

# 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 22 – 28, 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 **1,211 cfs** at **S-79** with a 7-day average of **0 cfs (0%)** coming from the lake at **S-77**. **The 14-day moving average flow at S-79 is 1,476 cfs and has been in the optimum** flow envelope (750 – 2,100 cfs; RECOVER 2020) for 7 days after 82 days above the optimum flow envelope.

**Recommendation:** There is potential risk that the Caloosahatchee could experience damaging high Lake discharge events in addition to watershed runoff, resulting not only in increased nutrient loading and decreased salinity, but the potential transfer of harmful algae via S-77 from the lake to the estuary. These events may be exacerbated with potential impacts due to Hurricane Idalia. We recommend that the Corps seek to utilize all outlets around the Lake to reduce rising Lake levels in an effort to prevent damaging high releases to the Caloosahatchee estuary and to confirm the absence of cyanobacteria at all lock structures before releases resume to avoid risk to environmental and human health.

**USACE Action:** With Lake Okeechobee stage within the Low Sub-band, the Tributary Hydrologic conditions in the Normal category, and the Seasonal Lake Okeechobee Net Inflow outlook in the Very 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 **1,285 AF** with **0 AF** to the Caloosahatchee through **S-77**, **1,214 AF** through **S-308** in Port Mayaca, **39 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 **22,338 AF** (21,818 AF from Fisheating Creek, S-71, S-72, S-84s, S-65EX, and S-65EX1) with a total backflow volume of **520 AF** from **S310** and **C10A**. Water conservation areas received flows of **8,807 AF**, **12,288 AF**, and **10,187 AF** at **WCA1**, **WCA2**, and **WCA3**, respectively. Everglades National Park received **11,230 AF**.

**Lake Level: 15.32 ft (Low Sub-Band)**

**Last Week: 15.36 ft**

**Last Year: 12.67 ft**

**7-Day Lake Recession Rate: -0.04 ft/week**

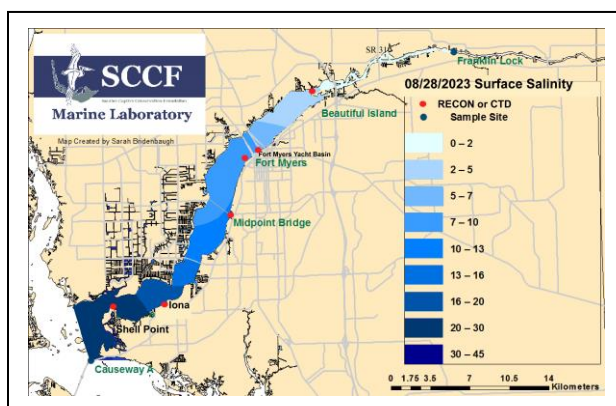
**Lake Okeechobee Inflow: 1,211 cfs**

**Lake Okeechobee Outflow: 446 cfs**

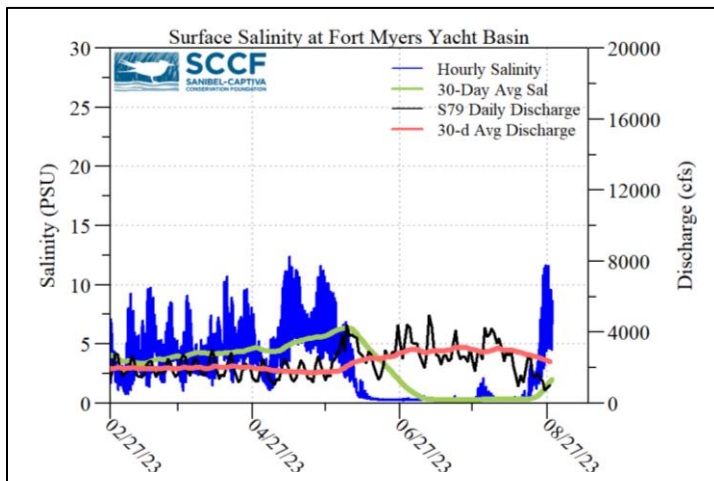
**Weekly Rainfall Total: WP Franklin: 0.68"**

**Ortona: 0.00"**

**Moore Haven: 0.15"**



ACOE Daily Reports			
Date	S79 Flow (cfs)	S78 Flow (cfs)	S77 Flow (cfs)
8/22/23	1472	438	0
8/23/23	1677	551	0
8/24/23	1429	597	0
8/25/23	1229	384	0
8/26/23	727	298	0
8/27/23	858	292	0
8/28/23	1082	293	0
<b>7-day avg</b>	<b>1211</b>	<b>408</b>	<b>0</b>



Light Penetration				
Site	25% I <sub>z</sub>	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	1.8	< 5

25% I<sub>z</sub> is the depth (z) where irradiance (I) is 25% of surface irradiance. Target values indicate the depth of light penetration needed for healthy seagrass.  
<sup>m</sup> measured, <sup>c</sup> calculated

**Cyanobacteria Status:** On 8/28/23 sampling for cyanobacteria by the Lee County Environmental Lab reported no visible cyanobacteria in the Caloosahatchee estuary.

**Upper Estuary Conditions:** The 30-day average surface salinity at the Fort Myers Yacht Basin was 1.8 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) <sup>a</sup> [previous week]	Diss O <sub>2</sub> (mg/L) <sup>b</sup>	FDOM (qsde) <sup>c</sup>	Chlorophyll (µg/L) <sup>d</sup>	Temperature (°F)
Beautiful Island	0.2 – 2.6 [0.2 – 0.2]	-----	-----	8.1	87.7 – 93.8
Fort Myers Yacht Basin	1.2 – 12 [0.2 – 3.4]	-----	-----	-----	-----
Shell Point	14.1 – 35.1 [13 – 33]	3.6 – 7.3	-----	-----	85.0 – 89.1
McIntyre Creek	28.3 – 31.3 [30.1 – 31.5]	0.5 – 10.3	-----	-----	84.7 – 91.5
Tarpon Bay	27.7 – 35.8 [29.4 – 33.4]	0.6 – 7.3	1.7 – 6.9	1.4 – 5.6	85.2 – 89.8
Wulfert Flats	29.5 – 31.3 [27.9 – 31.0]	2.8 – 9.5	-----	5.1 – 41.9	84.8 – 91.9

**Red** values are outside of the preferred range.

<sup>a</sup> Salinity target values: BI < 5, FM < 10, SP = 10 – 30

<sup>b</sup> Dissolved O<sub>2</sub> target values: all sites > 4

<sup>c</sup> FDOM target values: BI < 70, FM < 70, SP < 11

<sup>d</sup> Chlorophyll target values: BI < 11, FM < 11, SP < 11

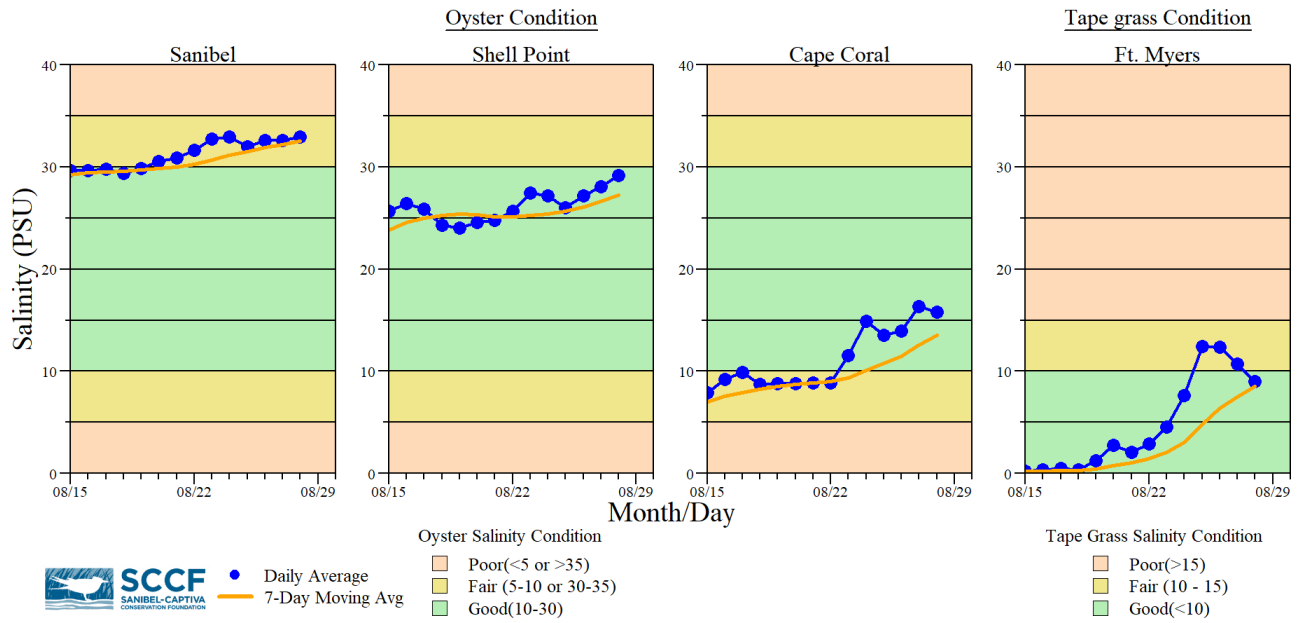
<sup>s</sup> Single sonde lower and surface layer or surface grab lab measurement

----- no data

**Red Tide:** On 8/25/23, the FWC reported that over the past week the red tide organism, *Karenia brevis*, was not observed in samples collected in Southwest Florida.

**Wildlife Impacts:** In the past week, the CROW wildlife hospital on Sanibel received 7 patients with toxicosis symptoms: 5 adult laughing gulls (5 died, 1 still at CROW), 1 juvenile laughing gull (still at CROW), and 1 juvenile ruddy turnstone (still at CROW).

**Shellfish Advisory:** Shellfish harvest area #4802 Lower Tampa Bay, 5802 Gasparilla Sound, 5602 Lemon Bay, 6212/6222/6232 Pine Island Sound and Matlacha Pass Section 1, 2 and 3 Shellfish Harvest Area (INCLUDING ALL AUZ AND LEASES) is **CLOSED** by the Florida Department of Agriculture and Consumer Services (FDACS) as of 8/28/20 as a precautionary closure due to hurricane Idalia.



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 8/27/23 at 11:58 AM on a falling tide (2.5 ft). [Lighthouse Beach Park Virtual Tour.](#)