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 5 – 11, 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 **1,805 cfs** at **S-79** with a 7-day average of **798 cfs (44%)** coming from the lake at **S-77**. **The 14-day moving average flow at S-79 is 1,688 cfs and has been in the optimal** flow envelope (750 - 2100 cfs; RECOVER 2020) for 21 days.

Recommendation: Although the system was largely spared by Hurricane Idalia, the high elevation of Lake Okeechobee remains a cause for concern as we reach the peak of hurricane season. 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.

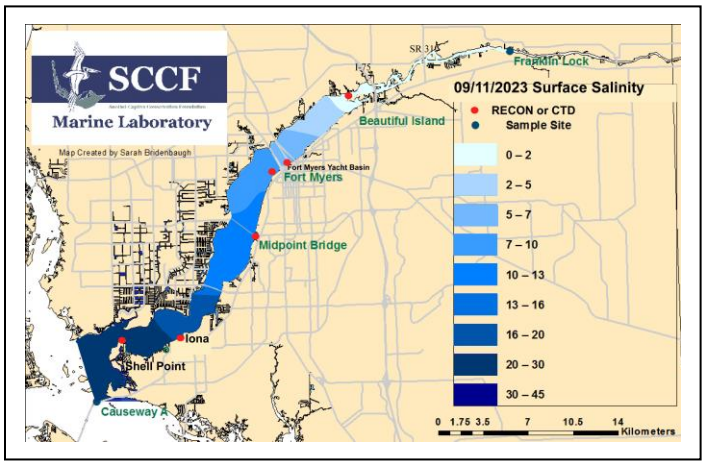
Lake Flows: In the past 7 days the total outflow from Lake Okeechobee was 11,520 AF with 11,084 AF to the Caloosahatchee through S-77, 216 AF through S-310 in Clewiston, and 220 AF to the EAA through S-351, S-352, and S-354. The total net inflow to the Lake was 24,236 AF (24,032 AF from Fisheating Creek, S-71, S-72, S-84s, S-65EX, and S-65EX1) with a total backflow volume of 205 AF from S310 and C10A. Water conservation areas received flows of 2,906 AF, 10,850 AF, and 12,760 AF at WCA1, WCA2, and WCA3, respectively. Everglades National Park received 17,964 AF.

Lake Level: 15.39 ft (Low Sub-Band) **Last Week**: **15.38 ft** **Last Year: 12.55 ft**

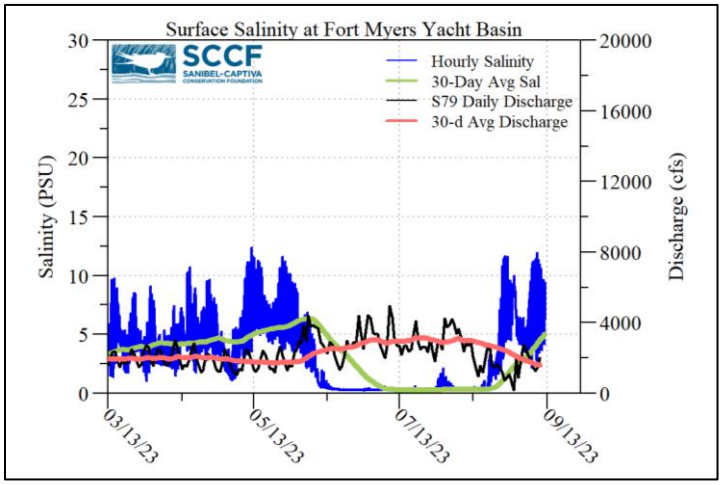
7-Day Lake Recession Rate: +0.01 ft/week

Lake Okeechobee Inflow: 1,836 cfs **Lake Okeechobee Outflow: 1,572 cfs**

Weekly Rainfall Total: **WP Franklin: 0.80"** **Ortona: 0.70"** **Moore Haven: 0.55"**



ACOE Daily Reports			
Date	**S79 Flow (cfs)**	**S78 Flow (cfs)**	**S77 Flow (cfs)**
9/5/23	**2163**	**1003**	**786**
9/6/23	**1940**	**1012**	**768**
9/7/23	**1506**	**871**	**729**
9/8/23	**1266**	**455**	**571**
9/9/23	**1434**	**899**	**160**
9/10/23	**2007**	**1129**	**1002**
9/11/23	**2318**	**1404**	**1572**
7-day avg	**1805**	**968**	**798**



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 9/11/23 sampling for cyanobacteria by the Lee County Environmental Lab reported the **presence** of *Microcystis* **upstream of the Franklin Locks** as light tan-green streaks and 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 4.7 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:

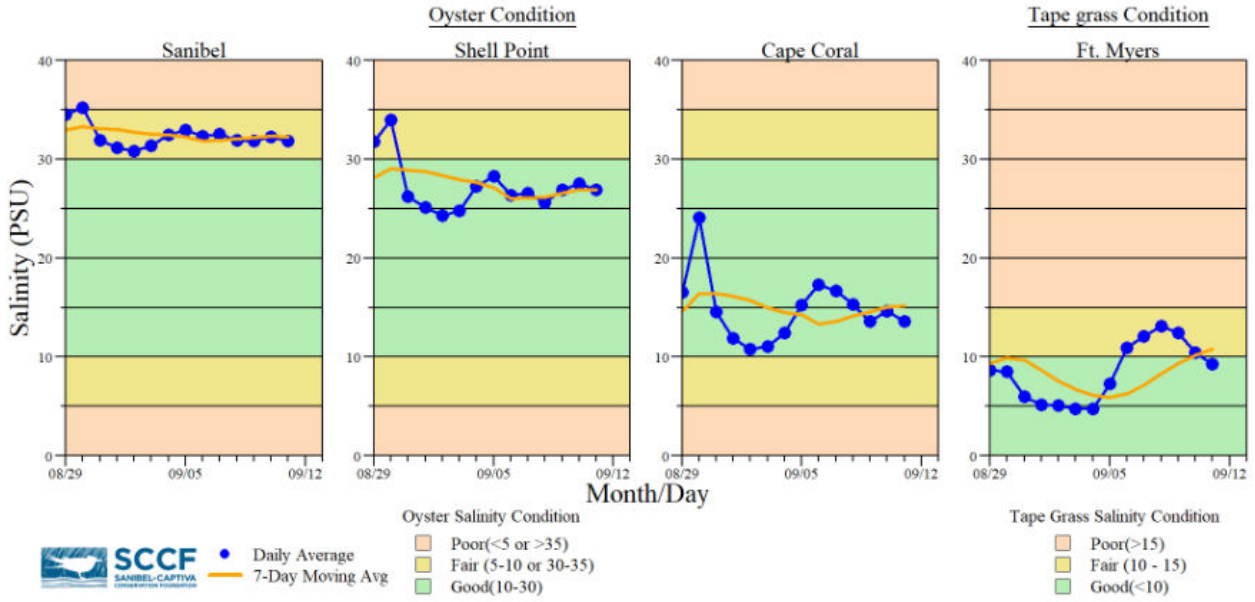
Monitor Site	Salinity (psu)[a] [previous week]	Diss O_2 (mg/L)[b]	FDOM (qsde)[c]	Chlorophyll (µg/L)[d]	Temperature (°F)
Beautiful Island	0.5 – 1.0 [0.2 – 0.2]	-------	-------	7.5	82.6 – 92.3
Fort Myers Yacht Basin	2.2 – 12 [3.4 – 10]	-------	-------	-------	83.5 – 91.1
Shell Point	16 – 35 [16 – 36]	3.0 – 6.7	-------	-------	83.3 – 89.1
McIntyre Creek	31.0 – 33.0 [28.5 – 36.5]	1.2 – 8.2	-------	-------	83.2 – 92.6
Tarpon Bay	29.3 – 35.5 [30.8 – 36.9]	1.7 – 6.7	2.3 – 6.7	1.0 – 3.6	83.8 – 90.8
Wulfert Flats	31.5 – 32. 7 [28.7 – 35.3]	2.9 – 7.9	-------	2.5 – 34.2	84.0 – 91.7

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 9/8/23, the FWC reported the red tide organism *Karenia brevis* was not detected in samples collected from and offshore of Florida over the past week.

Wildlife Impacts: In the past week, the CROW wildlife hospital on Sanibel admitted 3 patients with suspect red tide/toxicosis: 1 adult white ibis (still ate CROW), 1 adult great egret (died), 1 juvenile brown pelican (died).

Shellfish Advisory: Shellfish harvest area **#6212 Pine Island Sound Section 1 Shellfish Harvest Area** is **OPEN** by the Florida Department of Agriculture and Consumer Services (FDACS) as of **9/10/20** due fecal coliform results indicating that water quality meets NSSP standards as defined in Chapter 5L-1.003, Florida Administrative Code.



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 9/11/23 at 12:17 PM on a falling tide (2.8 ft). Lighthouse Beach Park Virtual Tour.