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: **October 24 - 30, 2023**

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 **1,956 cfs** at **S-79** with a 7-day average of **1,394 cfs (71%)** coming from the lake at **S-77**. **The 14-day moving average flow at S-79 is 1,915 cfs and has been in the optimum** flow envelope (750 – 2,100 cfs; RECOVER 2020) for 6 days.

Recommendation: The high elevation of Lake Okeechobee remains a cause for concern and a significant rainfall event could result in damaging releases to the Caloosahatchee. With limited options to significantly reduce Lake O levels, we recommend that the Corps continue to manage flows to the Caloosahatchee in the optimal range at S-79 and take advantage of any other opportunities to lower the Lake, both reducing harm to Lake O and reducing the risk of future damaging releases to the Caloosahatchee estuary.

USACE Action: With Lake Okeechobee stage in the Low Sub-band, the Tributary Hydrologic conditions in the Dry category, Part D of the 2008 LORS suggests up to 650 cfs at S-79. 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.

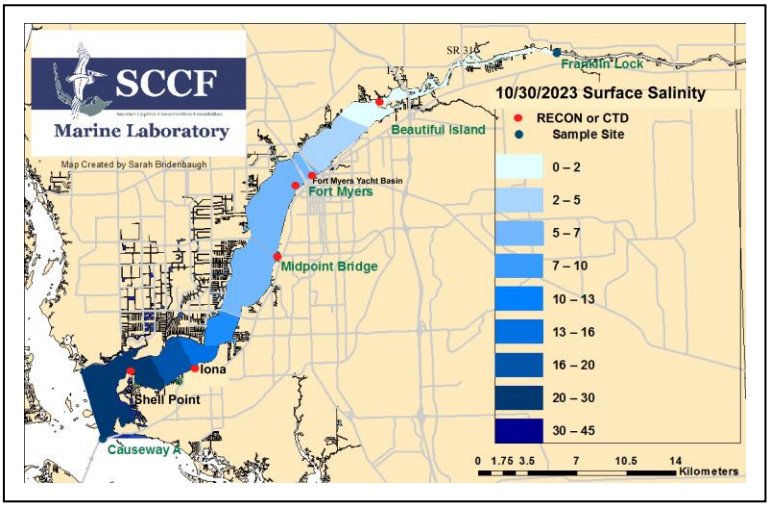
Lake Flows: In the past 7 days the total outflow from Lake Okeechobee was **31,637 AF** with **19,359 AF** to the Caloosahatchee through **S-77**, **74 AF** through **S-310** in Clewiston, and **10,723 AF** to the EAA through **S-351**, **S-352**, and **S-354**. The total net inflow to the Lake was **38,498 AF** (38,298 AF from Fisheating Creek, S-71, S-72, S-84s, S-65EX, and S-65EX1) with a total backflow volume of **0 AF** from **C10A**. Water conservation areas received flows of **297 AF**, **3,050 AF**, and **6,048 AF** at **WCA1, WCA2, and WCA3**, respectively. Everglades National Park received **18,030 AF**.

Lake Level: 16.21 ft (Intermediate Sub-Band) **Last Week**: **16.28 ft** **Last Year: 15.83 ft**

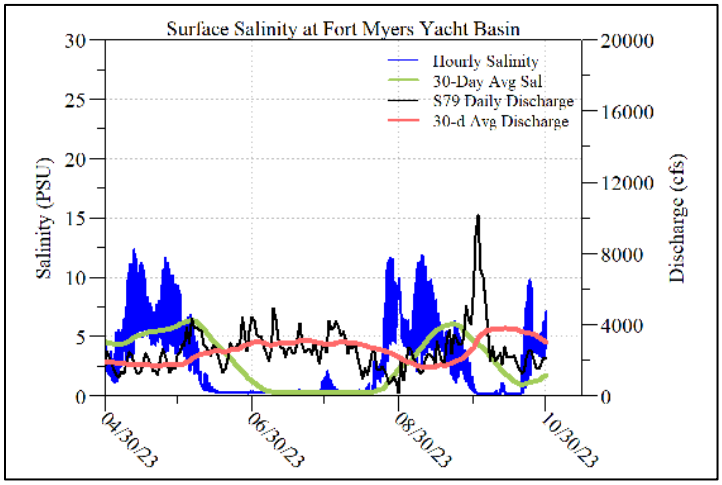
7-Day Lake Recession Rate: -0.07 ft/week

Lake Okeechobee Inflow: 2,211 cfs **Lake Okeechobee Outflow: 2,068 cfs**

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



ACOE Daily Reports			
Date	**S79 Flow (cfs)**	**S78 Flow (cfs)**	**S77 Flow (cfs)**
10/24/23	2540	2037	1097
10/25/23	2067	1350	1773
10/26/23	1571	1036	1488
10/27/23	1546	1019	954
10/28/23	1741	987	1291
10/29/23	2137	1210	1581
10/30/23	2093	1305	1577
7-day avg	**1956**	**1278**	**1394**



Light Penetration

Site	25% Iz	Target Values	Turbidity	Target Values
	meters		NTU	
Fort Myers	ND	> 1	ND	< 18
Shell Point	ND	>2.2	ND	< 18
Causeway	2.2	> 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.*
[m] measured, [c] calculated

Cyanobacteria Status: On 10/30/23 sampling for cyanobacteria by the Lee County Environmental Lab reported the **presence** of *Microcystis* at the **Alva Boat Ramp** as visible specks. *Microcystis* was **moderately abundant** upstream of the **Franklin Locks** as visible specks with a green/tan scum along the Locks and shore.

Upper Estuary Conditions: The 30-day average surface salinity at the Fort Myers Yacht Basin was 1.7 psu, within the suitable range for tape grass.

Lower Estuary Conditions: The average salinity at Shell Point RECON was 25 psu, in the optimal range for oysters and seagrass. A variety of dinoflagellates including *Margalefidinium*, *Peridinium*, *Prorocentrum*, *Dinophysis, Tripos,* and three types of *Protoperidinium* were found at the Causeway on 10/24/23.

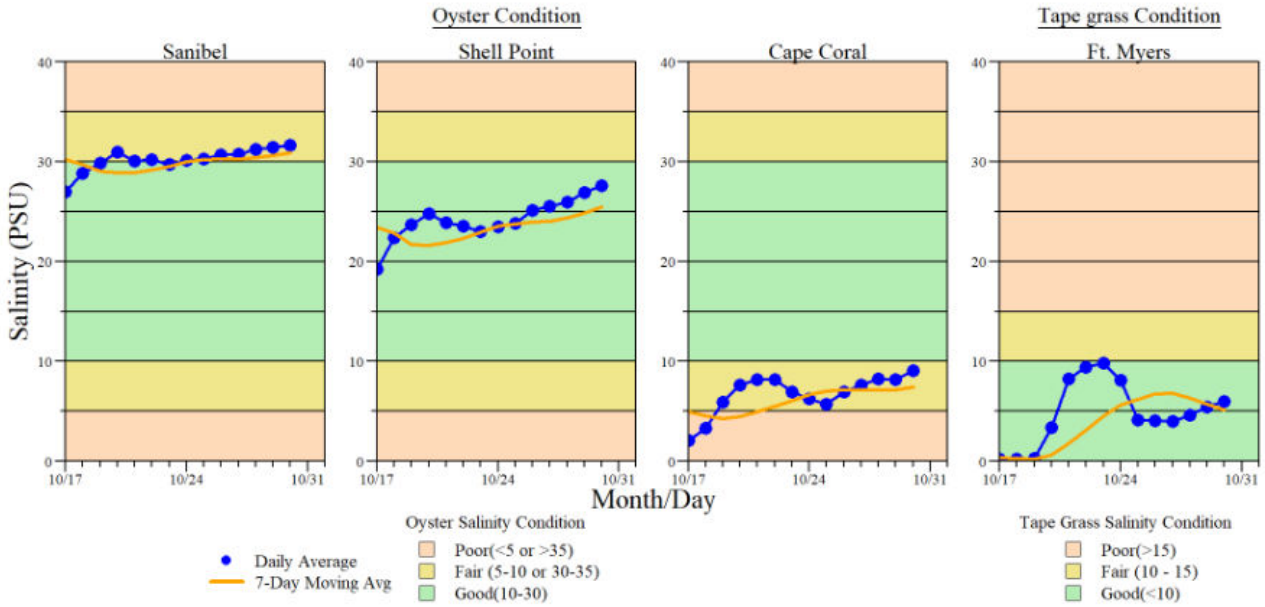
Water Quality Conditions:

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 – 0.9 [0.2 – 0.3]	3.5 – 6.0	250	7.8	78.2 – 83.4
Fort Myers Yacht Basin	3.3 – 9.2 [0.2 – 10]	-------	-------	-------	75.0 – 78.7
Shell Point	7.4 – 32 [7.4 – 32]	3.7 – 6.2	-------	-------	75.3 – 79.0
McIntyre Creek	28.0 – 29.5 [27.0 – 31.9]	2.3 – 7.0	-------	-------	75.0 – 80.1
Tarpon Bay	27.5 – 33.2 [26.0 – 31.6]	3.0 – 6.1	37.6 – 82.5	1.5 – 3.9	75.2 – 79.3
Wulfert Flats	27.4 – 31.8 [29.4 – 34.1]	4.1 – 7.2	-------	4.5 – 19.5	74.7 – 79.7

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

Red Tide: On 10/27/23, the FWC reported the red tide organism *Karenia brevis* was observed at background concentrations in four samples: one sample collected offshore of Pinellas County, and one sample each from Sarasota, Lee, and Collier counties. Other samples collected statewide did not contain *K. brevis*.

Wildlife Impacts: In the past week, the CROW wildlife hospital on Sanibel admitted 2 patients with suspect red tide/toxicosis: 2 adult laughing gulls (both died).



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 10/30/23 at 1:12 PM on a rising tide (1.6 ft). Lighthouse Beach Park Virtual Tour.