

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: **September 6 – 12, 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 **2498 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 2894 cfs and has been in the **damaging** flow envelope (>2600 cfs; RECOVER 2020) for 6 days.**

Recommendation: Recently, local basin runoff has resulted in 14-day average flows >2,600 cfs at S-79, which is in the RECOVER 2020 damaging flow envelope for the Caloosahatchee Estuary. Therefore, we support the current release schedule of 0 cfs at S-77 while excessive basin runoff conditions persist.

USACE Action: On 9/10/22 the USACE reduced target flows at the W.P. Franklin Lock and Dam (S-79) to a 7-day average pulse release of 0 cfs from the previous target of 457 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).

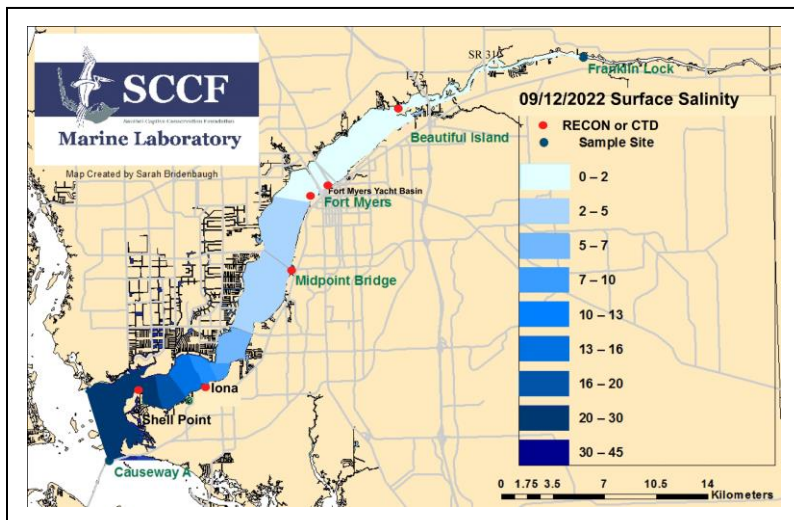
Lake Flows: In the past 7 days the total outflow from Lake Okeechobee was **4,547 AF** with **0 AF** to the Caloosahatchee through **S-77**, **630 AF** through **S-310** in Clewiston, and **2,807 AF** to the EAA through **S-351**, **S-352**, and **S-354**. The total net inflow to the Lake was **10,521 AF** (10,397 AF from Fisheating Creek, S-71, S-72, S-84s, S-65EX, and S-65EX1) with a total backflow volume of **123 AF** from **S310 and C10A**. Water conservation areas received flows of **50 AF**, **492 AF**, and **2,819 AF** at **WCA1**, **WCA2**, and **WCA3**, respectively. Everglades National Park received **6,236 AF**.

Lake Level: 12.56 ft (Water shortage management band) **Last Week:** 12.53 ft **Last Year:** 14.87 ft

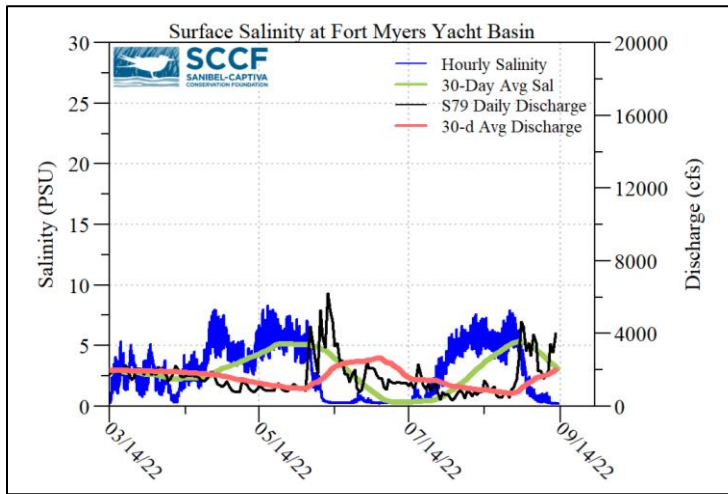
Lake Okeechobee Inflow: 896 cfs **Lake Okeechobee Outflow:** 0 cfs

Weekly Rainfall Total: **WP Franklin ≥ 3.22"** **Ortona ≥ 3.27"** **Moore Haven ≥ 0.48"**

7-Day Lake Recession Rate: +0.03 ft/week



ACOE Daily Reports			
Date	S79 Flow (cfs)	S78 Flow (cfs)	S77 Flow (cfs)
9/6/22	1938	294	0
9/7/22	1510	315	0
9/8/22	1634	89	0
9/9/22	1970	113	0
9/10/22	3432	321	0
9/11/22	2981	496	0
9/12/22	4023	742	0
7-day avg	2498	339	0



Light Penetration				
Site	25% Iz	Target Values	Turbidity	Target Values
	meters		NTU	
Fort Myers	ND	> 1	ND	< 18
Shell Point	1.37 ^c	>2.2	1.7	< 18
Causeway	2.40 ^c	> 2.2	2.4	< 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 9/12/22 sampling for cyanobacteria by the Lee County Environmental Lab reported the presence of *Microcystis* upstream of the Franklin Locks as sparse specks and slight accumulation along the lock. *Microcystis* was moderately abundant at the Davis Boat Ramp as sparse specks and slight accumulation along the ramp.

Upper Estuary Conditions: The 30-day average surface salinity at the Fort Myers Yacht Basin was 3.6 psu, within the suitable range for tape grass.

Lower Estuary Conditions: The average salinity at Shell Point RECON was 22 psu, within the optimal range for oysters but below optimal for seagrass. The dominant net phytoplankton at the Causeway on 9/12/22 was *Rhizosolenia* (40,000 cells/L).

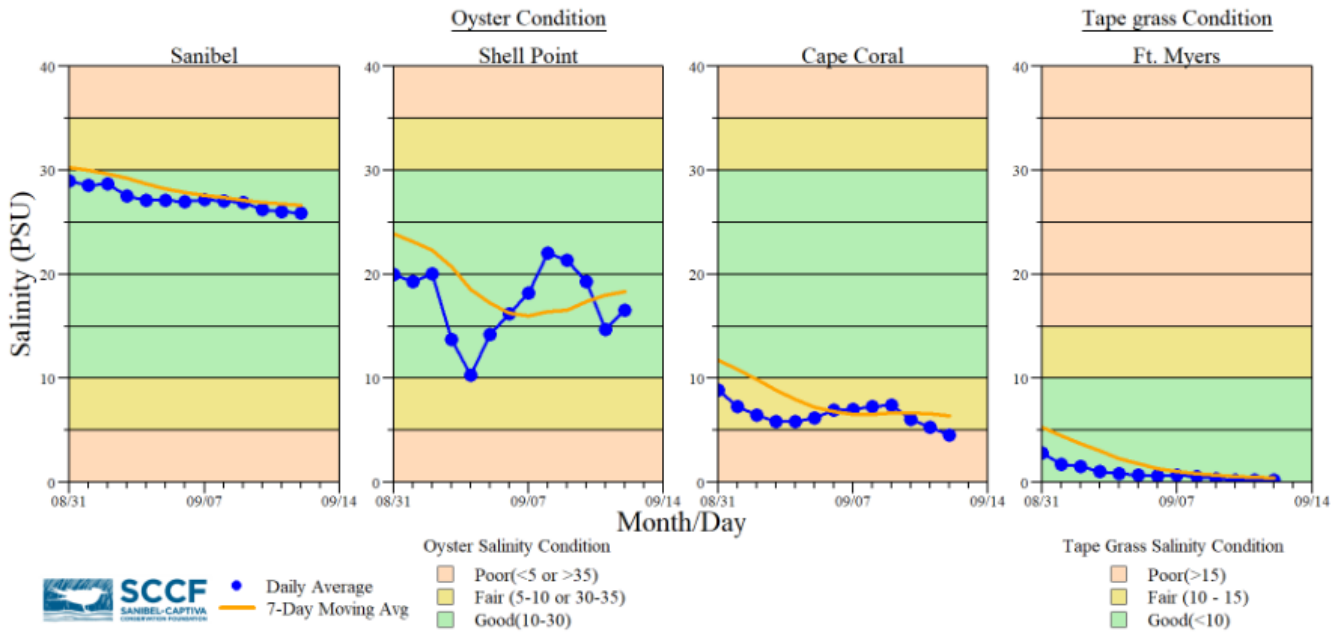
Water Quality Conditions:

Monitor Site	Salinity (psu) ^a [previous week]	Diss O ₂ (mg/L) ^b	FDOM (qsde) ^c	Chlorophyll (µg/L) ^d
Beautiful Island	0.2 – 0.2 [0.2 – 1.3]	1.5 – 4.7	300	8.1
Fort Myers Yacht Basin	0.2 - 1.3 [0.4 – 4.2]	3.8 – 5.7	303	-----
Shell Point	11 – 31 [11 – 31]	3.2 – 6.4	112	2.1
McIntyre Creek	21.2 – 28.9 [23.1 – 31.8]	0.4 – 5.8	-----	-----
Tarpon Bay	25.4 – 33.1 [25.2 – 33.3]	2.8 – 9.2	-----	-----
Wulfert Flats	25.1 – 29.7 [30.0 – 31.4]	2.0 – 8.2	-----	5.1 – 38.8

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

Wildlife Impacts: In the past week (9/6 – 9/12), the CROW wildlife hospital on Sanibel received no patients with toxicosis symptoms.



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 9/12/22 at 1:38 PM on a rising tide (High tide: 2.89 ft @ 2:29 PM). [Lighthouse Beach Park Virtual Tour.](#)