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 3 - 9, 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 **4,224 cfs** at **S-79** with a 7-day average of **199 cfs (5%)** coming from the lake at **S-77**. **The 14-day moving average flow at S-79 is 5,109 cfs and has been in the damaging** flow envelope (>2,600 cfs; RECOVER 2020) for 16 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 Intermediate 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-77 up to 4,000 cfs and S-80 up to 1800 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.

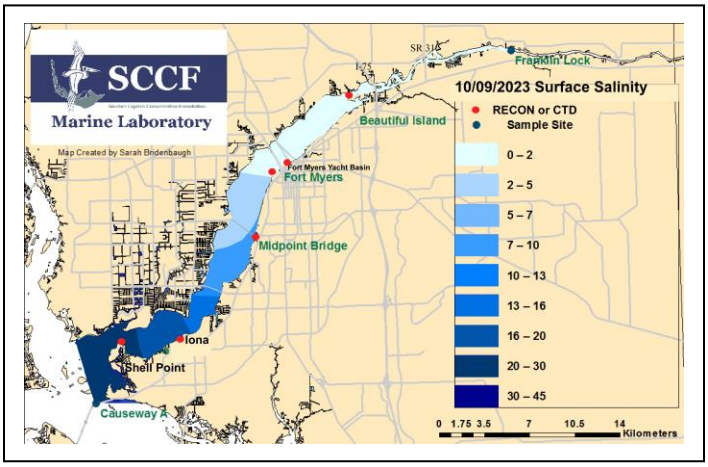
Lake Flows: In the past 7 days the total outflow from Lake Okeechobee was **2,589 AF** with **2,435 AF** to the Caloosahatchee through **S-77**, **17 AF** through **S-310** in Clewiston, and **0 AF** to the EAA through **S-351**, **S-352**, and **S-354**. The total net inflow to the Lake was **119,299 AF** (119,272 AF from Fisheating Creek, S-71, S-72, S-84s, S-65EX, and S-65EX1) with a total backflow volume of **27 AF** from **S310 and C10A**. Water conservation areas received flows of **20,043 AF**, **43,704 AF**, and **25,119 AF** at **WCA1, WCA2, and WCA3**, respectively. Everglades National Park received **36,740 AF**

Lake Level: 16.10 ft (Intermediate Sub-Band) **Last Week**: **15.87 ft** **Last Year: 14.53 ft**

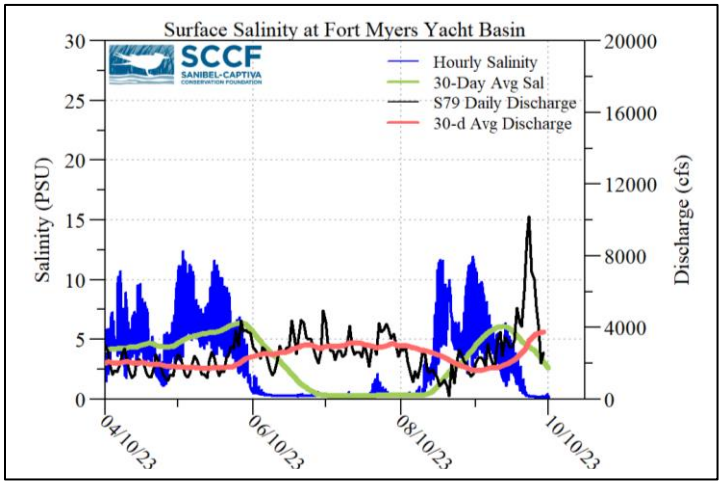
7-Day Lake Recession Rate: +0.23 ft/week

Lake Okeechobee Inflow: 7,457 cfs **Lake Okeechobee Outflow: 0 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)**
10/3/23	7088	2305	0
10/4/23	6702	2445	0
10/5/23	5186	1858	536
10/6/23	3829	1705	346
10/7/23	2008	670	144
10/8/23	2770	892	139
10/9/23	1987	954	231
7-day avg	**4224**	**1547**	**199**



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	1.0	> 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 10/9/23 sampling for cyanobacteria by the Lee County Environmental Lab reported **abundant** *Microcystis* at the **Davis Boat Ramp** as specks with some streaks and some wind driven accumulation.

Upper Estuary Conditions: The 30-day average surface salinity at the Fort Myers Yacht Basin was 3.1 psu, within the suitable range for tape grass.

Lower Estuary Conditions: The average salinity at Shell Point RECON was 20 psu, in the optimal range for oysters but below optimal for seagrass.

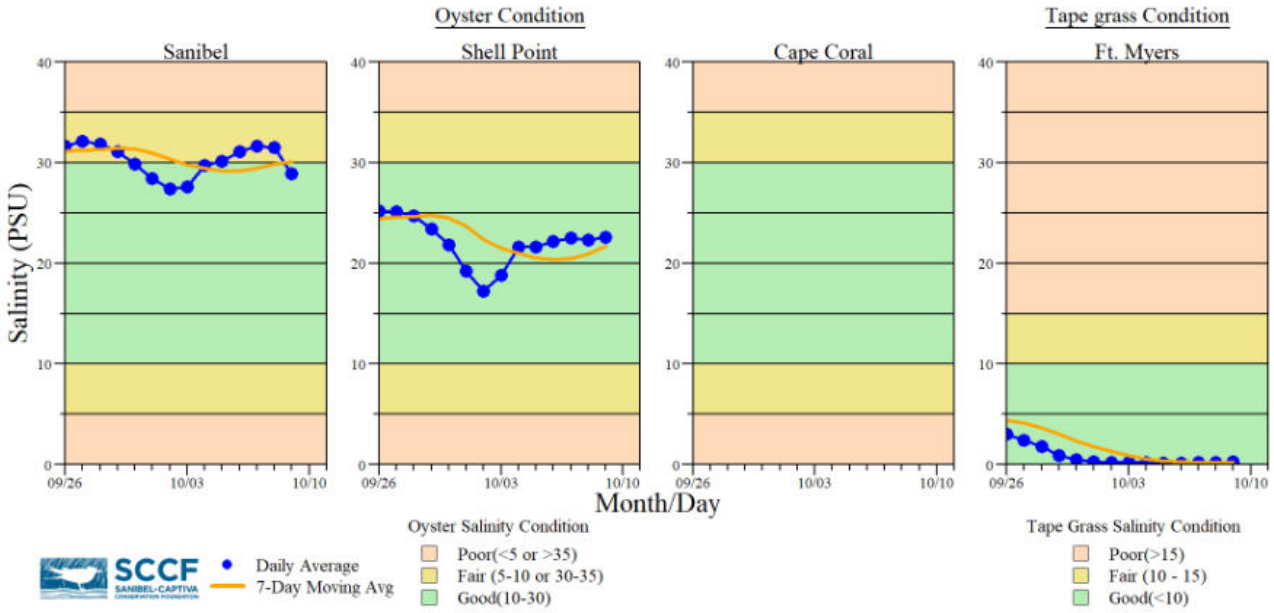
Water Quality Conditions:

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 – 0.4]	2.7 – 4.1	202 – 243	8.5	80.4 – 85.0
Fort Myers Yacht Basin	0.2 – 0.3 [0.2 – 4.7]	-------	-------	-------	80.0 – 86.9
Shell Point	4.5 – 30 [6.0 – 34]	4.0 – 6.1	-------	-------	80.4 – 85.0
McIntyre Creek	22.7 – 28.5 [25.7 – 30.0]	1.2 – 11.7	-------	-------	79.0 – 88.5
Tarpon Bay	21.3 – 28.0 [23.7 – 32.8]	3.6 – 9.5	80 – 102	1.1 – 9.0	79.7 – 86.6
Wulfert Flats	24.7 – 30.0 [28.1 – 29.6]	3.0 – 10.6	-------	5.4 – 86.8	77.2 – 88.3

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 10/6/23, the FWC reported the red tide organism *Karenia brevis* was observed at background concentrations in two samples from Sarasota County 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 0 patients with suspect red tide/toxicosis.



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 10/9/23 at 1:23 PM on a high tide (2.0 ft). Lighthouse Beach Park Virtual Tour.

Red drift macroalgae present west of Algiers Beach on Sanibel Island on 10/10/23. *City of Sanibel.*