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 12 – 18, 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 **2,240 cfs** at **S-79** with a 7-day average of **1,333 cfs (60%)** coming from the lake at **S-77**. **The 14-day moving average flow at S-79 is 2,022 cfs and has been in the optimal** flow envelope (750 - 2100 cfs; RECOVER 2020) for 28 days.

Recommendation: The high elevation of Lake Okeechobee remains a cause for concern as we reach the peak of hurricane season, and a significant rainfall event would likely 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 Wet category, Part D of the 2008 LORS suggests "S-79 up to 3,000 cfs and S-80 up to 1,170 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.

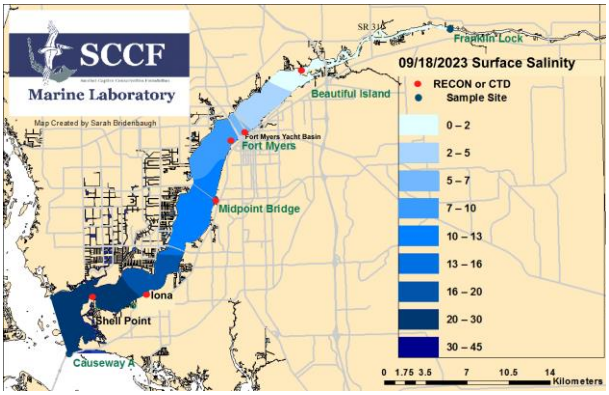
Lake Flows: In the past 7 days the total outflow from Lake Okeechobee was **20,280 AF** with **19,466 AF** to the Caloosahatchee through **S-77**,**742 AF** through **S-308** in Port Mayaca, **62 AF** through **S-310** in Clewiston, and **0 AF** to the EAA through **S-351**, **S-352**, and **S-354**. The total net inflow to the Lake was **28,248 AF** (27,580 AF from Fisheating Creek, S-71, S-72, S-84s, S-65EX, and S-65EX1) with a total backflow volume of **668 AF** from **S310 and C10A**. Water conservation areas received flows of **1,603 AF**, **10,788 AF**, and **17,443 AF** at **WCA1, WCA2, and WCA3**, respectively. Everglades National Park received **25,958 AF**.

Lake Level: 15.41 ft (Low Sub-Band) **Last Week**: **15.39 ft** **Last Year: 12.83 ft**

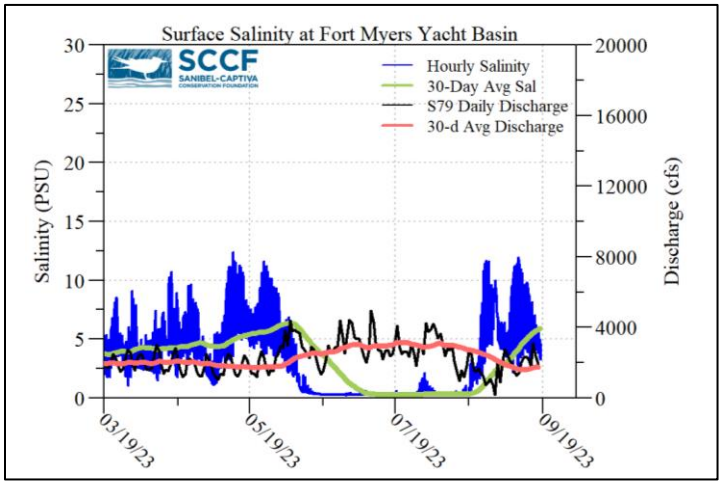
7-Day Lake Recession Rate: +0.02 ft/week

Lake Okeechobee Inflow: 1,896 cfs **Lake Okeechobee Outflow: 1,086 cfs**

Weekly Rainfall Total: **WP Franklin: 0.10"** **Ortona: 2.68"** **Moore Haven: ≥0.77"**



ACOE Daily Reports			
Date	**S79 Flow (cfs)**	**S78 Flow (cfs)**	**S77 Flow (cfs)**
9/12/23	2335	1776	1690
9/13/23	2225	1940	1844
9/14/23	1812	1909	1832
9/15/23	3088	2085	1788
9/16/23	2371	1367	864
9/17/23	1930	1200	224
9/18/23	1918	1167	1086
7-day avg	**2240**	**1635**	**1333**



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	2.6	> 2.2	1.6	< 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 9/18/23 sampling for cyanobacteria by the Lee County Environmental Lab reported the **presence** of *Microcystis* at the **Alva Boat Ramp** and at the **Davis Boat Ramp** as visible sparse specks.

Upper Estuary Conditions: The 30-day average surface salinity at the Fort Myers Yacht Basin was 6.0 psu, within the suitable range for tape grass.

Lower Estuary Conditions: The average salinity at Shell Point RECON was 26 psu, in the optimal range for oysters and seagrass.

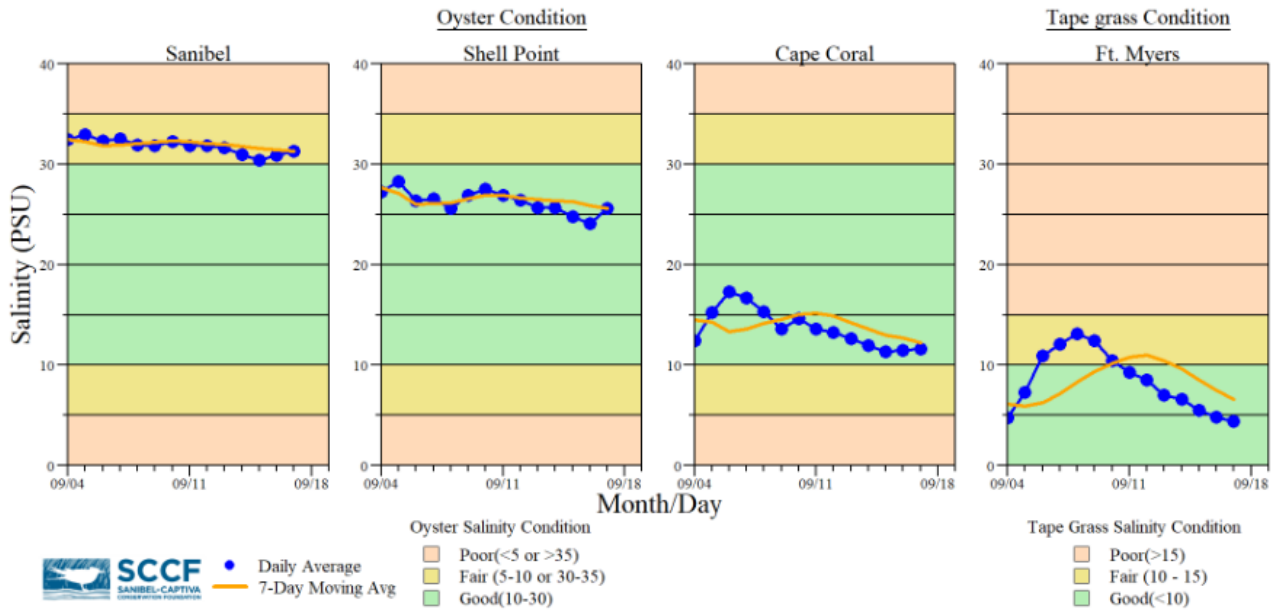
Water Quality Conditions:

Monitor Site	Salinity (psu)[a] [previous week]	Diss O_2 (mg/L)[b]	FDOM (qsde)[c]	Chlorophyll (µg/L)[d]	Temperature (°F)
Beautiful Island	0.5 – 1.5 [0.5 – 1.0]	-------	-------	7.5	87.6 – 92.4
Fort Myers Yacht Basin	2.9 – 10 [2.2 – 12]	-------	-------	-------	86.4 – 91.9
Shell Point	16 – 34 [16 – 35]	3.0 – 6.8	-------	-------	87.3 – 91.2
McIntyre Creek	30.7 – 32.2 [31.0 – 33.0]	0.5 – 7.2	-------	-------	86.5 – 92.8
Tarpon Bay	30.2 – 32.8 [29.3 – 35.5]	0.1 – 7.2	3.5 – 16.5	1.3 – 15.1	87.2 – 91.2
Wulfert Flats	32.0 – 32.9 [31.5 – 32.7]	2.7 – 7.3	-------	2.6 – 23.5	86.7 – 92.5

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 9/15/23, the FWC reported the red tide organism *Karenia brevis* was observed at background concentrations in one sample from Northwest Florida 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 double crested cormorant (released) and 1 adult brown pelican (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
Data are provisional and subject to change.

Water clarity at Lighthouse Beach Park on 9/18/23 at 1:45 PM on a rising tide (2.2 ft).
Lighthouse Beach Park Virtual Tour.