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 10 - 16, 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 **2,238 cfs** at **S-79** with a 7-day average of **267 cfs (12%)** coming from the lake at **S-77**. **The 14-day moving average flow at S-79 is 3,231 cfs and has been in the damaging** flow envelope (>2,600 cfs; RECOVER 2020) for 23 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 Very Wet category, The Up to 30 day Meteorological Forecast in the Normal category (according to CPC outlook for October), Part D of the 2008 LORS suggests "S-77 up to 4,000 cfs and S-80 up to 1,800 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.

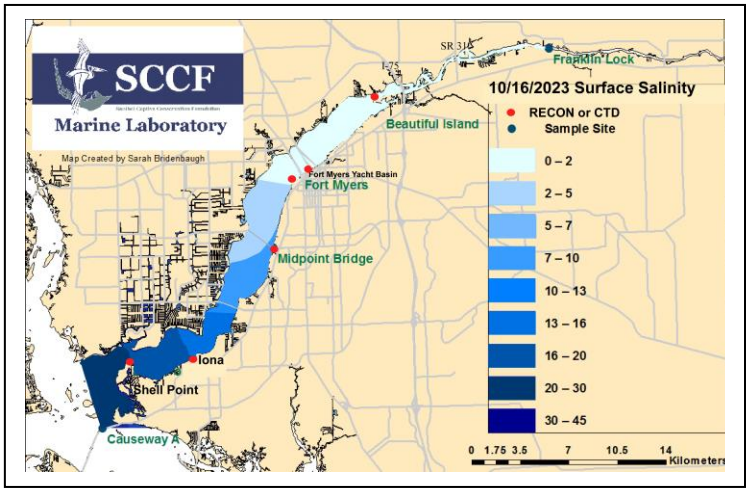
Lake Flows: In the past 7 days the total outflow from Lake Okeechobee was **3,730 AF** with **3,705 AF** to the Caloosahatchee through **S-77**, **25 AF** through **S-310** in Clewiston, and **0 AF** to the EAA through **S-351**, **S-352**, and **S-354**. The total net inflow to the Lake was **91,960 AF** (91,855 AF from Fisheating Creek, S-71, S-72, S-84s, S-65EX, and S-65EX1) with a total backflow volume of **105 AF** from **C10A**. Water conservation areas received flows of **1,726 AF**, **24,091 AF**, and **18,254 AF** at **WCA1, WCA2, and WCA3**, respectively. Everglades National Park received **36,849 AF**.

Lake Level: 16.31 ft (Intermediate Sub-Band) **Last Week**: **16.10 ft** **Last Year: 15.17 ft**

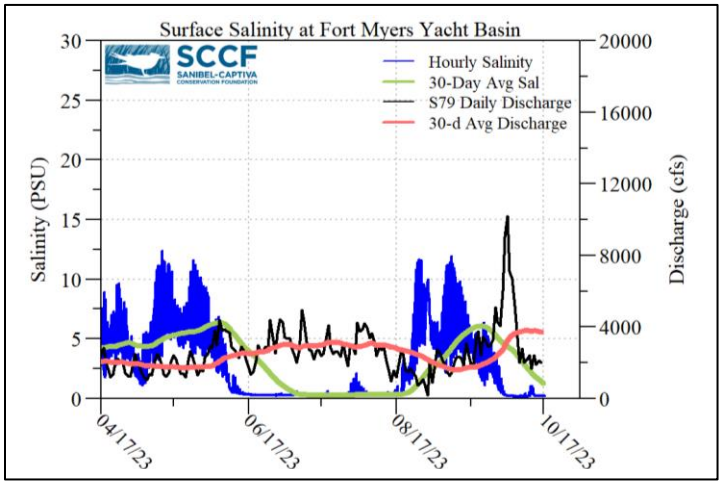
7-Day Lake Recession Rate: +0.21 ft/week

Lake Okeechobee Inflow: 6,096 cfs **Lake Okeechobee Outflow: 601 cfs**

Weekly Rainfall Total: **WP Franklin: 1.93"** **Ortona: 0.50"** **Moore Haven: 0.92"**



ACOE Daily Reports			
Date	**S79 Flow (cfs)**	**S78 Flow (cfs)**	**S77 Flow (cfs)**
10/10/23	2171	909	515
10/11/23	2408	861	134
10/12/23	1778	841	0
10/13/23	2770	866	0
10/14/23	2157	872	284
10/15/23	2173	857	334
10/16/23	2208	1010	601
7-day avg	**2238**	**888**	**267**



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	1.8	> 2.2	2.3	< 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 10/16/23 sampling for cyanobacteria by the Lee County Environmental Lab reported the **presence** of *Microcystis* at the **Davis Boat Ramp** as a slight wind driven greenish scum.

Upper Estuary Conditions: The 30-day average surface salinity at the Fort Myers Yacht Basin was 1.4 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:

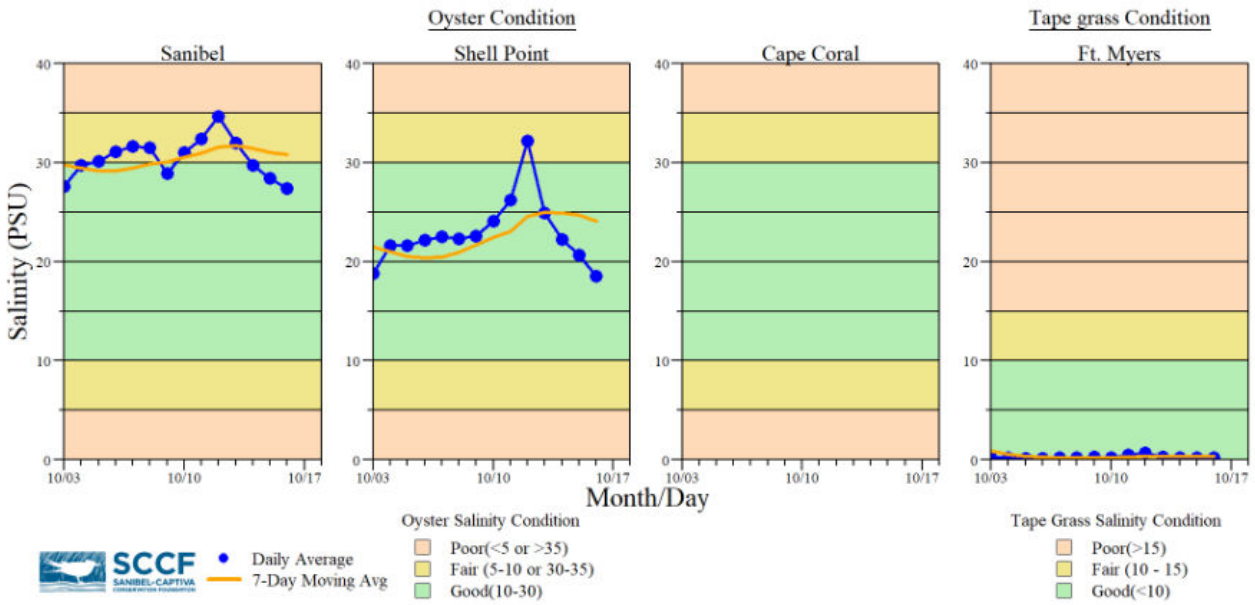
Monitor Site	Salinity (psu)[a] [previous week]	Diss O_2 (mg/L)[b]	FDOM (qsde)[c]	Chlorophyll (µg/L)[d]	Temperature (°F)
Beautiful Island	0.2 – 0.2 [0.2 – 0.2]	2.5 – 5.9	221	8.5	81.2 – 85.9
Fort Myers Yacht Basin	0.2 – 1.1 [0.2 – 0.3]	-------	-------	-------	77.9 – 84.6
Shell Point	8.5 – 34 [4.5 – 30]	3.6 – 6.0	-------	-------	78.9 – 84.7
McIntyre Creek	25.3 – 33.9 [22.7 – 28.5]	1.1 – 8.6	-------	-------	73.8 – 85.1
Tarpon Bay	24.4 – 34.5 [21.3 – 28.0]	3.4 – 8.2	29.2 – 102.7	1.9 – 8.9	76.7 – 84.7
Wulfert Flats	27.9 – 33.4 [24.7 – 30.0]	2.2 – 7.7	-------	2.9 – 57.9	75.2 – 84.6

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 10/13/23, the FWC reported the red tide organism *Karenia brevis* was observed at background to very low concentrations in 20 samples collected across Southwest Florida over the past week. Other samples collected statewide did not contain *K. brevis*.

In Southwest Florida over the past week, *K. brevis* was observed at background concentrations offshore of Manatee County, background to very low concentrations in and offshore of Sarasota County, and background concentrations offshore of Charlotte, Lee, and Collier counties.

Wildlife Impacts: In the past week, the CROW wildlife hospital on Sanibel admitted 1 patient with suspect red tide/toxicosis: 1 adult brindled tern (still at CROW).



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 10/16/23 at 1:21 PM on a high tide (2.1 ft).
Lighthouse Beach Park Virtual Tour.