

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 20 – 26, 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 **6918 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 6550 cfs and has been in the **damaging** flow envelope (>2600 cfs; RECOVER 2020) for 20 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 **158 AF** with **0 AF** to the Caloosahatchee through **S-77**, **158 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 **115,256 AF** (104,176 AF from Fisheating Creek, S-71, S-72, S-84s, S-65EX, and S-65EX1) with a total backflow volume of **11,081 AF** from **S310**, **C10A**, and **S308**. Water conservation areas received flows of **17,347 AF**, **51,802 AF**, and **27,784 AF** at **WCA1**, **WCA2**, and **WCA3**, respectively. Everglades National Park received **8,190 AF**.

Lake Level: **13.18 ft (Base flow sub-band)**

Last Week: **12.86 ft**

Last Year: **15.43 ft**

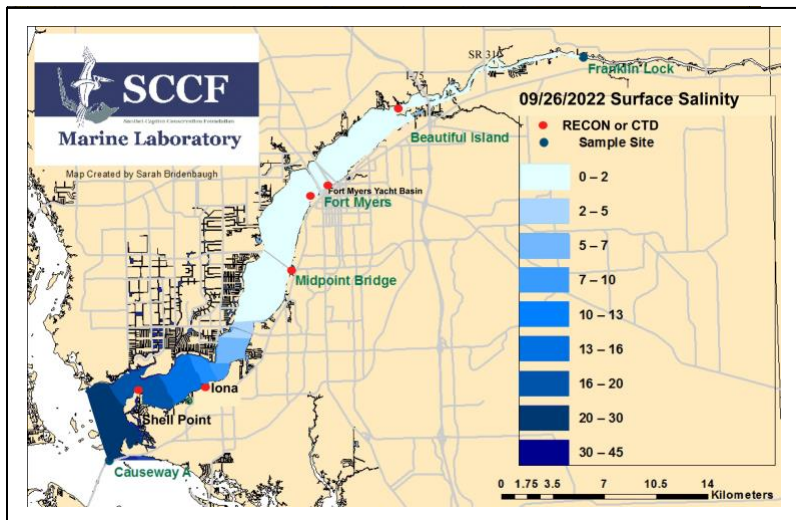
Lake Okeechobee Inflow: **9938 cfs**

Lake Okeechobee Outflow: **169 cfs**

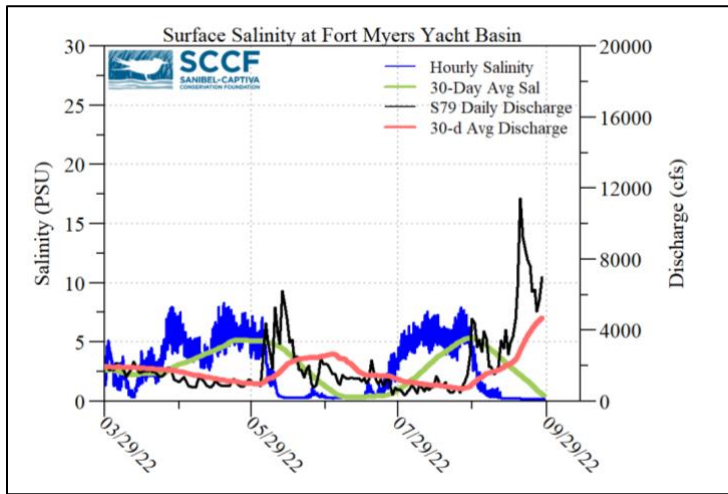
Weekly Rainfall Total: **WP Franklin ≥ 0.97 Ortona ≥ 0.36"**

Moore Haven ≥ 0.05"

7-Day Lake Recession Rate: **+0.32 ft/week**



ACOE Daily Reports			
Date	S79 Flow (cfs)	S78 Flow (cfs)	S77 Flow (cfs)
9/20/22	8647	2143	0
9/21/22	7972	2179	0
9/22/22	7610	1818	0
9/23/22	6173	1366	0
9/24/22	6282	1647	0
9/25/22	5056	1064	0
9/26/22	6687	1606	0
7-day avg	6918	1689	0



Light Penetration				
Site	25% I _z	Target Values	Turbidity	Target Values
	meters		NTU	
Fort Myers	ND	> 1	ND	< 18
Shell Point	0.74 ^c	>2.2	1.5	< 18
Causeway	1.11 ^c	> 2.2	0.8	< 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 9/26/22 sampling for cyanobacteria by the Lee County Environmental Lab reported the presence of *Microcystis* and *Planktothrix* upstream of the **Franklin Locks** as visible specks. *Microcystis* was present at the **Davis Boat Ramp** as sparse visible specks.

Upper Estuary Conditions: The 30-day average surface salinity at the Fort Myers Yacht Basin was 1.0 psu, within the suitable range for tape grass. The FDOM concentration increased by 100 qsde with the extra runoff.

Lower Estuary Conditions: The average salinity at Shell Point RECON was 16 psu, within the optimal range for oysters but below optimal for seagrass. The minimum salinity was 1.2 psu, which, along with the large daily range is stressful for most estuarine organisms.

Water Quality Conditions:

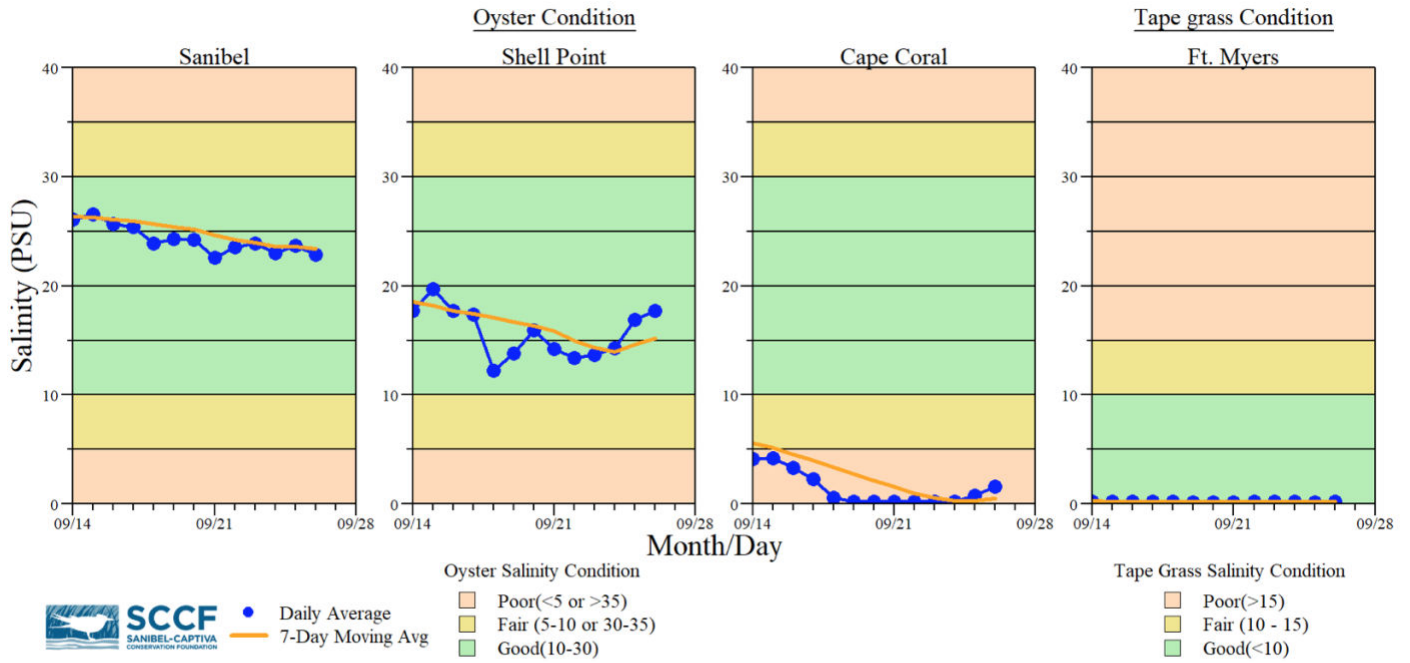
Monitor Site	Salinity (psu) ^a [previous week]	Diss O ₂ (mg/L) ^b	FDOM (qsde) ^c	Chlorophyll (µg/L) ^d
Beautiful Island	0.2 – 0.2 [0.2 – 0.2]	1.9 – 4.8	422	8.3
Fort Myers Yacht Basin	0.2 – 0.2 [0.2 – 0.2]	3.4 – 5.2	410	-----
Shell Point	1.2- 28 [3.0 – 29]	2.7 – 7.3	229	4.5
McIntyre Creek	-----	-----	-----	-----
Tarpon Bay	-----	-----	-----	-----
Wulfert Flats	-----	-----	-----	-----

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 9/23/22, the FWC reported that the red tide organism, *Karenia brevis* was not in samples collected statewide over the past week.

Wildlife Impacts: In the past week (9/20 – 9/26) the CROW wildlife hospital on Sanibel received 5 patients with toxicosis symptoms: 1 brown pelican (died), 1 double crested cormorant (died), 2 laughing gulls (1 died, 1 still at CROW), and 1 ruddy turnstone (still at CROW).

Shellfish Advisory: Shellfish harvest areas #4202 Lower Tampa Bay #5602 Lemon Bay #5802 Gasparilla Sound #6212 #6222 #6232 Pine Island Section 1 & 2 & 3 #6602 Ten Thousand Island Shellfish Harvest Area are **CLOSED** by the Florida Department of Agriculture and Consumer Services (FDACS) as of 9/27/22 due to Hurricane Ian.



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 9/26/22 at 1:45 PM on a high tide (high tide: 2.94 ft @ 1:25 PM). [Lighthouse Beach Park Virtual Tour.](#)