

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: **August 30 – September 5, 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 **3284 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 on 9/3/22 was 2124 cfs and was in the stress flow envelope (750 - 2100 cfs; RECOVER 2020) for 1 day.**

Recommendation: To keep the Caloosahatchee River and Estuary in the optimal salinity envelope 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.

USACE Action: On 8/13/22 the USACE reduced target flows at the W.P. Franklin Lock and Dam (S-79) to a 7-day average pulse release of 457 cfs from the previous target of 650 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).

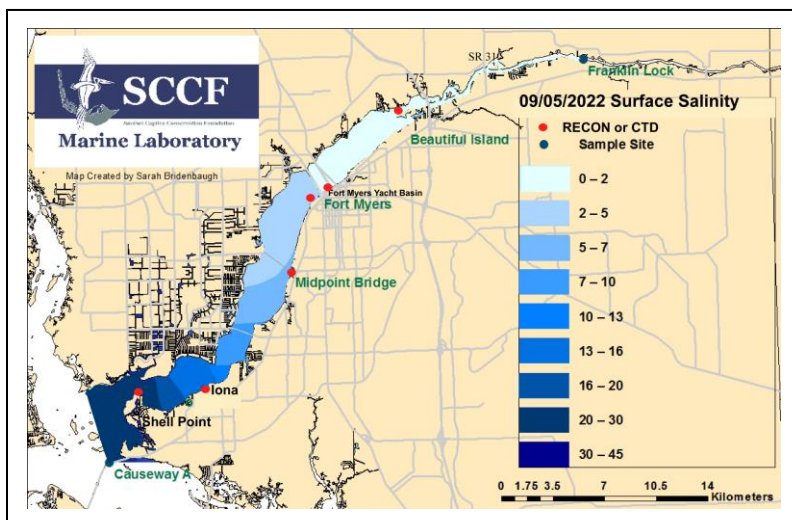
Lake Flows: In the past 7 days the total outflow from Lake Okeechobee was **4,297 AF** with **0 AF** to the Caloosahatchee through **S-77**, **126 AF** through **S-310** in Clewiston, and **2,648 AF** to the EAA through **S-351**, **S-352**, and **S-354**. The total net inflow to the Lake was **16,253 AF** (15,469 AF from Fisheating Creek, S-71, S-72, S-84s, S-65EX, and S-65EX1) with a total backflow volume of **784 AF** from **S310**. Water conservation areas received flows of **40 AF**, **163 AF**, and **1,797 AF** at **WCA1**, **WCA2**, and **WCA3**, respectively. Everglades National Park received **7,906 AF**.

Lake Level: 12.53 ft (Beneficial Use sub-band) Last Week: 12.59 ft Last Year: 14.72 ft

Lake Okeechobee Inflow: 1136 cfs Lake Okeechobee Outflow: 216 cfs

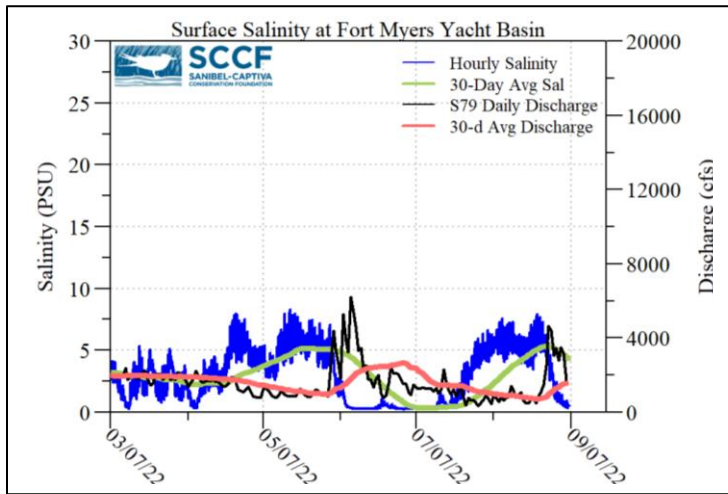
Weekly Rainfall Total: WP Franklin ≥ 1.16" Ortona ≥ 2.68" Moore Haven ≥ 0.00"

7-Day Lake Recession Rate: -0.06 ft/week



ACOE Daily Reports			
Date	S79 Flow (cfs)	S78 Flow (cfs)	S77 Flow (cfs)
8/30/22	4386	NR	0
8/31/22	3051	NR	0
9/1/22	3445	895	0
9/2/22	2768	1010	0
9/3/22	2768	1206	0
9/4/22	NR	1069	0
9/5/22	NR	973	0
7-day avg	3284	1031	0

NR = no report



Light Penetration				
Site	25% Iz	Target Values	Turbidity	Target Values
	meters		NTU	
Fort Myers	ND	> 1	ND	< 18
Shell Point	1.25 ^c	>2.2	1.6	< 18
Causeway	2.43 ^c	> 2.2	0.7	< 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 9/6/22 sampling for cyanobacteria by the Lee County Environmental Lab reported the presence of *Microcystis* at the **Alva Boat Ramp, upstream of the Franklin Locks** and at the **Davis Boat Ramp** as sparse specks visible, and with slight accumulation along the Franklin Lock and Davis Boat Ramp seawall.

Upper Estuary Conditions: The 30-day average surface salinity at the Fort Myers Yacht Basin was 5.1 psu, within the suitable range for tape grass. The chlorophyll level was elevated at the Fort Myers RECON site on 9/1/22.

Lower Estuary Conditions: The average salinity at Shell Point RECON was 23 psu, within the optimal range for oysters and seagrass. Chlorophyll was elevated at the Causeway on 9/6/22 with *Rhizosolenia* as the dominant net plankton (1.35 million cells/L).

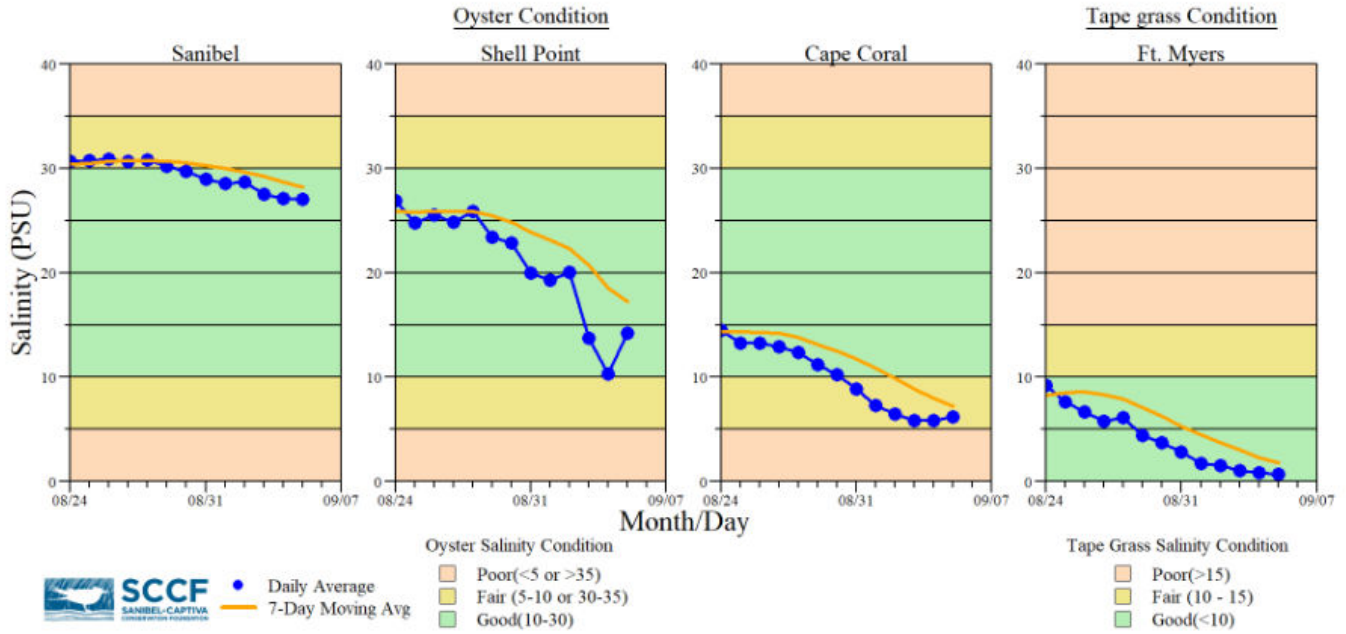
Water Quality Conditions:

Monitor Site	Salinity (psu) ^a [previous week]	Diss O ₂ (mg/L) ^b	FDOM (qsde) ^c	Chlorophyll (µg/L) ^d
Beautiful Island	0.2 – 1.3 [0.6 – 2.0]	2.1 – 5.9	335	8.1
Fort Myers Yacht Basin	0.4 – 4.2 [4.2 – 7.3]	2.6 – 5.6	298	-----
Shell Point	11 – 31 [18 – 33]	3.6 – 7.1	121	4.8
McIntyre Creek	23.1 – 31.8 [30.1 – 31.8]	0.8 – 9.1	-----	-----
Tarpon Bay	25.2 – 33.3 [30.0 – 33.8]	3.4 – 8.9	-----	-----
Wulfert Flats	30.0 – 31.4 [30.0 – 31.4]	3.1 – 9.1	-----	8.5 – 150.7

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

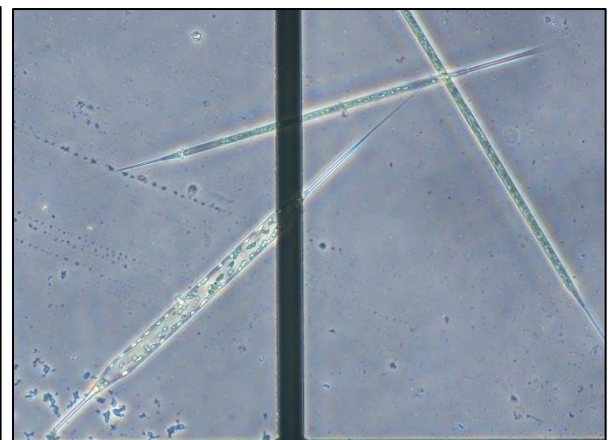
Red Tide: On 9/2/22, the FWC reported that the red tide organism, *Karenia brevis* was not observed in samples collected statewide.

Wildlife Impacts: In the past week, the CROW wildlife hospital on Sanibel received 1 toxicosis patient: 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.



Chlorophyll was elevated at the Causeway on 9/6/22 with *Rhizosolenia* as the dominant net plankton (1.35 million cells/L). SCCF.

Water clarity at Lighthouse Beach Park on 9/6/22/22 at 12:16 PM on a low tide (Low tide: 0.17 ft @ 1:04 PM). [Lighthouse Beach Park Virtual Tour](#).