

# 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: **July 12 – 18 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 **1,209 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 1,240 cfs and has been in the optimal flow envelope (750 - 2100 cfs; RECOVER 2020) for 23 days.**

**Recommendation:** We encourage the Corps to maintain flows within the RECOVER 2020 optimal flow envelope of 750 – 2,100 cfs at S-79 for the Caloosahatchee Estuary. Flows from the Lake should be suspended when local basin runoff exceeds 2,100 cfs at S-79 or when cyanobacteria blooms are present near S-77.

**USACE Action:** On 7/9/22 the USACE reduced target flows at the W.P. Franklin Lock and Dam (S-79) to 7-day average pulse release of 750 cfs from the previous target of 1000 cfs. If target flows exceed 750 cfs from local basin runoff, releases from the Lake at the Julian Keen Jr Lock and Dam (S-77) will not occur.

**Lake Flows:** In the past 7 days the total outflow from Lake Okeechobee was **300 AF** with **0 AF** to the Caloosahatchee through **S-77**, **0 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 **11,418 AF** (5,314 AF from Fisheating Creek, S-71, S-72, S-84s, S-65EX, and S-65EX1) with a total backflow volume of **6,104 AF** from **S310**, **C10A**, and **S308**. Water conservation areas received flows of **2,878 AF**, **5,950 AF**, and **11,113 AF** at **WCA1**, **WCA2**, and **WCA3**, respectively. Everglades National Park received **24,750 AF**.

**Lake Level: 13.08 ft (Base Flow sub-band)**

**Last Week: 12.97 ft**

**Last Year: 13.47 ft**

**Lake Okeechobee Inflow: 684 cfs**

**Lake Okeechobee Outflow: 166 cfs**

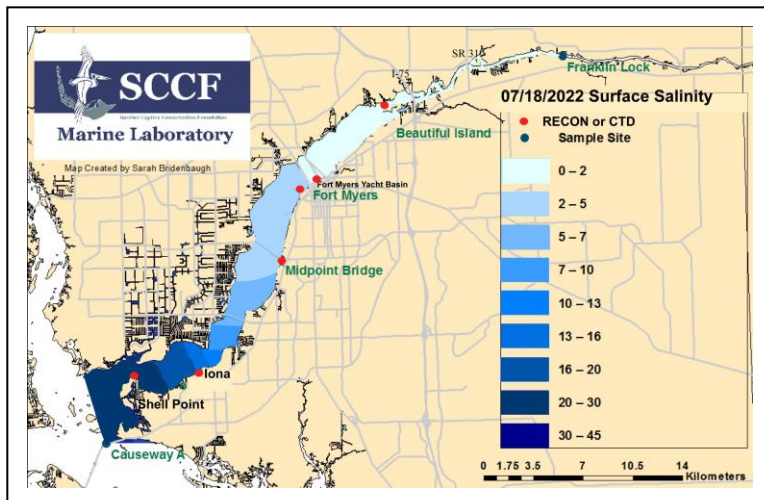
**Weekly Rainfall Total:**

**WP Franklin  $\geq$  2.42"**

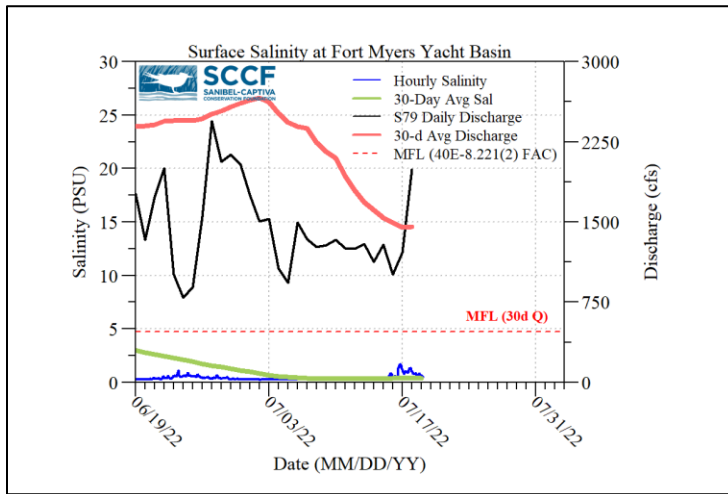
**Ortona  $\geq$  2.54"**

**Moore Haven  $\geq$  1.69"**

**7-Day Lake Recession Rate: +0.08 ft/week**



ACOE Daily Reports			
Date	S79 Flow (cfs)	S78 Flow (cfs)	S77 Flow (cfs)
7/12/22	1254	323	0
7/13/22	1294	325	0
7/14/22	1122	332	0
7/15/22	1301	334	0
7/16/22	1005	331	0
7/17/22	1266	859	0
7/18/22	2273	785	0
<b>7-day avg</b>	<b>1359</b>	<b>470</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	1.34 <sup>c</sup>	>2.2	1.4	< 18
Causeway	2.20 <sup>c</sup>	> 2.2	1.5	< 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 7/18/22 sampling for cyanobacteria by the Lee County Environmental Lab reported the presence of *Planktothrix*, *Dolichospermum*, and *Microcystis* at the **Alva Boat Ramp** and *Microcystis* at the **Davis Boat Ramp**.

**Upper Estuary Conditions:** The 30-day average surface salinity at the Fort Myers Yacht Basin was 0.4 psu, within the suitable range for tape grass.

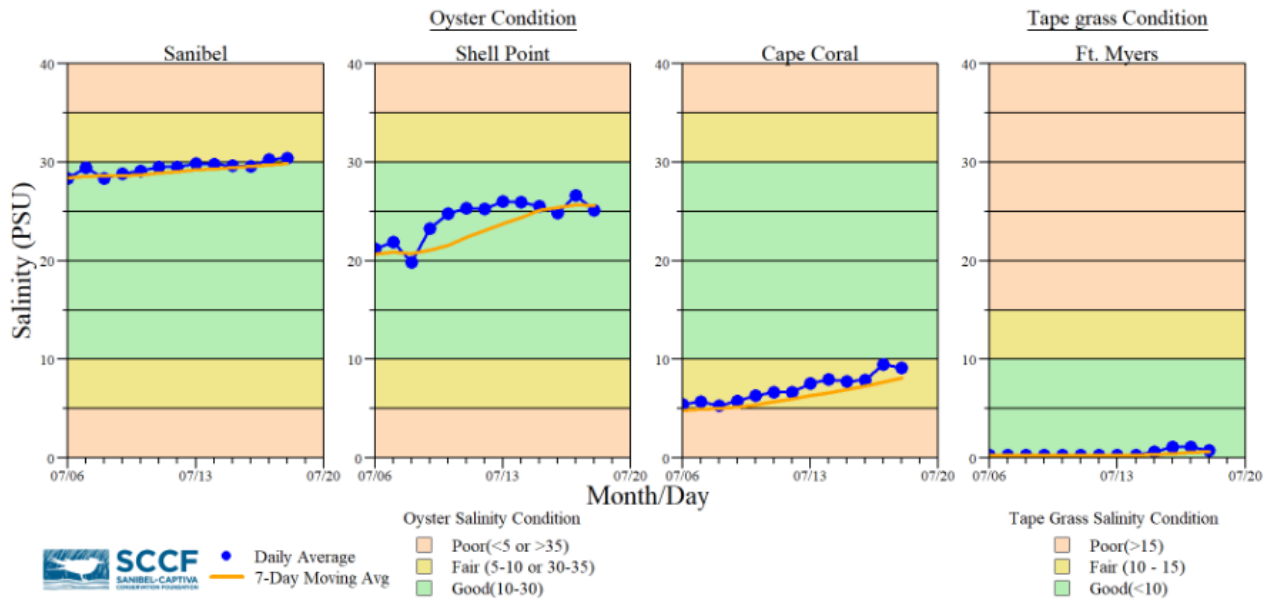
**Lower Estuary Conditions:** The average salinity at Shell Point RECON was 24 psu, within the optimal range for oysters, but below optimal for seagrass.

**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>
Beautiful Island	0.3 – 0.3 [0.3 – 0.3]	1.6 – 4.6	-----	-----
Fort Myers Yacht Basin	0.3- 1.7 [0.3 – 0.3]	2.7 – 8.1	-----	-----
Shell Point	13 - 32 [9.5 – 31]	2.9 – 6.5	95.0	2.6
McIntyre Creek	[27.6 – 29.7]	0.9 – 8.9	-----	-----
Carpon Bay	[28.2 – 32.5]	3.5 – 8.9	-----	-----
Nulfert Flats	[27.3 – 28.4]	2.6 – 7.9	-----	3.7 – 34.3

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

**Red Tide:** On 7/15/22, the FWC reported that the red tide organism, *Karenia brevis* was not observed in Southwest Florida.



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 (*Valisneria americana*) health (Ft. Myers only) conditions.

Data are provisional and subject to change.



Water clarity at Lighthouse Beach Park on 7/15/22 at 1:27 PM on a high tide (High tide: 3.63 ft @ 1:25 PM). [Lighthouse Beach Park Virtual Tour](#).