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: **August 29 – September 4, 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: Caloosahatchee Conditions Summary: Flow to the Caloosahatchee Estuary had a 7-day average of **1,570 cfs** at **S-79** with a 7-day average of **131 cfs (8%)** coming from the lake at **S-77**. **The 14-day moving average flow at S-79 is 1,390 cfs and has been in the optimal** flow envelope (750 – 2,100 cfs; RECOVER 2020) for 14 days.

Recommendation: There is a potential risk that the Caloosahatchee could experience damaging high Lake discharge events in addition to watershed runoff resulting in increased nutrient loading and decreased salinity. We recommend that the Corps seek to utilize all outlets around the Lake to reduce rising Lake levels to prevent damaging high releases to the Caloosahatchee estuary.

USACE Action: With Lake Okeechobee stage within the Low Sub-band, the Tributary Hydrologic conditions in the Dry 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.

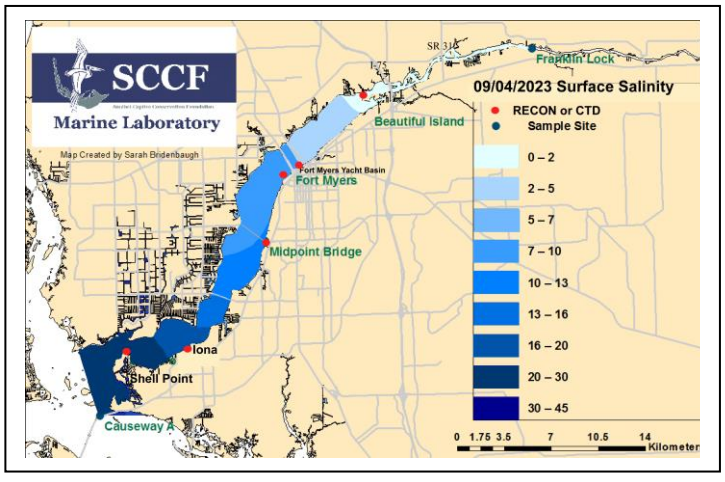
Lake Flows: In the past 7 days the total outflow from Lake Okeechobee was **1,959 AF** with **1,817 AF** to the Caloosahatchee through **S-77**, **124 AF** through **S-310** in Clewiston, and **0 AF** to the EAA through **S-351**, **S-352**, and **S-354**. The total net inflow to the Lake was **28,152 AF** (27,894 AF from Fisheating Creek, S-71, S-72, S-84s, S-65EX, and S-65EX1) with a total backflow volume of **259 AF** from **S310 and C10A**. Water conservation areas received flows of **6,549 AF**, **13,876 AF**, and **9,759 AF** at **WCA1, WCA2, and WCA3**, respectively. Everglades National Park received **27,816 AF**.

Lake Level: 15.38 ft (Low Sub-Band) **Last Week**: **15.32 ft** **Last Year: 12.55 ft**

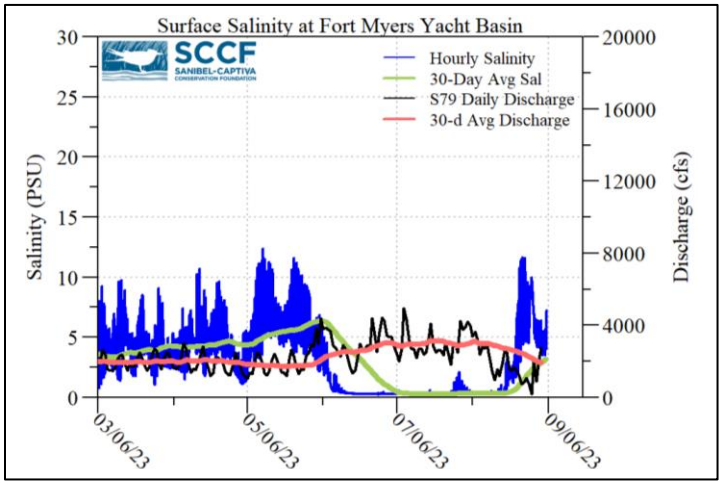
7-Day Lake Recession Rate: +0.06 ft/week

Lake Okeechobee Inflow: 3,291 cfs **Lake Okeechobee Outflow: 114 cfs**

Weekly Rainfall Total: **WP Franklin: 1.90"** **Ortona: 1.27"** **Moore Haven: 2.04"**



ACOE Daily Reports			
Date	**S79 Flow (cfs)**	**S78 Flow (cfs)**	**S77 Flow (cfs)**
8/29/23	**756**	**294**	**0**
8/30/23	**192**	**275**	**0**
8/31/23	**1966**	**292**	**0**
9/01/23	**902**	**291**	**76**
9/02/23	**1894**	**809**	**112**
9/03/23	**2733**	**1330**	**114**
9/04/23	**2549**	**1208**	**614**
7-day avg	**1570**	**643**	**131**



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	2.4	> 2.2	2.5	< 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 9/5/23 sampling for cyanobacteria by the Lee County Environmental Lab reported the **presence** of *Microcystis* at the **Davis Boat Ramp** as specks with a slight accumulation along the seawall.

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 27 psu, in the optimal range for oysters and seagrass.

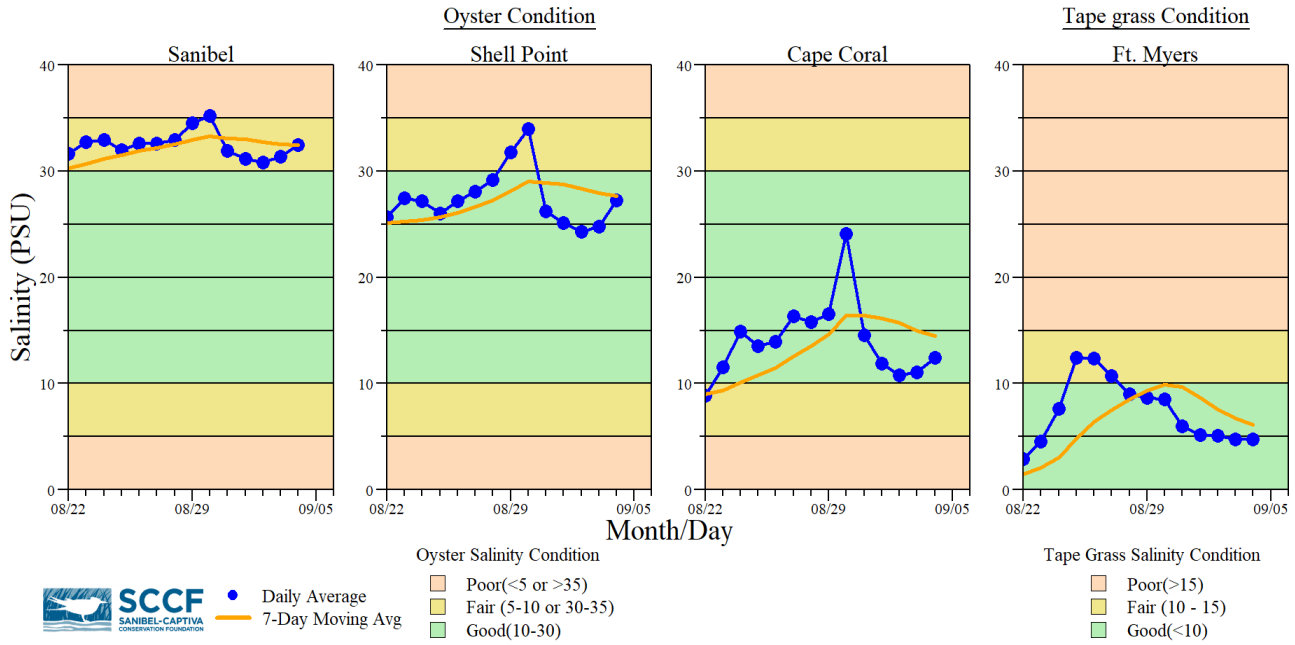
Water Quality Conditions:

Monitor Site	Salinity (psu)[a] [previous week]	Diss O_2 (mg/L)[b]	FDOM (qsde)[c]	Chlorophyll (µg/L)[d]	Temperature (°F)
Beautiful Island	0.7 – 5.1 [0.2 – 0.2]	-------	-------	7.2	82.6 – 92.3
Fort Myers Yacht Basin	3.4 – 10 [1.2 - 12]	-------	-------	-------	83.1 – 88.9
Shell Point	16 – 36 [13 – 33]	3.8 – 7.5	-------	-------	83.6 – 89.2
McIntyre Creek	28.5 – 36.5 [28.3 – 31.3]	0.2 – 8.9	-------	-------	83.1 – 90.9
Tarpon Bay	30.8 – 36.9 [27.7 – 35.8]	1.2 – 7.1	1.7 – 66.7	1.5 – 5.0	83.5 – 87.9
Wulfert Flats	28.7 – 35.3 [29.5 – 31.3]	2.6 – 9.2	-------	2.6 – 27.7	83.3 – 89.6

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 9/4/23, the FWC reported the red tide organism *Karenia brevis* was not detected in samples collected from and offshore of Florida over the past week. All samples, except for two collected on 08/31 in Sarasota Bay, were collected prior to the passage of Hurricane Idalia. Sampling has since resumed, and results will be posted on the FWC Red Tide Daily Sample Map

Wildlife Impacts: In the past week, the CROW wildlife hospital on Sanibel admitted 7 patients with suspect red tide/toxicosis: 1 snowy plover (died), 1 juvenile brown pelican (died), 1 juvenile laughing gull (died), 1 adult sooty tern (died), 1 juvenile double-crested cormorant (died), 1 juvenile black crowned night heron (still at CROW), and 1 adult laughing gull (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 9/3/23 at 1:03 PM on a rising tide (1.7 ft).
Lighthouse Beach Park Virtual Tour.