

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 19 – 25, 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 **1,211 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 1,284 cfs and has been in the optimal flow envelope (750 - 2100 cfs; RECOVER 2020) for 30 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 **188 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 **8,016 AF** (6,716 AF from Fisheating Creek, S-71, S-72, S-84s, S-65EX, and S-65EX1) with a total backflow volume of **1,300 AF** from **S310**, **C10A**, and **S308**. Water conservation areas received flows of **10,544 AF**, **11,103 AF**, and **12,676 AF** at **WCA1**, **WCA2**, and **WCA3**, respectively. Everglades National Park received **19,492 AF**.

Lake Level: **13.02 ft (Base Flow sub-band)**

Last Week: **13.08 ft**

Last Year: **13.53 ft**

Lake Okeechobee Inflow: **309 cfs**

Lake Okeechobee Outflow: **17 cfs**

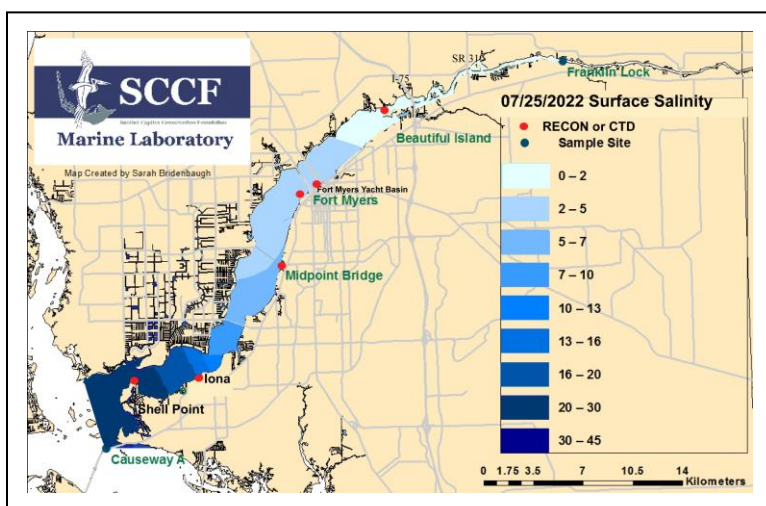
Weekly Rainfall Total:

WP Franklin $\geq 0.71"$

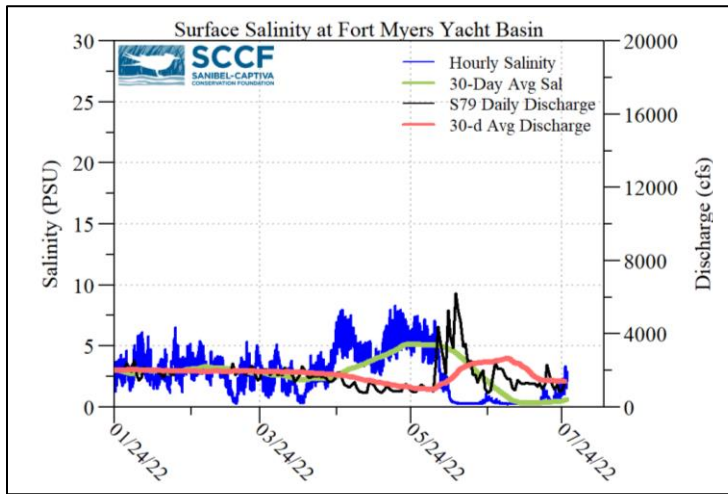
Ortona **0.17"**

Moore Haven $\geq 0.00"$

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



ACOE Daily Reports			
Date	S79 Flow (cfs)	S78 Flow (cfs)	S77 Flow (cfs)
7/19/22	1709	640	0
7/20/22	1183	253	0
7/21/22	958	349	0
7/22/22	1223	258	0
7/23/22	845	150	0
7/24/22	1073	344	0
7/25/22	1489	251	0
7-day avg	1211	321	0



Light Penetration				
Site	25% I _z	Target Values	Turbidity	Target Values
	meters		NTU	
Fort Myers	ND	> 1	ND	< 18
Shell Point	1.40 ^c	>2.2	1.2	< 18
Causeway	2.04 ^m	> 2.2	2.5	< 5

25% I_z 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 7/25/22 sampling for cyanobacteria by the Lee County Environmental Lab reported the presence of *Microcystis* at the **Alva Boat Ramp** as visible specks with no accumulation and *Dolichospermum* and *Microcystis* upstream of the Franklin Locks with some yellow-green scum along the shore and locks. *Dolichospermum* and *Microcystis* were **moderately abundant** at the **Davis Boat Ramp** with streaks and wind driven accumulation.

Upper Estuary Conditions: The 30-day average surface salinity at the Fort Myers Yacht Basin was 0.5 psu, within the suitable range for tape grass. Hypoxia was detected in the lower layer at Ft. Myers and in the upper layer at the Beautiful Island RECON site.

Lower Estuary Conditions: The average salinity at Shell Point RECON was 25 psu, within the optimal range for oysters, but below optimal for seagrass.

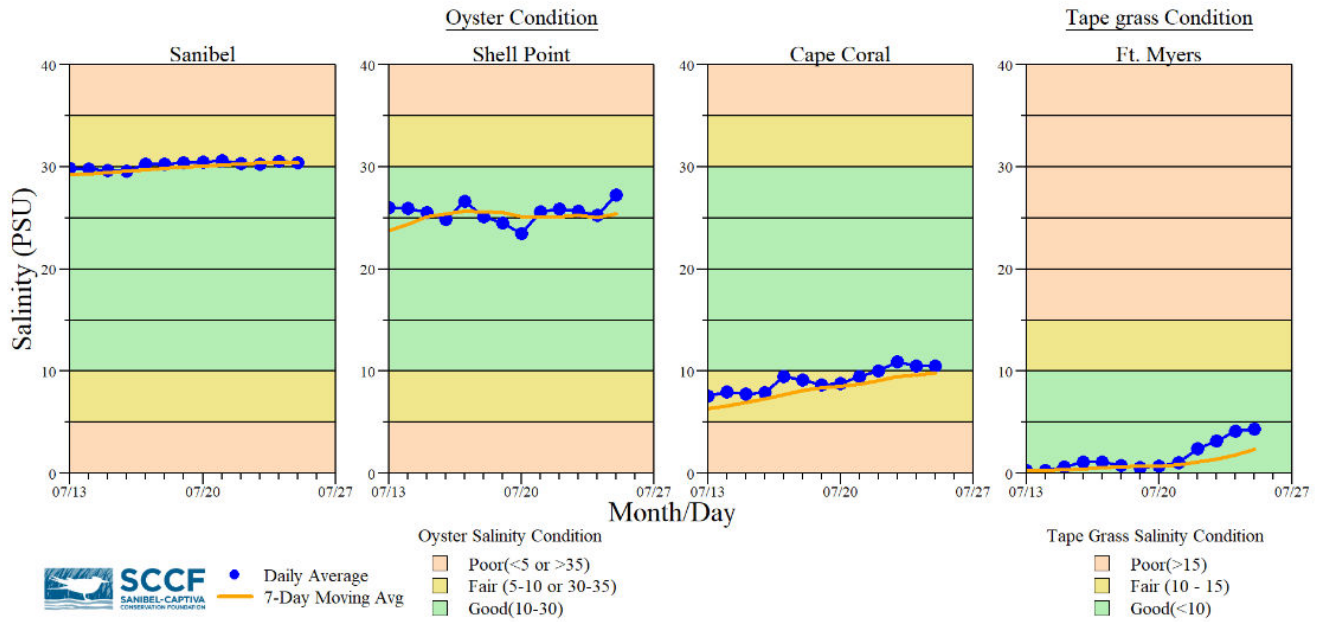
Water Quality Conditions:

Monitor Site	Salinity (psu) ^a [previous week]	Diss O ₂ (mg/L) ^b	FDOM (qsde) ^c	Chlorophyll (µg/L) ^d
Beautiful Island	0.3 – 0.4 [0.3 – 0.3]	1.6 – 5.5	286	-----
Fort Myers Yacht Basin	0.4 – 2.5 [0.3 – 1.7]	1.5 – 7.8	-----	-----
Shell Point	14 – 31 [13 – 32]	3.6 – 6.8	95	3.0
McIntyre Creek	28.3 – 30.4 [27.55 – 29.57]	2.5 – 10.7	-----	-----
Tarpon Bay	27.3 – 31.3 [28.24 – 32.55]	3.6 – 11.8	-----	-----
Wulfert Flats	27.6 – 30.1 [26.96 – 28.41]	3.1 – 10.0	-----	3.2 – 27.5

Red values are outside of the preferred range.
^a Salinity target values: BI < 5, FM < 10, SP = 10 – 30
^b Dissolved O₂ 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
^e Single sonde lower and surface layer or surface grab lab measurement
 ----- no data

Red Tide: On 7/22/22, the FWC reported that the red tide organism, *Karenia brevis* was observed at background concentrations offshore of Collier County

Wildlife Impacts: Wildlife impacts were not reported for the week of 7/19 – 7/25.



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.



(Top and bottom left): Filamentous algae (*Pithophora* spp.) accumulation was reported in several tidally influenced Cape Coral canals this week. *City of Cape Coral*.

(Top right): On 7/25/22 *Dolichospermum* and *Microcystis* were moderately abundant at the Davis Boat Ramp with streaks and wind driven accumulation. *Lee County Environmental Lab*.



Water clarity at Lighthouse Beach Park on 7/26/22 at 11:59 AM on a high tide (High tide: 3.14 ft @ 10:42 AM). [Lighthouse Beach Park Virtual Tour.](#)