

# MEMORANDUM

To: USACE Colonel James L. Booth, LTC Todd F. Polk, Richard McMillen, Kim Taplin, 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 13 – 19, 2022**

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 **5895 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 4197 cfs and has been in the **damaging** flow envelope (>2600 cfs; RECOVER 2020) for 13 days.**

**Recommendation:** Recently, local basin runoff has resulted in 14-day average flows >2,600 cfs at S-79, which is in the RECOVER 2020 damaging flow envelope for the Caloosahatchee Estuary. Therefore, we support the current release schedule of 0 cfs at S-77 while excessive basin runoff conditions persist.

**USACE Action:** On 9/10/22 the USACE reduced target flows at the W.P. Franklin Lock and Dam (S-79) to a 7-day average pulse release of 0 cfs from the previous target of 457 cfs. Local basin runoff has been exceeding the targets set for the past several months, so little water has left the lake from the Julian Keen Jr. Lock and Dam (S-77).

**Lake Flows:** In the past 7 days the total outflow from Lake Okeechobee was **207 AF** with **0 AF** to the Caloosahatchee through **S-77**, **23 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 **44,949 AF** (41,488 AF from Fisheating Creek, S-71, S-72, S-84s, S-65EX, and S-65EX1) with a total backflow volume of **3,461 AF** from **S310 and C10A**. Water conservation areas received flows of **1,870 AF**, **10,106 AF**, and **5,379 AF** at **WCA1, WCA2, and WCA3**, respectively. Everglades National Park received **6,355 AF**.

**Lake Level: 12.86 ft (Base flow sub-band)**

**Last Week: 12.56 ft**

**Last Year: 15.05 ft**

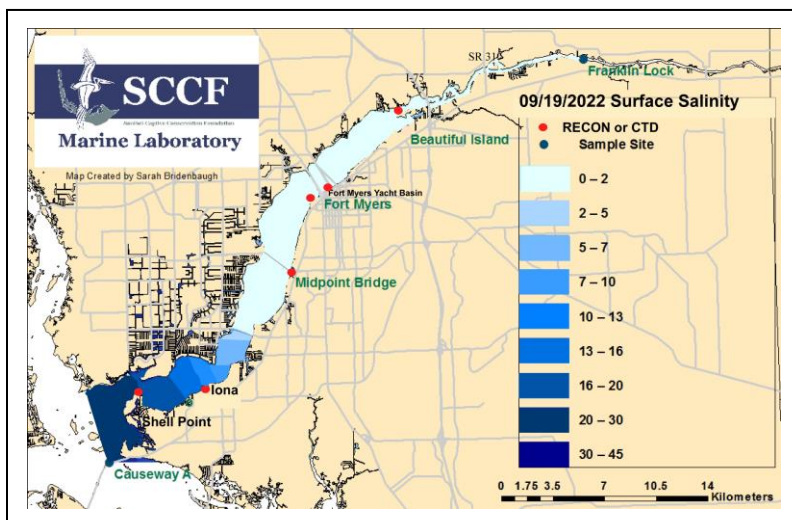
**Lake Okeechobee Inflow: 7186 cfs**

**Lake Okeechobee Outflow: 129 cfs**

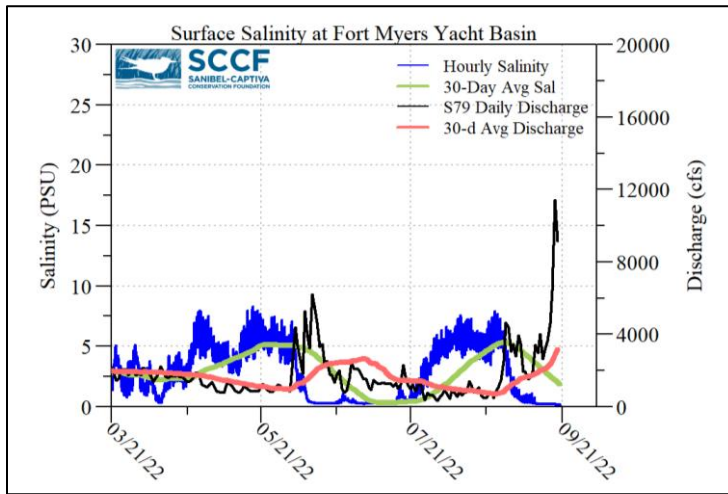
**Weekly Rainfall Total: WP Franklin ≥ 4.60" Ortona ≥ 4.71"**

**Moore Haven ≥ 3.44"**

**7-Day Lake Recession Rate: +0.30 ft/week**



ACOE Daily Reports			
Date	S79 Flow (cfs)	S78 Flow (cfs)	S77 Flow (cfs)
9/13/22	2624	492	0
9/14/22	3280	515	0
9/15/22	3641	1072	0
9/16/22	4606	1293	0
9/17/22	6447	2398	0
9/18/22	11432	2889	0
9/19/22	9236	2525	0
<b>7-day avg</b>	<b>5895</b>	<b>1598</b>	<b>0</b>



Light Penetration				
Site	25% Iz	Target Values	Turbidity	Target Values
	meters		NTU	
Fort Myers	ND	> 1	ND	< 18
Shell Point	1.15 <sup>m</sup>	>2.2	1.1	< 18
Causeway	1.37 <sup>m</sup>	> 2.2	2.4	< 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.  
<sup>m</sup> measured. <sup>c</sup> calculated

**Cyanobacteria Status:** On 9/19/22 sampling for cyanobacteria by the Lee County Environmental Lab reported the presence of *Microcystis* at the **Davis Boat Ramp** as sparse specks.

**Upper Estuary Conditions:** The 30-day average surface salinity at the Fort Myers Yacht Basin was 2.3 psu, within the suitable range for tape grass.

**Lower Estuary Conditions:** The average salinity at Shell Point RECON was 22 psu, within the optimal range for oysters but below optimal for seagrass. The dominant net phytoplankton at the Causeway on 9/19/22 was *Coscinodiscus* (17,000 cells/L).

**Water Quality Conditions:**

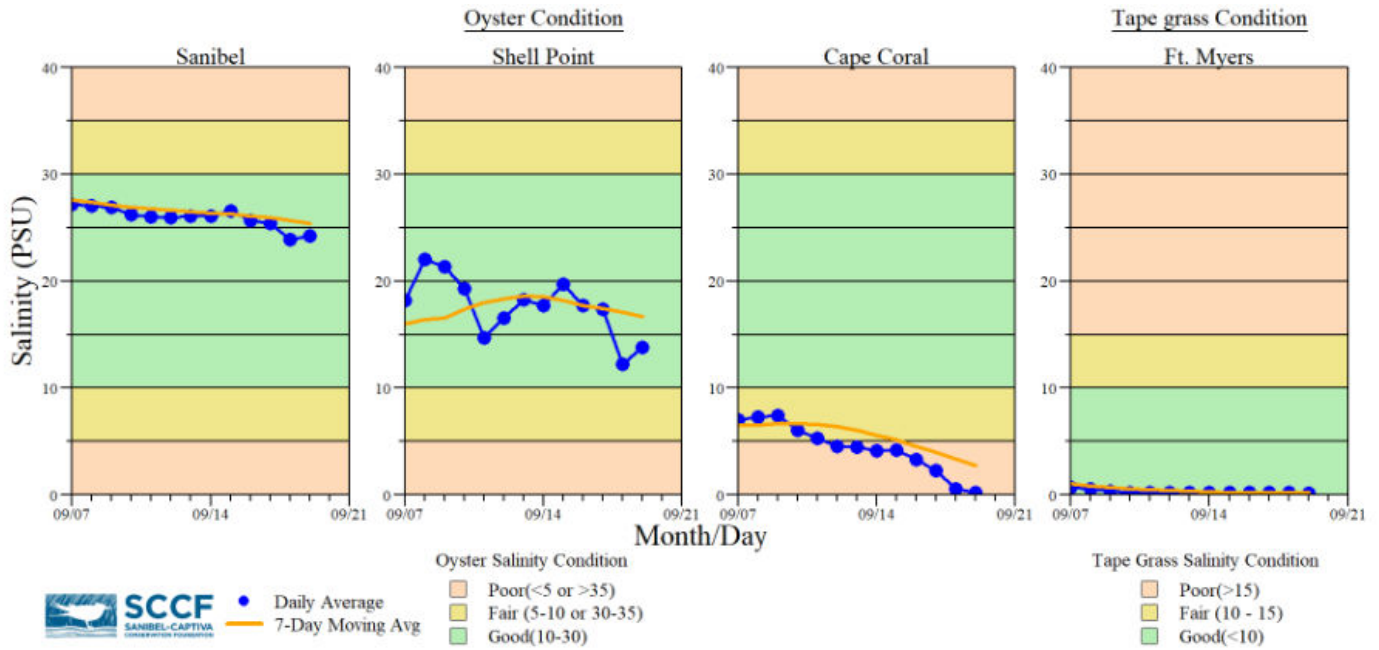
Monitor Site	Salinity (psu) <sup>a</sup> [previous week]	Diss O <sub>2</sub> (mg/L) <sup>b</sup>	FDOM (qsde) <sup>c</sup>	Chlorophyll (µg/L) <sup>d</sup>
Beautiful Island	0.2 – 0.2 [0.2 – 0.2]	1.5 – 4.0	-----	8.3
Fort Myers Yacht Basin	0.2 – 0.2 [0.2 – 1.3]	3.3 – 4.9	-----	-----
Shell Point	3.0 – 29 [11 – 31]	3.4 – 6.4	185	2.6
McIntyre Creek	22.4 – 27.4 [21.2 – 28.9]	0.9 – 9.8	-----	-----
Tarpon Bay	21.7 – 28.2 [25.4 – 33.1]	3.3 – 8.5	-----	-----
Wulfert Flats	23.7 – 27.5 [25.1 – 29.7]	3.1 – 8.7	-----	3.9 – 38.3

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>e</sup> Single sonde lower and surface layer or surface grab lab measurement  
 ----- no data

**Red Tide:** On 9/16/22, the FWC reported that the red tide organism, *Karenia brevis* was observed at background concentrations in a sample collected 15 miles offshore of Collier County.

**Wildlife Impacts:** In the past week (9/13 – 9/19), the CROW wildlife hospital on Sanibel received 1 patient with toxicosis symptoms: 1 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.

Data are provisional and subject to change.



Red algae (*Hypnea*) accumulation on Bunche Beach on 9/17/22. SCCF.

Water clarity at Lighthouse Beach Park on 9/19/22 at 1:56 PM on a falling tide (Low tide: 0.51 ft @ 4:11 PM). [Lighthouse Beach Park Virtual Tour.](#)