

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 26 – August 1, 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 **562 cfs** at **S-79** with a 7-day average of **52 cfs (9%)** coming from the lake at **S-77**. **The 14-day moving average flow at S-79 is 887 cfs and has been in the optimal flow envelope (750 - 2100 cfs; RECOVER 2020) for 37 days.**

Recommendation: To keep the Caloosahatchee River and Estuary in the optimal salinity envelope and to avoid unnecessary stress, 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).

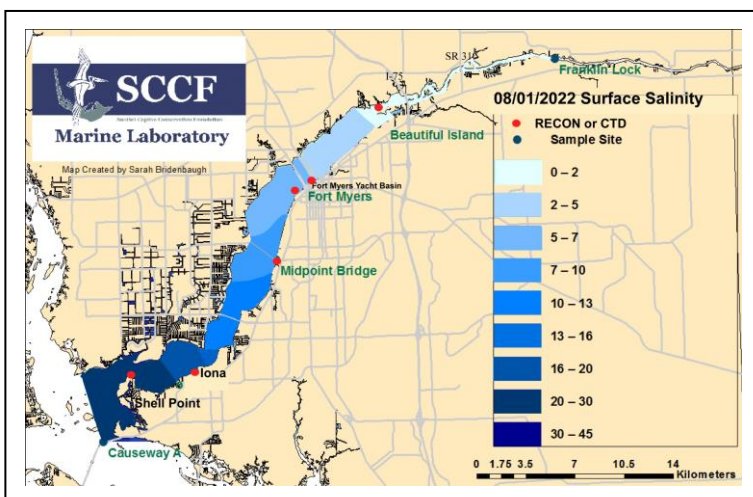
Lake Flows: In the past 7 days the total outflow from Lake Okeechobee was **1,670 AF** with **666 AF** to the Caloosahatchee through **S-77**, **482 AF** through **S-310** in Clewiston, and **0 AF** to the EAA through **S-351**, **S-352**, and **S-354**. The total net inflow to the Lake was **5,775 AF** (4,733 AF from Fisheating Creek, S-71, S-72, S-84s, S-65EX, and S-65EX1) with a total backflow volume of **1,043 AF** from **S310** and **S308**. Water conservation areas received flows of **4,871 AF**, **5,455 AF**, and **8,523 AF** at **WCA1**, **WCA2**, and **WCA3**, respectively. Everglades National Park received **20,190 AF**.

Lake Level: 12.94 ft (Base Flow sub-band) Last Week: 13.02 ft Last Year: 13.72 ft

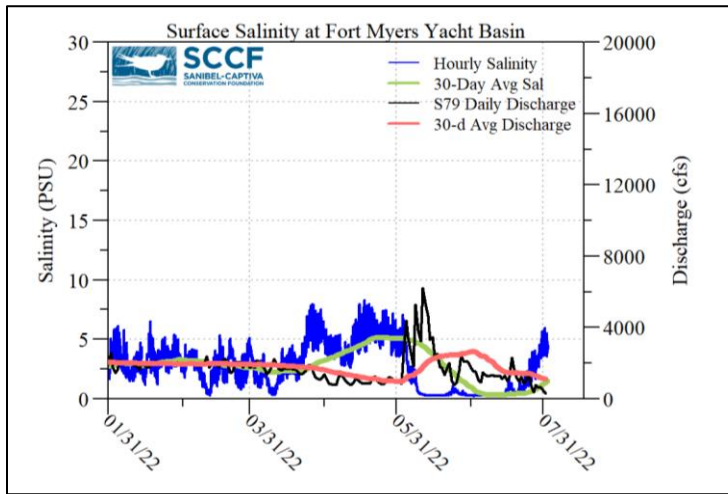
Lake Okeechobee Inflow: 474 cfs Lake Okeechobee Outflow: 196 cfs

Weekly Rainfall Total: WP Franklin ≥ 0.30" Ortona 0.08" Moore Haven ≥ 0.00"

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



ACOE Daily Reports			
Date	S79 Flow (cfs)	S78 Flow (cfs)	S77 Flow (cfs)
7/26/22	728	149	0
7/27/22	351	147	0
7/28/22	785	146	0
7/29/22	617	147	0
7/30/22	656	147	0
7/31/22	475	43	263
8/1/22	321	210	100
7-day avg	562	141	52



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	1.71 ^c	> 2.2	1.3	< 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 8/1/22 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 *Microcystis* and *Dolichospermum* upstream of the **Franklin Locks** with visible specks and yellow scum along the locks. *Microcystis* and *Dolichospermum* were **moderately abundant** at the **Davis Boat Ramp** with streaks and some accumulation long the seawall.

Upper Estuary Conditions: The 30-day average surface salinity at the Fort Myers Yacht Basin was 1.3 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.

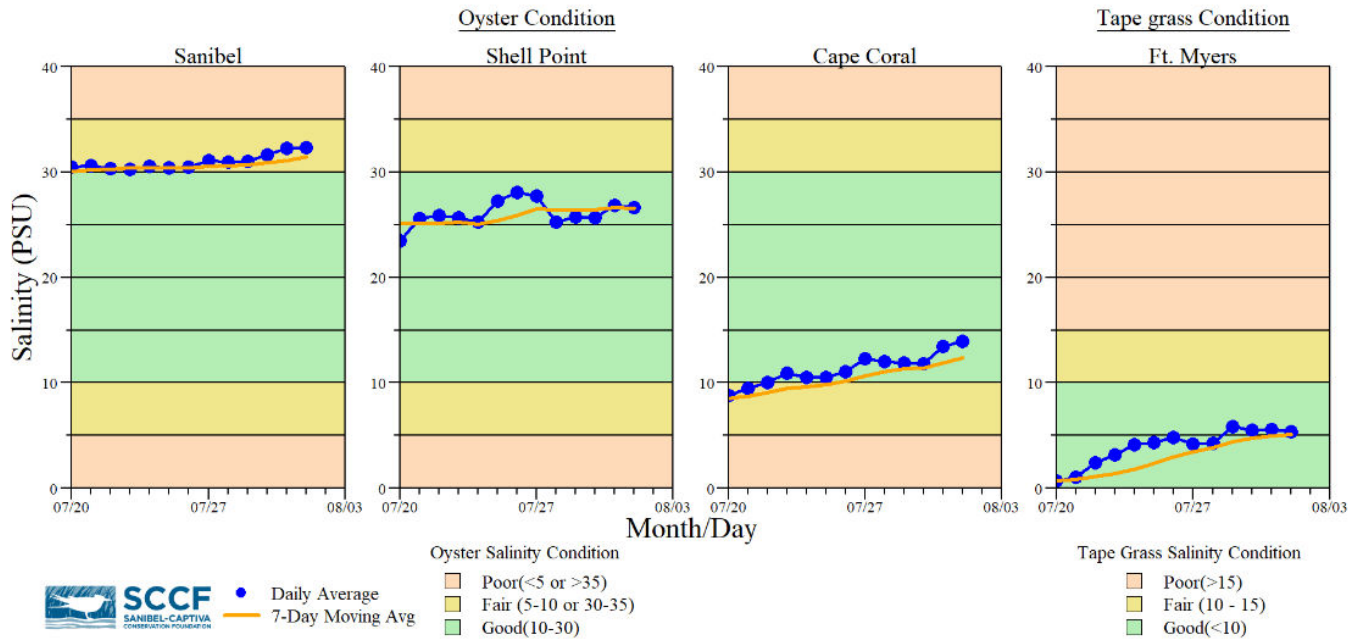
Water Quality Conditions:

Monitor Site	Salinity (psu) ^a [previous week]	Diss O ₂ (mg/L) ^b	FDOM (qsde) ^c	Chlorophyll (µg/L) ^d
Beautiful Island	0.3 – 1.7 [0.3 – 0.4]	1.7 – 5.9	351	-----
Fort Myers Yacht Basin	2.0 – 5.8 [0.4 – 2.5]	1.9 – 5.5	269	-----
Shell Point	16 – 33 [14 – 31]	3.7 – 6.7	89.9	1.8
McIntyre Creek	28.4 – 31.1 [28.3 – 30.4]	1.9 – 9.2	-----	-----
Tarpon Bay	28.3 – 33.5 [27.3 – 31.3]	4.2 – 11.3	-----	-----
Wulfert Flats	29.2 – 30.4 [27.6 – 30.1]	3.1 – 7.4	-----	3.4 – 25.6

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 7/29/22, 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 two weeks (7/18 – 8/1), the CROW wildlife hospital on Sanibel received 1 toxicosis patient: 1 brown pelican (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.



Water clarity at Lighthouse Beach Park on 8/2/22 at 2:18 PM on a rising tide (High tide: 2.70 ft @ 3:42 PM). [Lighthouse Beach Park Virtual Tour.](#)



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A large patch of marine snow (above) in the Gulf of Mexico near Sanibel Island on 7/31/22. *Ralph Arwood & Calusa Waterkeeper.*

There were several diatom species in one marine snow patch, with *Rhizosolenia* as the dominant species. Other species observed include *Proboscia*, *Pseudosolenia*, *Chaetoceros*, *Stephanopyxis*, *Hemiaulus* cf., *Skeletonema*, *Fragillariopsis*, and *Palmerina hardmaniana*. The dinoflagellates were mainly *Ceratium* species (5 distinct types) and one *Proto-peridinium*.

Right, from top to bottom: *Palmerina hardmaniana*. *Ceratium* sp., *Pseudosolenia* sp., and *Hemiaulus* sp. SCCF.

