

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 2 – 8, 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 **703 cfs** at **S-79** with a 7-day average of **242 cfs (34%)** coming from the lake at **S-77**. The **14-day moving average flow at S-79 is 632 cfs** and has been **below the optimal flow envelope (<750 cfs; RECOVER 2020)** for 4 days.

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 7/30/22 the USACE reduced target flows at the W.P. Franklin Lock and Dam (S-79) to 7-day average pulse release of 650 cfs from the previous target of 750 cfs. Local basin runoff has been exceeding the targets set for the past several months, so very 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 **10,253 AF** with **3,074 AF** to the Caloosahatchee through **S-77**, **653 AF** through **S-310** in Clewiston, and **5,631 AF** to the EAA through **S-351**, **S-352**, and **S-354**. The total net inflow to the Lake was **3,029 AF** (2,529 AF from Fisheating Creek, S-71, S-72, S-84s, S-65EX, and S-65EX1) with a total backflow volume of **500 AF** from **S310 and S308**. Water conservation areas received flows of **119 AF**, **518 AF**, and **6,518 AF** at **WCA1**, **WCA2**, and **WCA3**, respectively. Everglades National Park received **22,026 AF**.

Lake Level: **12.87 ft (Base Flow sub-band)**

Last Week: **12.94ft**

Last Year: **14.00 ft**

Lake Okeechobee Inflow: **80 cfs**

Lake Okeechobee Outflow: **1103 cfs**

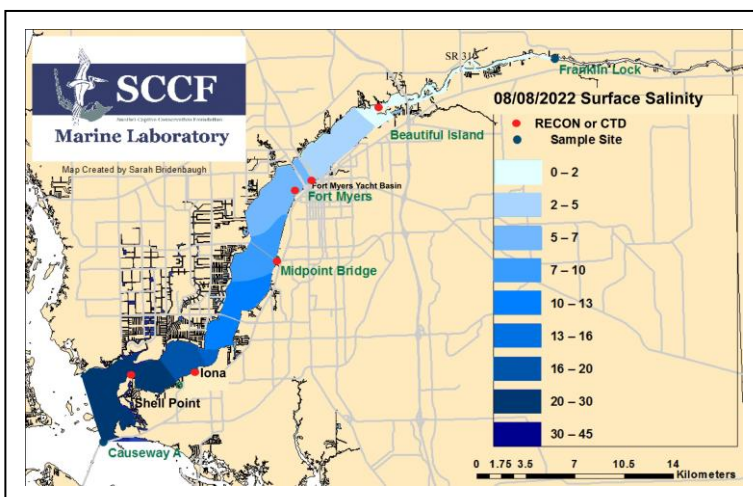
Weekly Rainfall Total:

WP Franklin ≥ 1.39"

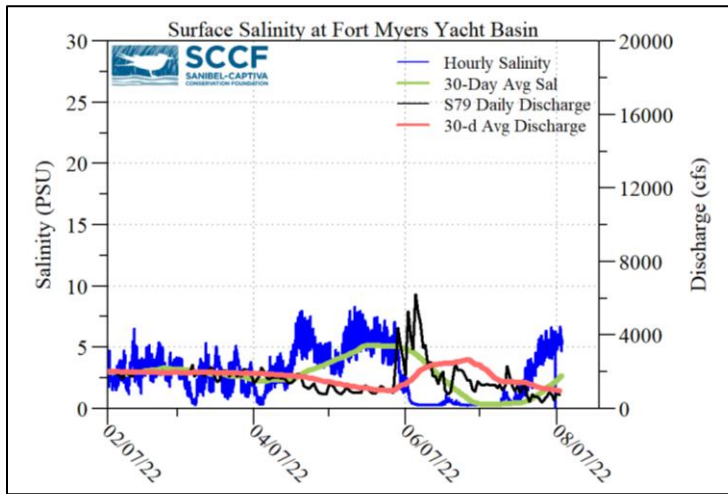
Ortona ≥ 0.34"

Moore Haven ≥ 0.02"

7-Day Lake Recession Rate: **-0.07 ft/week**



ACOE Daily Reports			
Date	S79 Flow (cfs)	S78 Flow (cfs)	S77 Flow (cfs)
8/2/22	519	76	365
8/3/22	718	261	417
8/4/22	890	207	152
8/5/22	703	147	0
8/6/22	441	88	324
8/7/22	883	148	435
8/8/22	764	149	0
7-day avg	703	154	242



Light Penetration				
Site	25% I _z	Target Values	Turbidity	Target Values
	meters		NTU	
Fort Myers	ND	> 1	ND	< 18
Shell Point	1.36 ^c	>2.2	1.1	< 18
Causeway	3.07 ^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 8/8/22 sampling for cyanobacteria by the Lee County Environmental Lab reported the presence of *Dolichospermum* and *Microcystis* at the **Alva Boat Ramp** as visible specks with no accumulation, upstream of the **Franklin Locks** with visible specks and slight scum along the locks, and at the **Davis Boat Ramp** with specks and slight accumulation long the seawall.

Upper Estuary Conditions: The 30-day average surface salinity at the Fort Myers Yacht Basin was 2.5 psu, within the suitable range for tape grass.

Lower Estuary Conditions: The average salinity at Shell Point RECON was 26 psu, within the optimal range for oysters and seagrass.

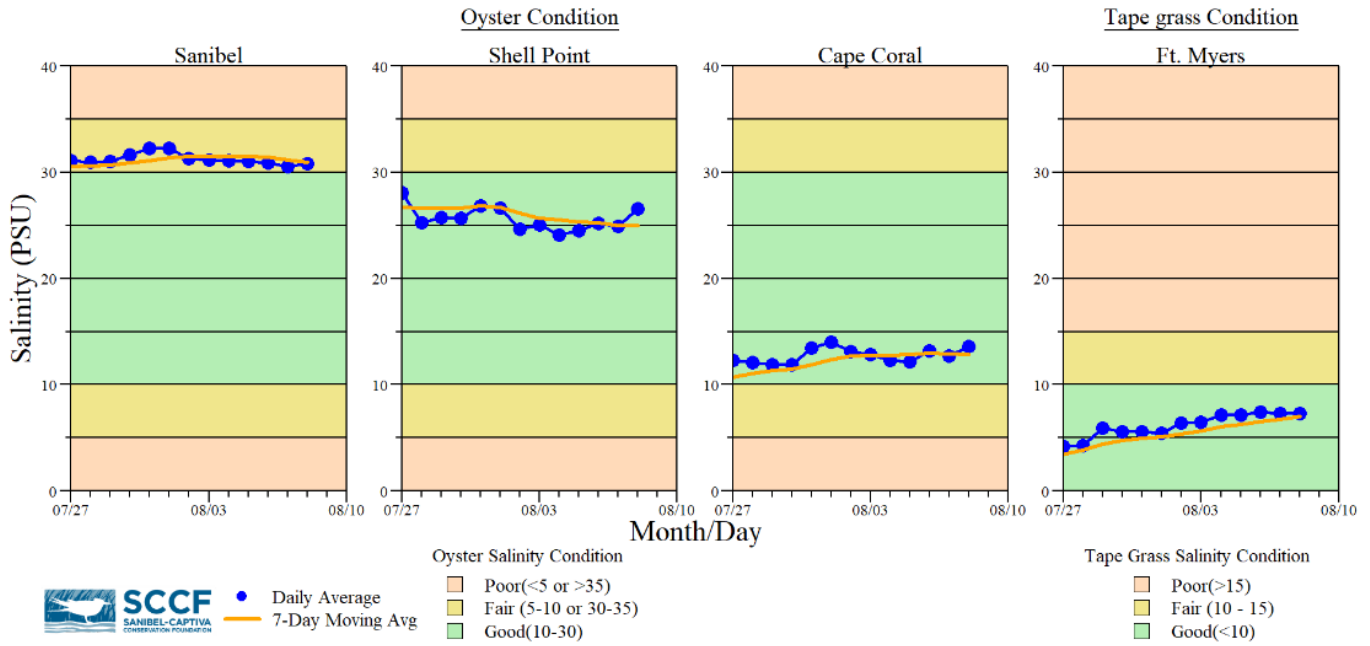
Water Quality Conditions:

Monitor Site	Salinity (psu) ^a [previous week]	Diss O ₂ (mg/L) ^b	FDOM (qsde) ^c	Chlorophyll (µg/L) ^d
Beautiful Island	0.7 – 1.7 [0.3 – 1.7]	1.9 – 5.2	322	-----
Fort Myers Yacht Basin	4.2 – 6.3 [2.0 – 5.8]	2.9 – 6.4	267	-----
Shell Point	18 – 33 [16 – 33]	3.8 – 6.4	94.4	1.7
McIntyre Creek	27.7 – 30.8 [28.4 – 31.1]	2.2 – 9.9	-----	-----
Tarpon Bay	28.0 – 31.4 [28.3 – 33.5]	3.5 – 11.2	-----	-----
Wulfert Flats	29.1 – 30.3 [29.2 – 30.4]	3.3 – 8.5	-----	3.7 – 21.6

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 8/5/22, the FWC reported that the red tide organism, *Karenia brevis* was not observed in Southwest Florida over the past week

Wildlife Impacts: In the past week (8/2 – 8/8), the CROW wildlife hospital on Sanibel received 0 toxicosis patients.



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.



Water clarity at Lighthouse Beach Park on 8/8/22 at 1:12 PM on a falling tide (Low tide: -0.18 ft @ 5:50 PM). [Lighthouse Beach Park Virtual Tour](#).