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 - SCCF (Sanibel-Captiva Conservation Foundation)

Subject: Caloosahatchee & Estuary Conditions Report

Reporting Period: **January 9 – 15, 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 **2,041 cfs** at **S-79** with a 7-day average of **963 cfs (34%)** coming from the lake at **S-77**. **The 14-day moving average flow at S-79 is 2,107 cfs and has been in the stress** flow envelope (2,100 – 2,600 cfs; RECOVER 2020) for **1 day** after 1 day in the optimum flow envelope.

Recommendation: The prolonged high lake stage is having long-term negative impacts on the health of Lake Okeechobee. With El Niño conditions currently bringing above average rainfall this dry season, lowering the lake prior to the 2024 rainy season will prove to be challenging. Time is of the essence; we encourage the Corps to start managing Lake Okeechobee to reduce lake levels and use all available outlets to prevent damaging discharges to the estuaries.

USACE Action: With Lake Okeechobee stage in the Low Sub-band, the Tributary Hydrologic conditions in the Wet category and the Multi-seasonal Climate Outlook in the Wet category, Part D of the 2008 LORS suggests up to 3,000 cfs at S-79 and 1,170 cfs at S-80. On 6/10/23 the USACE increased releases from Lake Okeechobee to the Caloosahatchee Estuary from the W.P. Franklin Lock and Dam (S-79) to 2,000 cfs. Releases to the St. Lucie Estuary (S-80) remain at 0 cfs.

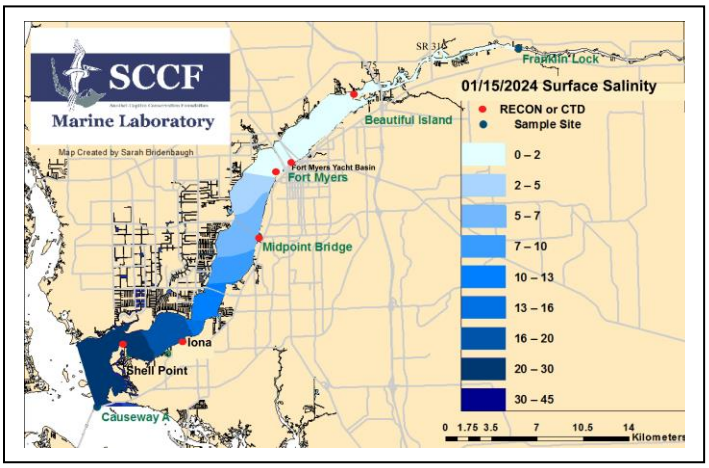
Lake Flows: In the past 7 days the total outflow from Lake Okeechobee was **10,509 AF** with **9,614 AF** to the Caloosahatchee through **S-77**, **46 AF** to the St. Lucie canal though **S-308**, **46 AF** through **S-310** in Clewiston, **454 AF** though the **L8 canal**, and **350 AF** to the EAA through **S-351**, **S-352**, and **S-354**. The total net inflow to the Lake was **79,402 AF** (79,401 AF from Fisheating Creek, S-71, S-72, S-84s, S-65EX, and S-65EX1) and a total backflow of **1 AF** from the **L8 canal**. Water conservation areas received flows of **5,544 AF**, **11,411 AF**, and **9,538 AF** at **WCA1, WCA2, and WCA3**, respectively. Everglades National Park received **25,143 AF**.

Lake Level: 16.05 ft (Intermediate Sub-Band) **Last Week**: **16.00 ft** **Last Year: 16.15 ft**

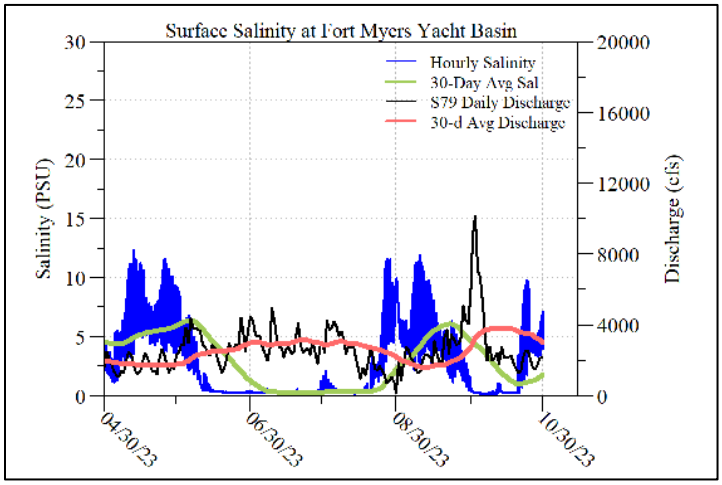
7-Day Lake Recession Rate: +0.05 ft/week

Lake Okeechobee Inflow: 1,876 cfs **Lake Okeechobee Outflow: 25 cfs**

Weekly Rainfall Total: **WP Franklin: 1.29"** **Ortona: 1.52"** **Moore Haven: 3.29"**



ACOE Daily Reports			
Date	**S79 Flow (cfs)**	**S78 Flow (cfs)**	**S77 Flow (cfs)**
1/9/24	1907	1084	950
1/10/24	2418	881	650
1/11/24	1749	969	719
1/12/24	1649	960	926
1/13/24	2399	872	652
1/14/24	1816	882	426
1/15/24	2346	864	525
7-day avg	**2041**	**930**	**693**



Light Penetration

Site	25% Iz	Target Values	Turbidity	Target Values
	meters		NTU	
Fort Myers	0.6	> 1	3.4	< 18
Shell Point	ND	>2.2	ND	< 18
Causeway	3.2	> 2.2	2.4	< 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.*

Cyanobacteria Status: On 1/16/24 sampling for cyanobacteria by the Lee County Environmental Lab reported the presence of *Microcystis* and *Dolichospermum* at the **Alva Boat Ramp** with some specks visible.

Upper Estuary Conditions: The 30-day average surface salinity at the Fort Myers Yacht Basin was 3.6 psu, within the suitable range for tape grass.

Lower Estuary Conditions: The average salinity at Shell Point RECON was 23 psu, in the optimal range for oysters but below optimal for seagrass.

Water Quality Conditions:

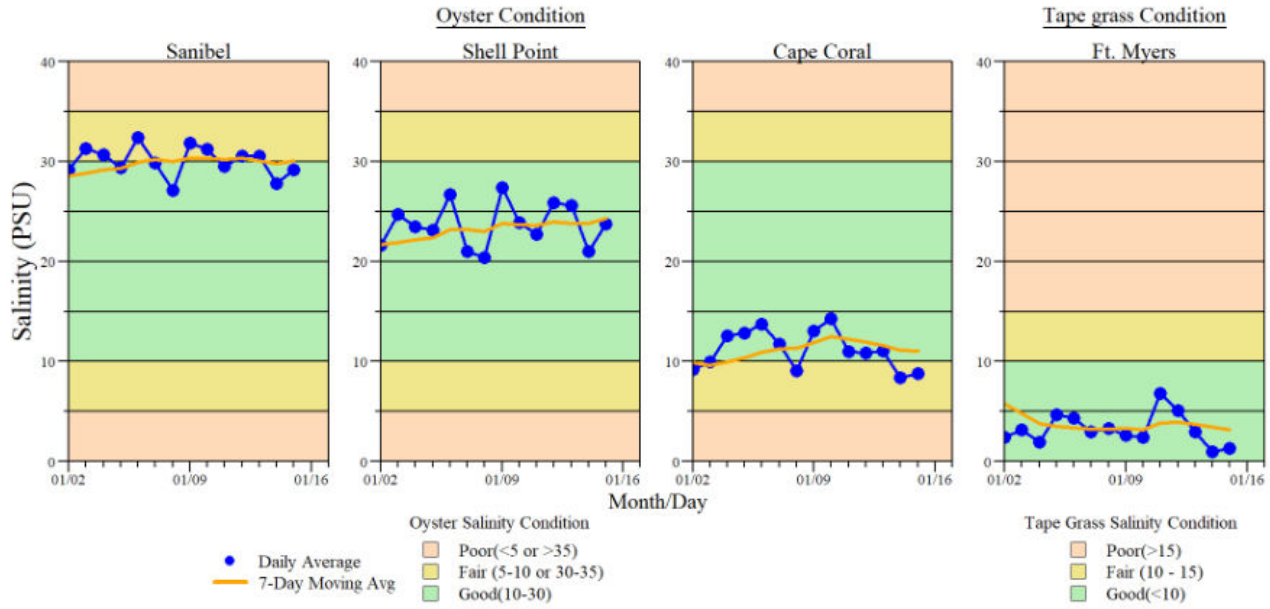
Monitor Site	Salinity (psu)[a] [previous week]	Diss O_2 (mg/L)[b]	FDOM (qsde)[c]	Chlorophyll (µg/L)[d]	Temperature (°F)
Beautiful Island	0.2 – 0.4 [0.2 – 0.4]	5.4 – 7.3	194 – 228	6.5	67.1– 72.5
Fort Myers Yacht Basin	0.4 – 5.4 [0.5 – 4.1]	7.4 – 8.4	162 – 219	5.1	64.9 – 70.5
Shell Point	11 – 34 [11 – 33]	6.3 – 8.0	-------	-------	64.1 – 68.6
McIntyre Creek	26.4 – 32.8 [26.2 – 32.2]	4.3 – 7.9	-------	-------	62.8 – 68.9
Tarpon Bay	26.9 – 33.8 [24.9 – 33.8]	6.2 – 7.3	24.9 – 67.3	1.2 – 2.7	63.4 – 68.7
Wulfert Flats	25.9 – 30.0 [27.3 – 29.7]	5.6 – 9.7	-------	3.5 – 26.1	62.0 – 68.8

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 10 patients with suspected red tide/toxicosis: 1 snowy egret (released), 1 juvenile wood stork (died), 1 adult lesser scaup (died), 1 juvenile brown pelican (died), 1 adult common loon (died), 1 adult Forster's tern (died), 1 adult ruddy turnstone (died), 1 juvenile royal tern (still at CROW), and 2 adult royal terns (1 died, 1 still at CROW).

Red Tide: On 1/12/24, the FWC reported the red tide organism *Karenia brevis* was not observed in samples collected statewide over the past week.

Shellfish Advisory: Shellfish harvest **area #6222/6232 Matlacha Pass Shellfish Harvest Area** is **CLOSED** by the Florida Department of Agriculture and Consumer Services (FDACS) as of **1/16/2024** due to rainfall (operating procedures in Chapter 5L-1.003 (1), Florida Administrative Code).



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