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: **May 28- June 3, 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 **2,306 cfs** at **S-79** with a 7-day average of **2,137 cfs (93%)** coming from the lake at **S-77**. **The 14-day moving average flow at S-79 is 2,011 cfs and has been in the optimum flow envelope** (750 – 2,100 cfs) for **49 days**. The 14-day average flow at S-77 was **2,049 cfs.**

Recommendation: On April 13, The Army Corps began targeting a 7-day average pulse release schedule of 2,000 cfs at W.P. Franklin Lock and Dam (S-79) and 0 cfs St. Lucie Lock and Dam (S-80). 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 recommend the Corps to maintain flows within the RECOVER 2020 optimum flow envelope of 750– 2,100 cfs at S-79 for the Caloosahatchee Estuary.

USACE Action: With Lake Okeechobee stage within the Low Sub-band, the Tributary Hydrologic Conditions in the Dry category, Part D of the 2008 LORS suggests "S-79 up to 450 cfs and S-80 up to 200 cfs." On 4/13/24 the USACE began targeting a 7-day average pulse release schedule of 2,000 cfs at W.P. Franklin Lock and Dam (S-79) and 0 cfs St. Lucie Lock and Dam (S-80).

Lake Flows: In the past 7 days the total outflow from Lake Okeechobee was **55,758 AF*** with **29,722 AF** to the Caloosahatchee through **S-77**, **0 AF** to the St. Lucie canal through **S-308**, **991 AF** through the **L8 canal**, and **25,045 AF** to the EAA through **S-351**, **S-352**, and **S-354***. The total net inflow to the Lake was **3,165 AF** (**3,165 AF** from Fisheating Creek, S-71, S-72, S-84s, S-65EX, and S-65EX1). Water conservation areas received flows of **0 AF**, **1,267 AF**, and **412 AF** at **WCA1, WCA2, and WCA3**, respectively. Everglades National Park received **363 AF.**
***Data missing for S-310 from 5/28- 6/3, S-354 from 6/2- 6/3, and S-80 from 6/1- 6/3.**

Lake Level: 12.86 ft (Low Sub-Band) **Last Week**: **13.19 ft** **Last Year: 13.96 ft**

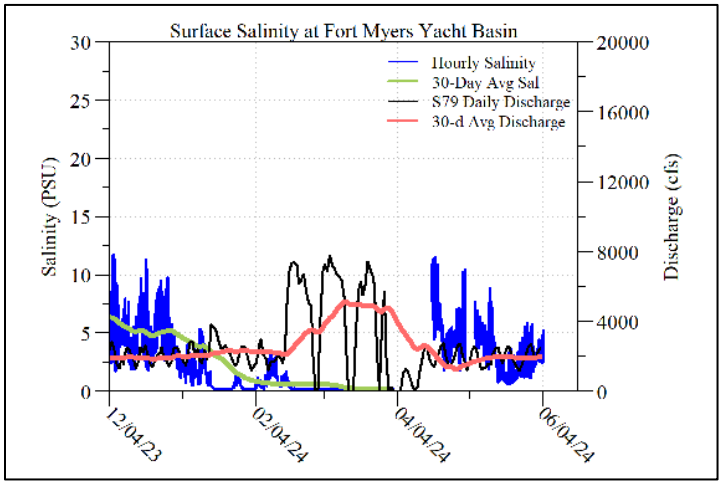
7-Day Lake Recession Rate: -0.33 ft/week

Lake Okeechobee Inflow: 198 cfs **Lake Okeechobee Outflow: 3,174 cfs**

Weekly Rainfall Total: **WP Franklin: 0.35"** **Ortona: 0.00"** **Moore Haven: 0.86"**

Cyanobacteria Status: On 6/3/24, sampling for cyanobacteria by the Lee County Environmental Lab reported **moderately abundant** *Dolichospermum*, *Microcystis, Aphanizomenon* and cyano filaments at the **Alva Boat Ramp** as streaks with heavy surface cover and upstream of the **Franklin Locks** as streaks with accumulation along the lock. *Dolichospermum, Microcystis* and cyano filaments were **present** at the **Davis Boat Ramp** as streaks.

Red Tide: On 5/31/24, 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	0.9	> 1	4.1	< 18
Shell Point	1.3	>2.2	1.0	< 18
Causeway	3.5	> 2.2	1.8	< 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 3.5 psu, within the suitable range for tape grass.

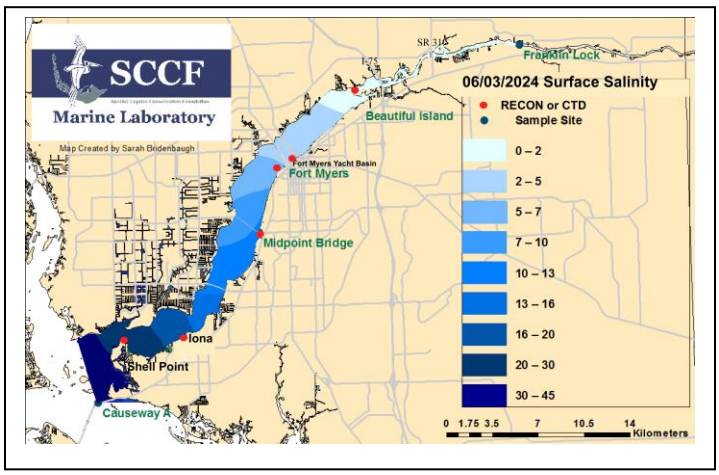
Lower Estuary Conditions: The average salinity at Shell Point RECON was 26 psu, in the optimal range for oysters and seagrass.

Water Quality Conditions:

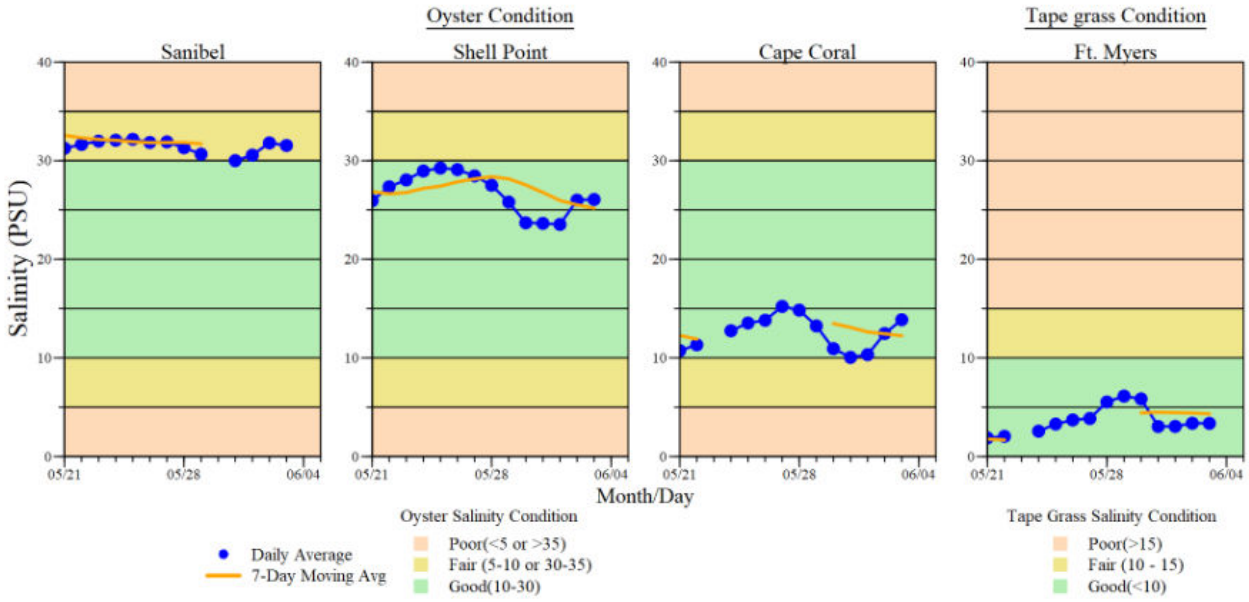
Monitor Site	Salinity (psu)[a] [previous week]	Diss O_2 (mg/L)[b]	FDOM (qsde)[c]	Chlorophyll (µg/L)[d]	Temperature (°F)
Beautiful Island	0.2 – 0.2 [0.2 – 0.3]	2.9 – 7.6	127 – 139	8.3	85.6 – 92.7
Fort Myers Yacht Basin	[1.2 – 6.1] [0.8 – 5.7]	1.6 – 6.7	106 – 130	5.9	82.3 – 90.8
Shell Point	15 – 34] [16 – 34]	4.6 – 7.2	25.5 – 124	1.7	83.2 – 90.8
McIntyre Creek	30.3 – 33.9 [32.0 – 35.2]	1.7 – 12.2	38.9 – 72.6	2.0 – 40.3	82.2 – 93.2
Tarpon Bay	30.3 – 33.5 [31.1 – 35.1]	3.2 – 8.9	20.7 – 37.6	1.0 – 2.6	82.9 – 90.7
Wulfert Flats	30.1 – 34.2 [33.2 – 35.6]	2.0 – 8.7	-------	3.6 – 22.9	81.7 – 91.6

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 great blue heron (deceased), 1 juvenile mottled duck (deceased) and 1 juvenile double-crested cormorant (deceased).



ACOE Daily Reports			
Date	S79 Flow (cfs)	S78 Flow (cfs)	S77 Flow (cfs)
5/28/24	2133	1671	2035
5/29/24	2584	2271	2692
5/30/24	2695	2113	2412
5/31/24	2187	1647	1954
6/01/24	1803	1586	1430
6/02/24	2239	1838	2097
6/03/24	2500	1855	2337
7-day avg	**2306**	**1854**	**2137**



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

a.)

b.)

c.)

Algae at Bunche beach, Fort Myers on 6/02/24: accumulations of *Hypnea* (a.), *Caulerpa* (b.) and *Enteromorpha* (c.)