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 26 – October 2, 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 **5,594 cfs** at **S-79** with a 7-day average of **17 cfs (<1%)** coming from the lake at **S-77**. **The 14-day moving average flow at S-79 is 4,565 cfs and has been in the damaging** flow envelope (>2,600 cfs; RECOVER 2020) for 9 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 within the Low Sub-band, the Tributary Hydrologic conditions in the Normal category, the Seasonal Lake Okeechobee Net Inflow outlook in the 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.

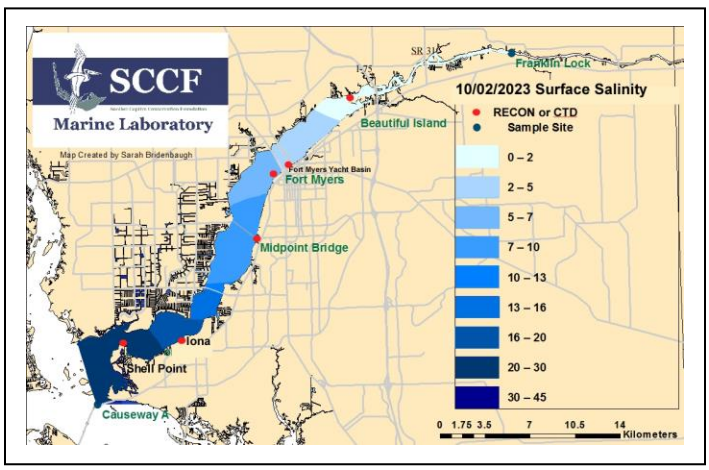
Lake Flows: In the past 7 days the total outflow from Lake Okeechobee was **1,758 AF** with **269 AF** to the Caloosahatchee through **S-77**,**0 AF** through **S-308** in Port Mayaca, **8 AF** through **S-310** in Clewiston, **1,481 AF** through **C10A**, and **0 AF** to the EAA through **S-351**, **S-352**, and **S-354**. The total net inflow to the Lake was **84,788 AF** (84,216 AF from Fisheating Creek, S-71, S-72, S-84s, S-65EX, and S-65EX1) with a total backflow volume of **580 AF** from **S310 and C10A**. Water conservation areas received flows of **8,830 AF**, **28,403 AF**, and **15,925 AF** at **WCA1, WCA2, and WCA3**, respectively. Everglades National Park received **17,408 AF**.

Lake Level: 15.87 ft (Low Sub-Band) **Last Week**: **15.50 ft** **Last Year: 13.97 ft**

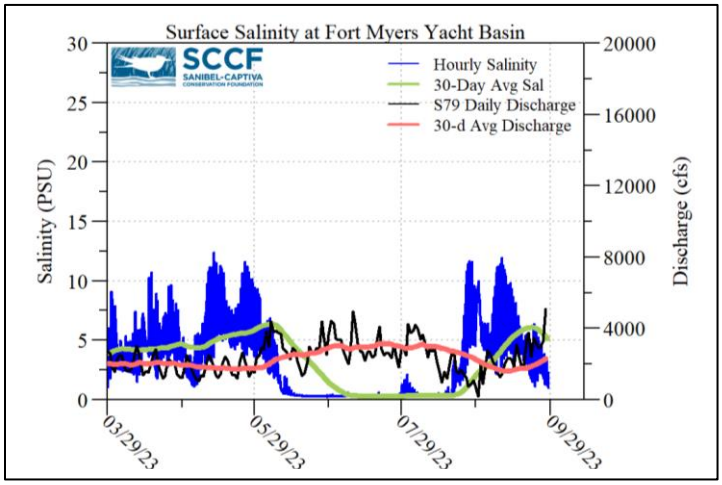
7-Day Lake Recession Rate: +0.37 ft/week

Lake Okeechobee Inflow: 12,341 cfs **Lake Okeechobee Outflow: 0 cfs**

Weekly Rainfall Total: **WP Franklin: 3.71"** **Ortona: 6.11"** **Moore Haven: ≥1.54"**



ACOE Daily Reports			
Date	**S79 Flow (cfs)**	**S78 Flow (cfs)**	**S77 Flow (cfs)**
9/26/23	3270	1557	48
9/27/23	5096	2250	0
9/28/23	4278	1867	0
9/29/23	4051	1751	39
9/30/23	6038	2165	32
10/1/23	9042	3309	0
10/2/23	10180	4415	0
7-day avg	**5594**	**2473**	**17**



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	1.2	> 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.*
[m] measured, [c] calculated

Cyanobacteria Status: On 10/2/23 sampling for cyanobacteria by the Lee County Environmental Lab reported **moderately abundant** *Microcystis* at the **Davis Boat Ramp** as specks with some streaks and slight wind driven accumulation.

Upper Estuary Conditions: The 30-day average surface salinity at the Fort Myers Yacht Basin was 4.5 psu, within the suitable range for tape grass.

Lower Estuary Conditions: The average salinity at Shell Point RECON was 22 psu, in the optimal range for oysters but below optimal for seagrass.

Water Quality Conditions:

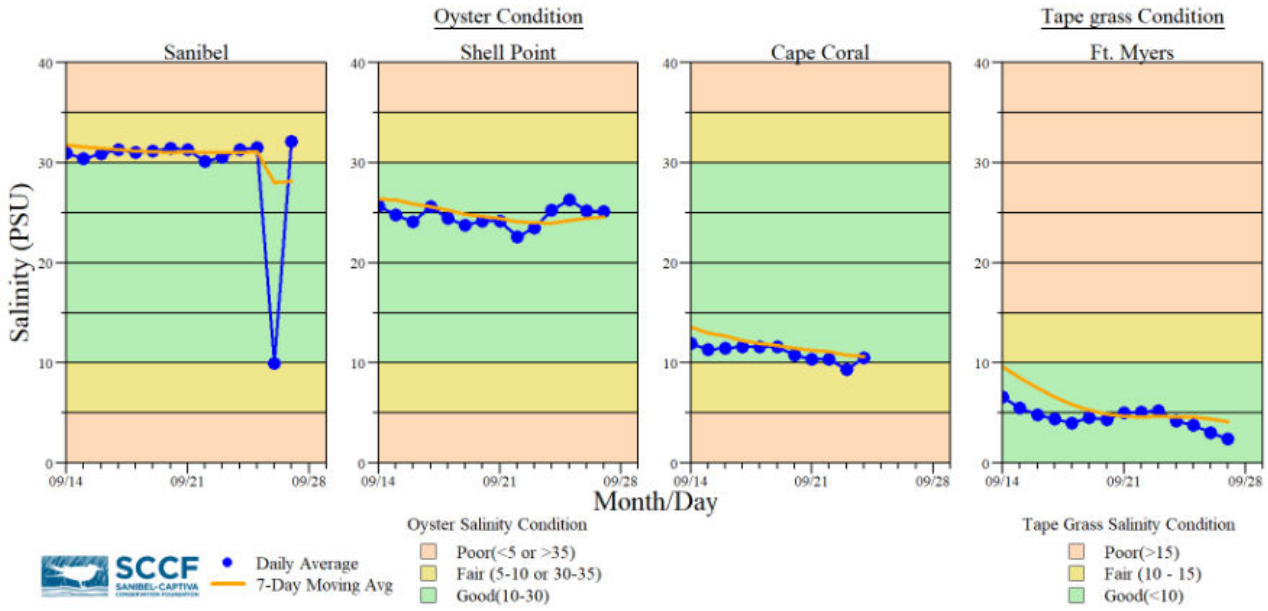
Monitor Site	Salinity (psu)[a] [previous week]	Diss O_2 (mg/L)[b]	FDOM (qsde)[c]	Chlorophyll (µg/L)[d]	Temperature (°F)
Beautiful Island	0.2 – 0.4 [0.2 – 0.6]	-------	-------	7.5	82.8 – 88.2
Fort Myers Yacht Basin	0.2 – 4.7 [1.2 – 6.5]	-------	-------	-------	82.7 – 86.4
Shell Point	6.0 – 34 [12 – 33]	3.6 – 5.6	-------	-------	83.0 – 86.8
McIntyre Creek	25.7 – 30.0 [28.0 – 31.5]	0.2 – 6.7	-------	-------	82.3 – 87.5
Tarpon Bay	23.7 – 32.8 [26.9 – 33.8]	2.5 – 6.4	3.5 – 17.0	1.0 – 7.3	82.8 – 86.7
Wulfert Flats	28.1 – 29.6 [29.0 – 32.8]	2.5 – 7.3	-------	3.0 – 35.4	83.0 – 88.5

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

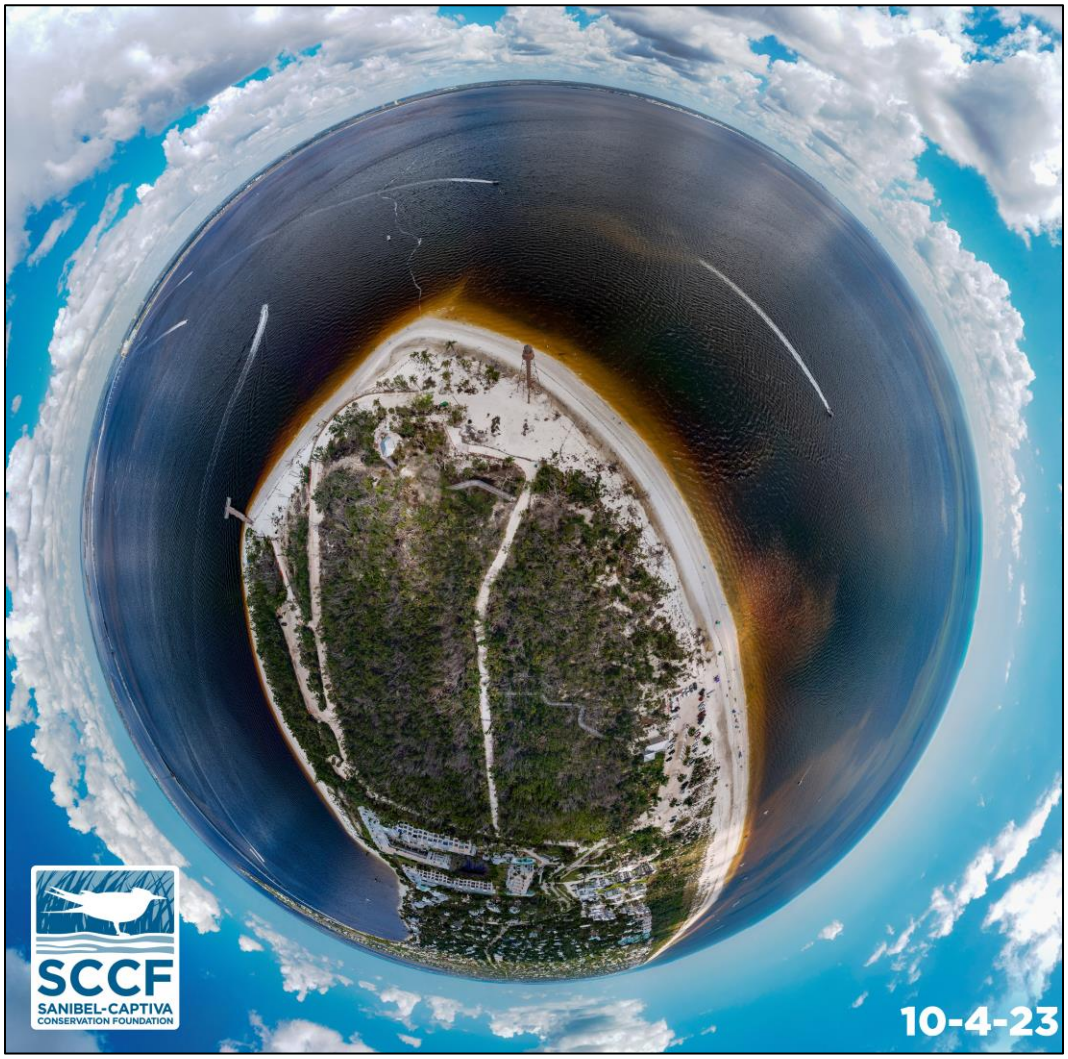
Red Tide: On 9/29/23, the FWC reported the red tide organism *Karenia brevis* was not observed in samples collected statewide over the past week.

Wildlife Impacts: In the past week, the CROW wildlife hospital on Sanibel admitted 3 patients with suspect red tide/toxicosis: 1 adult sandwich tern (died), 1 adult laughing gull (still at CROW), and 1 juvenile white ibis (died).

Shellfish Advisory: Shellfish harvest **#6212 Pine Island Sound Section 1 Shellfish Harvest Area** is **OPEN** by the Florida Department of Agriculture and Consumer Services (FDACS) as of **9/27/23** as the precautionary conditions for closure were not realized.



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 10/4/23 at 12:56 PM on a low tide (0.4 ft).
Lighthouse Beach Park Virtual Tour.