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: **September 19 – 25, 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 **3,137 cfs** at **S-79** with a 7-day average of **172 cfs (5%)** coming from the lake at **S-77**. **The 14-day moving average flow at S-79 is 2,688 cfs and has been in the damaging** flow envelope (>2,600 cfs; RECOVER 2020) for 2 days after 5 days in the stress flow envelope.

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 within the Low Sub-band, the Tributary Hydrologic conditions in the Normal category, the Seasonal Lake Okeechobee Net Inflow outlook in the Very Wet category, and the Multi-Seasonal Lake Okeechobee Net Inflow outlook in the Normal category, Part D of the 2008 LORS suggests "S-79 up to 450 cfs and S-80 up to 200 cfs". 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.

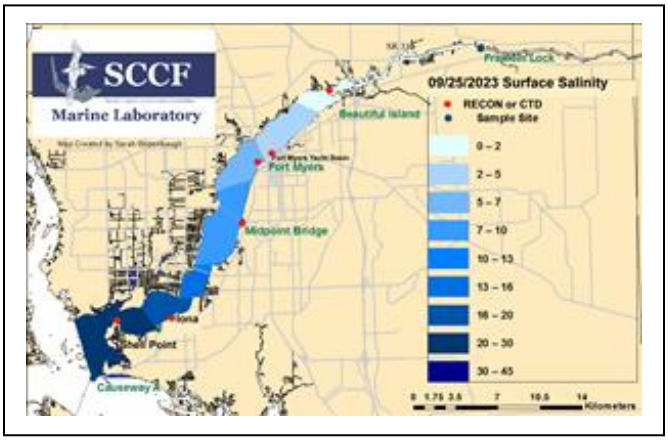
Lake Flows: In the past 7 days the total outflow from Lake Okeechobee was **4,808 AF** with **4,082 AF** to the Caloosahatchee through **S-77**,**694 AF** through **S-308** in Port Mayaca, **0 AF** through **S-310** in Clewiston, and **20 AF** to the EAA through **S-351**, **S-352**, and **S-354**. The total net inflow to the Lake was **39,759 AF** (37,985 AF from Fisheating Creek, S-71, S-72, S-84s, S-65EX, and S-65EX1) with a total backflow volume of **1,774 AF** from **S310 and C10A**. Water conservation areas received flows of **6,651 AF**, **31,736 AF**, and **14,602 AF** at **WCA1, WCA2, and WCA3**, respectively. Everglades National Park received **10,112 AF**.

Lake Level: 15.50 ft (Low Sub-Band) **Last Week**: **15.41 ft** **Last Year: 13.11 ft**

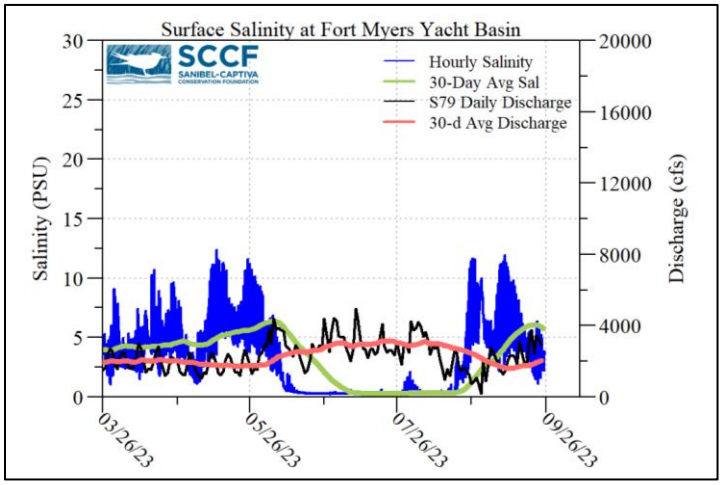
7-Day Lake Recession Rate: +0.09 ft/week

Lake Okeechobee Inflow: 4,452 cfs **Lake Okeechobee Outflow: 160 cfs**

Weekly Rainfall Total: **WP Franklin: 5.33"** **Ortona: 1.48"** **Moore Haven: ≥1.03"**



ACOE Daily Reports			
Date	**S79 Flow (cfs)**	**S78 Flow (cfs)**	**S77 Flow (cfs)**
9/19/23	3319	1718	366
9/20/23	3751	1255	45
9/21/23	2398	1288	359
9/22/23	3450	1465	99
9/23/23	3217	1602	66
9/24/23	2880	1699	151
9/25/23	2943	1340	117
7-day avg	**3,137**	**1,481**	**172**



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	2.8	> 2.2	1.1	< 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 9/25/23 sampling for cyanobacteria by the Lee County Environmental Lab reported the **presence** of *Microcystis* upstream of the **Franklin Locks** as specks. *Microcystis* and dinoflagellates were **present** at the **Davis Boat Ramp** as specks with light streaks.

Upper Estuary Conditions: The 30-day average surface salinity at the Fort Myers Yacht Basin was 6.7 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.

Water Quality Conditions:

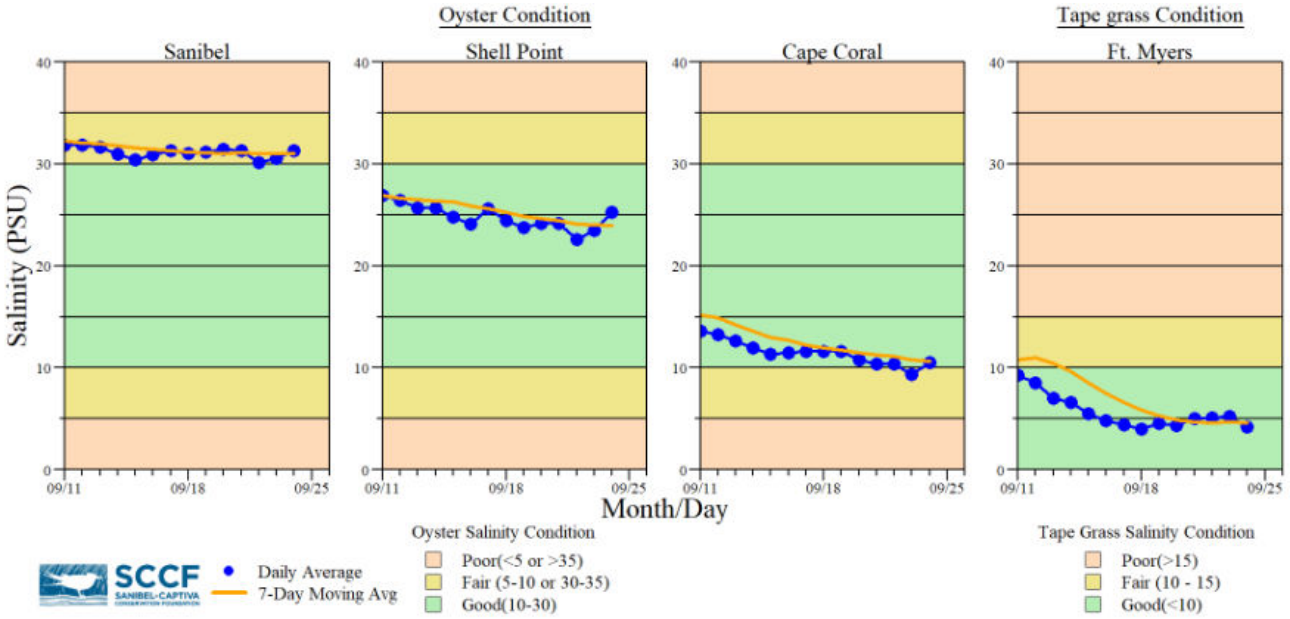
Monitor Site	Salinity (psu)[a] [previous week]	Diss O_2 (mg/L)[b]	FDOM (qsde)[c]	Chlorophyll (µg/L)[d]	Temperature (°F)
Beautiful Island	0.2 – 0.6 [0.5 – 1.5]	-------	-------	8.0	84.5 – 91.9
Fort Myers Yacht Basin	1.2 – 6.5 [2.9 – 10]	-------	-------	-------	82.5 – 90.4
Shell Point	12 – 33 [16 – 34]	3.2 – 6.1	-------	-------	83.2 – 89.9
McIntyre Creek	28.0 – 31.5 [30.7 – 32.2]	0.5 – 10.8	-------	-------	82.2 – 90.8
Tarpon Bay	26.9 – 33.8 [30.2 – 32.8]	1.2 – 6.7	3.7 – 19.7	1.3 – 14.6	82.9 – 90.7
Wulfert Flats	29.0 – 32.8 [32.0 – 32.9]	3.2 – 8.77	-------	3.7 – 23.8	83.2 – 85.6

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

Red Tide: On 9/22/23, the FWC reported the red tide organism *Karenia brevis* was observed at background concentrations in one sample from Collier over the past week. 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: 1 juvenile laughing gull (died) and 1 juvenile white ibis (still at CROW).

Shellfish Advisory: Shellfish harvest area **#6222/6232 Pine Island Sound Section 2 and 3 (Matlacha Pass) Shellfish Harvest Area** is **OPEN** by the Florida Department of Agriculture and Consumer Services (FDACS) as of **9/23/23** due to fecal coliform results indicating that water quality meets NSSP standards as defined in Chapter 5L-1.003, 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
Data are provisional and subject to change.

Water clarity at Lighthouse Beach Park on 9/25/23 at 1:46 PM on a falling tide (1.5 ft).
Lighthouse Beach Park Virtual Tour.