MEMORANDUM

To: USACE Colonel James L. Booth, LTC Todd F. Polk, 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
Lesli Haynes & Lisa Kreiger - Lee County
Harry Phillips & Maya Robert - City of Cape Coral
Leah Reidenbach, Rick Bartleson PhD, Matt Depaolis & Allie Pecenka - Sanibel-Captiva Conservation Foundation

Subject: Caloosahatchee & Estuary Conditions Report

Reporting Period: **February 13 – 19, 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 **3,898 cfs** at **S-79** with a 7-day average of **2,809 cfs (72%)** coming from the lake at **S-77**. **The 14-day moving average flow at S-79 is 2,899 cfs and has been in the damaging** flow envelope (>2,600 cfs; RECOVER 2020) for **2 days** after 15 days in the optimum flow envelope followed by 2 days in the stress flow envelope.

Recommendation: The Corps has made the decision to increase flows to a 14-day average of 4,000 cfs measured at S-77 in a pulse release schedule resulting in damaging flows (>2,600 cfs) to the CRE. While we acknowledge the need for increased flows to lower the higher than normal lake level, a strategy for achieving this should have been developed and implemented in late 2023 to avoid the high volume, damaging discharges currently being released. We ask that the Corps monitor flows at S-79 given the El Niño forecast and the high likelihood of increased basin runoff that will compound the high volume releases and reduce flows at S-77 if possible. Furthermore, we ask that flow volume be reduced significantly by April 1 to protect oyster and fish spawning in the CRE or if a red tide event initiates off the coast of Lee County.

USACE Action: With Lake Okeechobee stage in the Intermediate Sub-band, the Tributary Hydrologic conditions in the Wet category, Part D of the 2008 LORS suggests up to 4,000 cfs at S-77 and 1,800 cfs at S-80. On 2/17/24 the USACE increased releases from Lake Okeechobee to the Caloosahatchee Estuary from the Julian Keen Jr. Lock and Dam (S-77) to 4,000 cfs, 1,800 cfs at St. Lucie Lock and Dam (S-80), and up to 500 cfs to the Lake Worth Lagoon through the C-51 canal.

Lake Flows: In the past 7 days the total outflow from Lake Okeechobee was **68,047 AF*** with **39,052 AF** to the Caloosahatchee through **S-77**, **22,731 AF** to the St. Lucie canal though **S-308**, **1,205 AF** though the **L8 canal**, and **5,059 AF** to the EAA through **S-351**, **S-352**, and **S-354**. The total net inflow to the Lake was **75,063 AF** (**75,063 AF** from Fisheating Creek, S-71, S-72, S-84s, S-65EX, and S-65EX1). Water conservation areas received flows of **1,296 AF**, **2,452AF**, and **3,017 AF** at **WCA1, WCA2, and WCA3**, respectively. Everglades National Park received **20,376 AF**.***Data missing for S-310 on 2/13/24 – 2/19/24.**

Lake Level: 16.32 ft (Intermediate Sub-Band) **Last Week**: **16.37 ft** **Last Year: 15.72 ft**

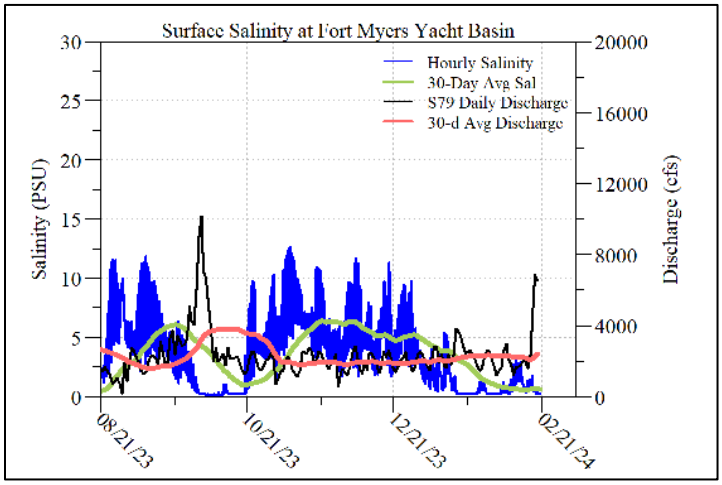
7-Day Lake Recession Rate: -0.05 ft/week

Lake Okeechobee Inflow: 4,042 cfs **Lake Okeechobee Outflow: 8,515 cfs**

Weekly Rainfall Total: **WP Franklin: 1.85"** **Ortona: 1.66"** **Moore Haven: 1.94"**

Cyanobacteria Status: On 2/19/24 sampling for cyanobacteria by the Lee County Environmental Lab reported the **presence** of *Microcystis* and *Dolichospermum* upstream of the **Franklin Locks** with some light steaks and overcast conditions.

Red Tide: On 2/16/24, 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	0.6	> 1	3.0	< 18
Shell Point	ND	>2.2	ND	< 18
Causeway	2.4	> 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 0.7 psu, within the suitable range for tape grass.

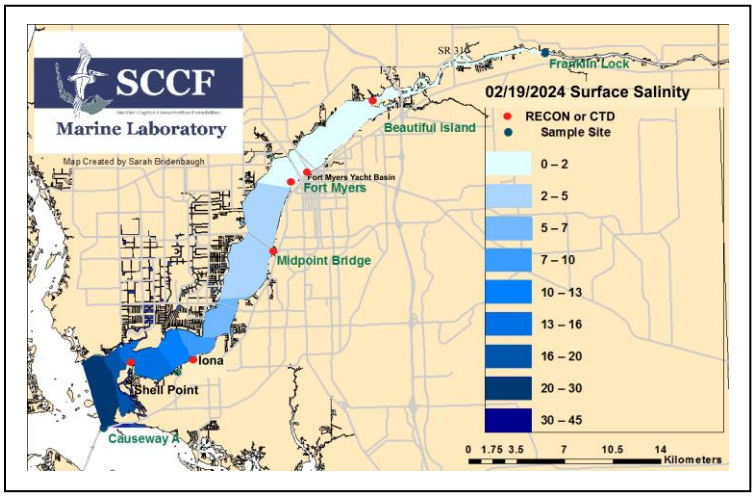
Lower Estuary Conditions: The average salinity at Shell Point RECON was 20 psu, in the optimal range for oysters but below optimal for seagrass.

Water Quality Conditions:

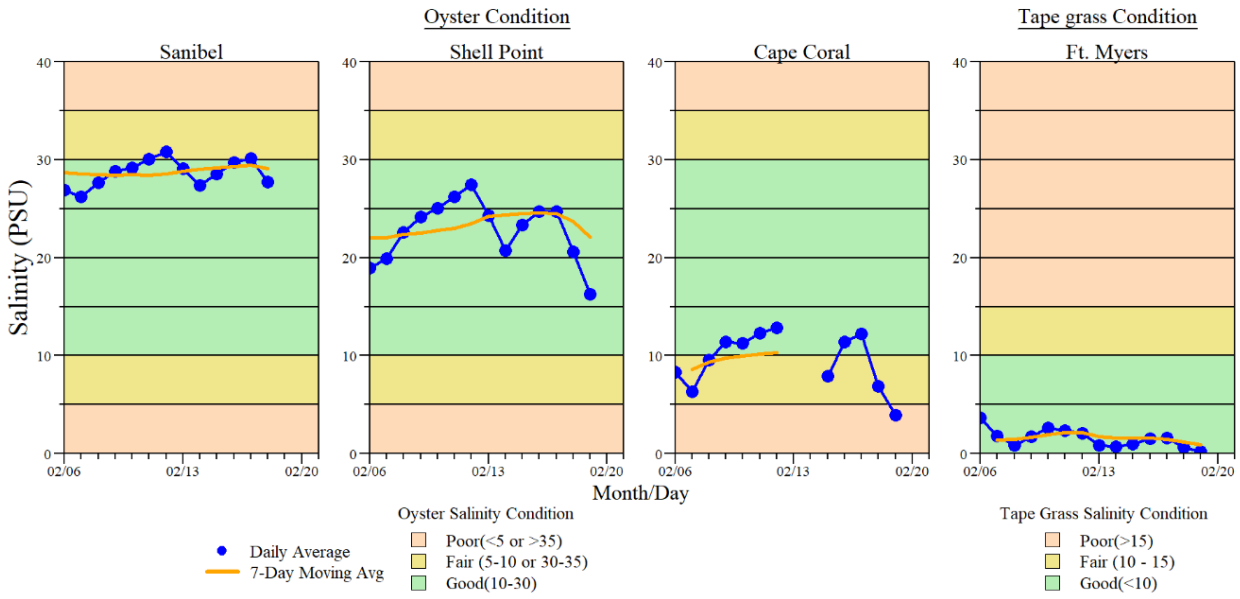
Monitor Site	Salinity (psu)[a] [previous week]	Diss O_2 (mg/L)[b]	FDOM (qsde)[c]	Chlorophyll (µg/L)[d]	Temperature (°F)
Beautiful Island	0.2 – 0.2 [0.2 – 0.3]	5.7 – 7.4	-------	-------	69.3 – 78.4
Fort Myers Yacht Basin	0.2 – 3.0 [0.2 – 3.3]	7.3 – 8.3	180 – 225	5.6	67.1 – 74.0
Shell Point	8.2 – 32.0 [9.9 – 32.0]	6.1 – 7.9	45 – 232	-------	67.5 – 72.4
McIntyre Creek	28.1 – 32.1 [25.0 – 31.6]	3.9 – 8.9	63.4 – 94.8	1.9 – 5.1	63.3 – 72.5
Tarpon Bay	26.6 – 33.0 [25.4 – 33.0]	5.5 – 8.3	19.5 – 61.6	1.1 – 2.4	65.8 – 72.3
Wulfert Flats	------- [-------]	-------	-------	-------	-------

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
[s] Single sonde lower and surface layer or surface grab lab measurement
------- no data

Wildlife Impacts: In the past week, the CROW wildlife hospital on Sanibel admitted 5 patients with suspected red tide/toxicosis: 1 adult great egret (deceased), 1 adult osprey (deceased), 1 juvenile brown pelican (deceased), 1 adult royal tern (still at CROW) and 1 adult belted kingfisher (still at CROW).



ACOE Daily Reports			
Date	S79 Flow (cfs)	S78 Flow (cfs)	S77 Flow (cfs)
2/13/24	2034	1191	1640
2/14/24	1986	1206	1303
2/15/24	1618	1217	1630
2/16/24	2342	1527	1447
2/17/24	5034	3976	3878
2/18/24	6901	5522	4924
2/19/24	7373	6029	4840
7-day avg	3898	2953	2809



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 2/20/24 at 1:25 PM on a slack tide (1.5 ft). Lighthouse Beach Park Virtual Tour.

Small accumulations of red drift algae about one mile east of Lighthouse Beach Park on 2/20/24. *SCCF.*