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
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 20 – 26, 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 **6386 cfs** at **S-79** with a 7-day average of **4,910 cfs (77%)** coming from the lake at **S-77**. **The 14-day moving average flow at S-79 is 5897 cfs and has been in the damaging** flow envelope (>2,600 cfs; RECOVER 2020) for **10 days.** The 14-day average flow at S-77 was 3,860 cfs.

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 **125,289 AF*** with **68,209 AF** to the Caloosahatchee through **S-77**, **47,568 AF** to the St. Lucie canal though **S-308**, **1,600 AF** though the **L8 canal**, and **7,912 AF** to the EAA through **S-351**, **S-352**, and **S-354**. The total net inflow to the Lake was **62,722 AF** (**62,722 AF** from Fisheating Creek, S-71, S-72, S-84s, S-65EX, and S-65EX1). Water conservation areas received flows of **3,881 AF**, **21,795 AF**, and **1,863 AF** at **WCA1, WCA2, and WCA3**, respectively. Everglades National Park received **19,914 AF**. ***Data missing for S-310 on 2/20/24 – 2/26/24 and from ENP on 2/22/24.**

Lake Level: 16.23 (Intermediate Sub-Band) **Last Week**: **16.32 ft** **Last Year: 15.58 ft**

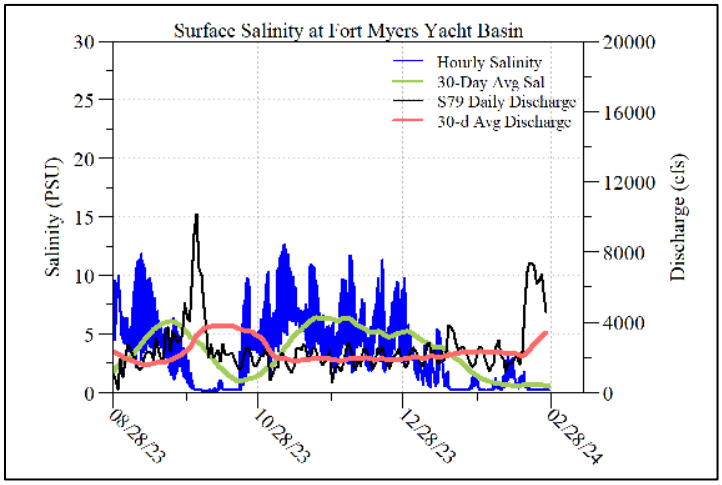
7-Day Lake Recession Rate: -0.09 ft/week

Lake Okeechobee Inflow: 3,721 cfs **Lake Okeechobee Outflow: 9,074 cfs**

Weekly Rainfall Total: **WP Franklin: 0.00"** **Ortona: 0.30"** **Moore Haven: 0.25"**

Cyanobacteria Status: On 2/26/24 sampling for cyanobacteria by the Lee County Environmental Lab reported **moderately abundant** *Microcystis* and *Dolichospermum* at **Royal Palm Park** with streaks and accumulation along the shore, upstream of the **Franklin Locks** with streaks and accumulation along the lock, and at the **Davis Boat Ramp** with streaks and accumulation along the seawall. *Dolichospermum* was **present** at the **Alva Boat Ramp** with visible specks.

Red Tide: On 2/23/24, 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	4.0	< 18
Shell Point	0.8	>2.2	2.7	< 18
Causeway	2.3	> 2.2	1.7	< 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.

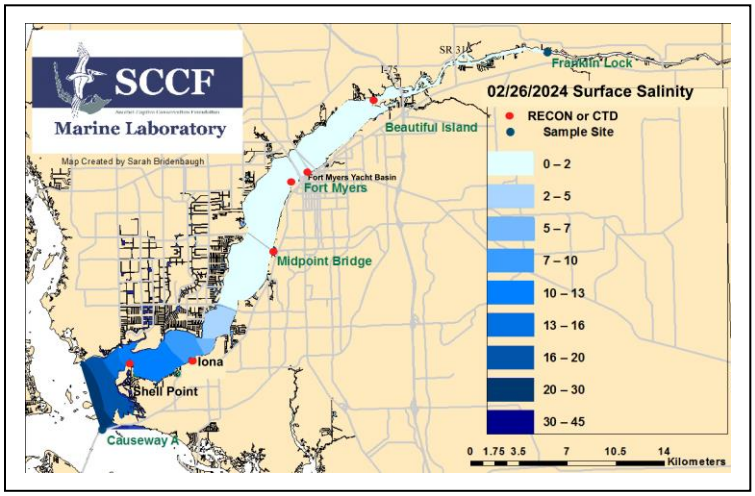
Lower Estuary Conditions: The average salinity at Shell Point RECON was 16 psu, in the optimal range for oysters but below optimal for seagrass.

Water Quality Conditions:

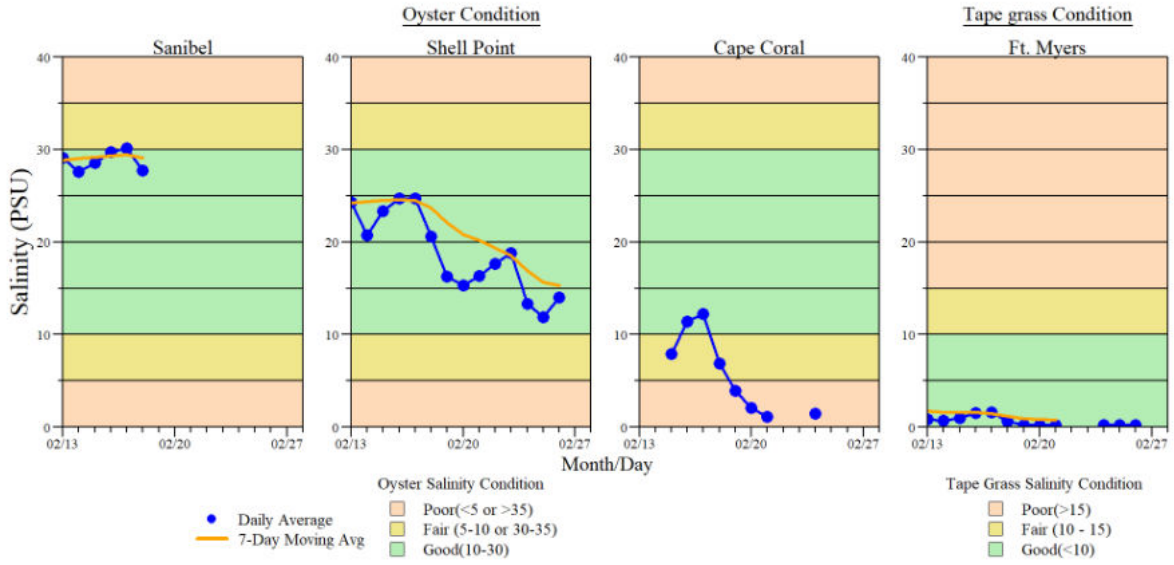
Monitor Site	Salinity (psu)[a] [previous week]	Diss O_2 (mg/L)[b]	FDOM (qsde)[c]	Chlorophyll (µg/L)[d]	Temperature (°F)
Beautiful Island	0.2 – 0.2 [0.2 – 0.2]	5.7 – 7.8	183 – 203	6.8	67.4 – 72.2
Fort Myers Yacht Basin	0.2 – 0.3 [0.2 – 3.0]	7.2 – 8.2	181 – 211	6.0	64.7 – 71.1
Shell Point	2.9 – 29 [8.2 – 32.0]	6.5 – 8.6	69.9 – 249	4.4	64.4 – 69.6
McIntyre Creek	25.4 – 30.5 [28.1 – 32.1]	4.2 – 8.4	58.1 – 107.7	1.9 – 4.6	59.8 – 71.1
Tarpon Bay	22.3 – 31.0 [26.6 – 33.0]	6.6 – 8.8	32.4 – 94.1	1.2 – 3.4	62.1 – 70.3
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 3 patients with suspected red tide/toxicosis: 1 juvenile brown pelican (still at CROW), 1 adult laughing gull (deceased), and 1 juvenile brown pelican (deceased).



ACOE Daily Reports			
Date	S79 Flow (cfs)	S78 Flow (cfs)	S77 Flow (cfs)
2/20/24	7377	6094	5040
2/21/24	7213	5883	5316
2/22/24	6180	5562	5412
2/23/24	6377	5306	5196
2/24/24	6734	5364	4924
2/25/24	5730	4878	4450
2/26/24	5088	4277	4033
7-day avg	6386	5338	4910



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 2/26/24 at 2:32 PM on a high tide (1.8 ft).
Lighthouse Beach Park Virtual Tour.