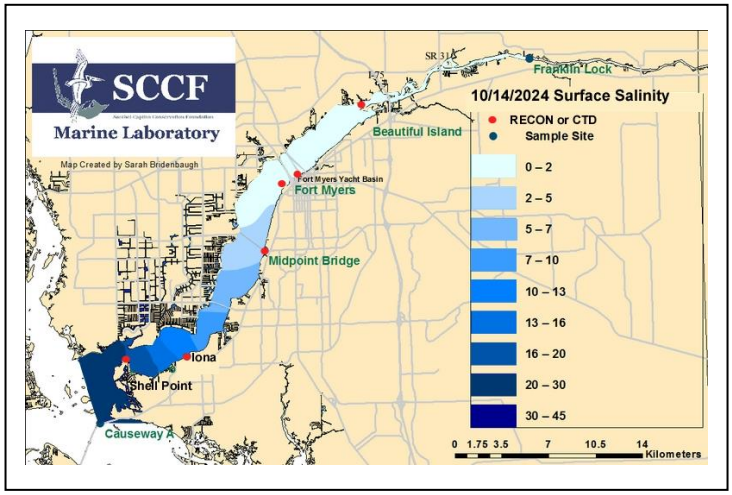
Water Quality Conditions:

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	9.0	78.4 – 83.3
Fort Myers Yacht Basin	ND [0.2 – 0.3]	ND	ND	ND	ND
Shell Point	ND [7.1 - 33]	ND	ND	3.8	78.5 – 82.4
McIntyre Creek	---- [----]	----	----	----	----
Tarpon Bay	---- [22.6 - 33.4]	----	----	----	----
Wulfert Flats	---- [22.1 – 33.2]	----	----	----	----

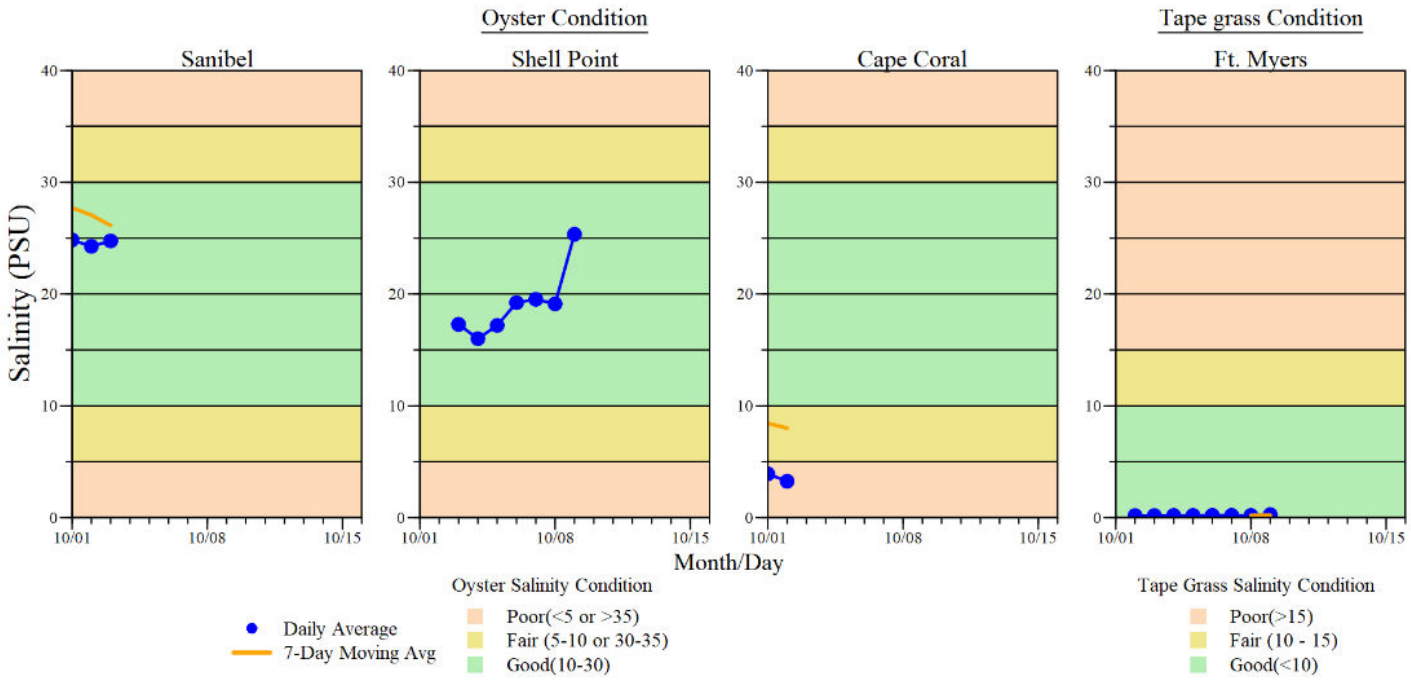
Red values are outside of the preferred range.
[a] Salinity target values: BI < 5, FM < 10, SP = 10 – 30
[b] Dissolved O_2 target values: all sites > 4
[c] FDOM target values: BI < 70, FM < 70, SP < 11
[d] Chlorophyll target values: BI < 11, FM < 11, SP < 11
[f] Temperature target values: < 90
[s] Single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

Shellfish Advisory: Shellfish harvest area #6212 (Pine Island Sound Section 1; Aquaculture Lease and Public Reef), SHA #6222 (Pine Island Sound Sec. 2) and SHA #6232 (Pine Island Sound Sec. 3) are **CLOSED** by the Florida Department of Agriculture and Consumer Services (FDACS) as of 9/27/24 due to Hurricane Helene.



ACOE Daily Reports			
Date	S79 Flow (cfs)	S78 Flow (cfs)	S77 Flow (cfs)
10/8/2024	5523	1223	0
10/9/2024	2892	780	0
10/10/2024	11534	2474	0
10/11/2024	4756	1342	0
10/12/2024	5557	686	0
10/13/2024	4068	940	0
10/14/2024	3787	596	0
7-day avg	**5445**	**1149**	**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 10/14 at 1:47 PM on a falling tide (2.0 ft).