

MEMORANDUM

To: USACE Colonel Andrew D. Kelly, LTC Todd F. Polk, Richard McMillen, Kim Taplin, SFWMD Governing Board, Executive Director Drew Bartlett, Jennifer Reynolds, Lawrence Glenn, DEP Interim 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
 James Evans, Leah Reidenbach, & Rick Bartleson PhD - SCCF (Sanibel-Captiva Conservation Foundation)

Subject: Caloosahatchee & Estuary Conditions Report

Reporting Period: **September 21 – 27, 2021**

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: Flows to the Caloosahatchee Estuary had a 7-day average of **8,874 cfs** at S-79 with a 7-day average of **0 cfs** coming from the lake at **S-77**. **The 14-day moving average flow at S-79 is 6,597 cfs and has been in the damaging flow envelope (>2,600; RECOVER 2020) for 11 days.**

Recommendation: With watershed flows above the damaging threshold at S-79, we request that the Corps continue to make no releases from Lake Okeechobee into the Caloosahatchee until watershed flows, as measured at S-79, fall within the optimum flow envelope of 750 – 2,100 cfs based on the RECOVER 2020 performance measure for salinity.

USACE Action: On Saturday, 5/29/21 the USACE decreased targeted flows to a 7-day average of 1,000 cfs (pulse) to the Caloosahatchee Estuary as measured at the WP Franklin Lock & Dam (S-79) and continued no releases to the St. Lucie Lock and Dam (S-80).

Lake Flows: In the past 7 days the total outflow from Lake Okeechobee was **0 AF** with **0 AF** to the Caloosahatchee through **S-77** and **0 AF** to the EAA through **S-351, S-352, and S-354**. The total net inflow to the Lake was **136,878 AF** (131,948 AF from Fisheating Creek, S-71, S-72, S-84s, S-65EX, and S-65EX1) with a total backflow volume of **4,930 AF** from **S310 and C10A**. Water conservation areas received flows of **20,475 AF, 50,569 AF, and 29,387 AF** at **WCA1, WCA2, and WCA3**, respectively. Everglades National Park received **8,394 AF**.

Lake Okeechobee Level: 15.47 ft (Low sub-band)

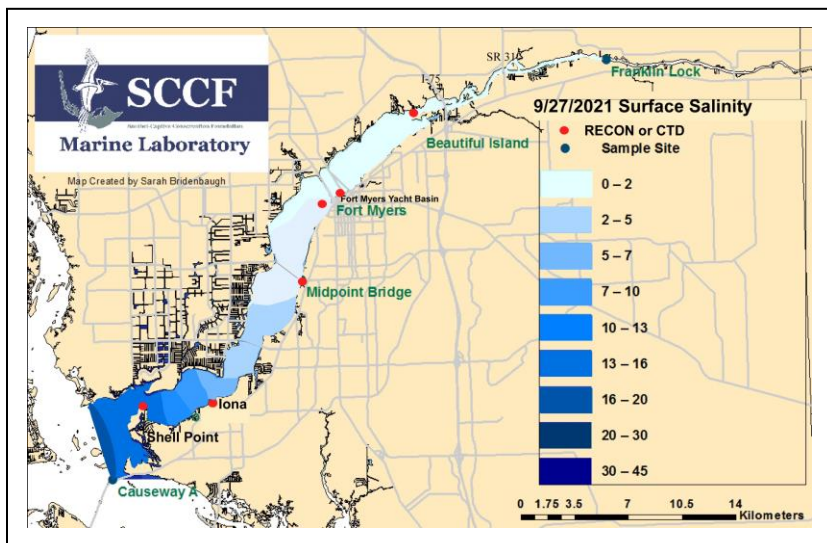
Last Week: 15.06 ft

Lake Okeechobee Inflow: 11,061 cfs

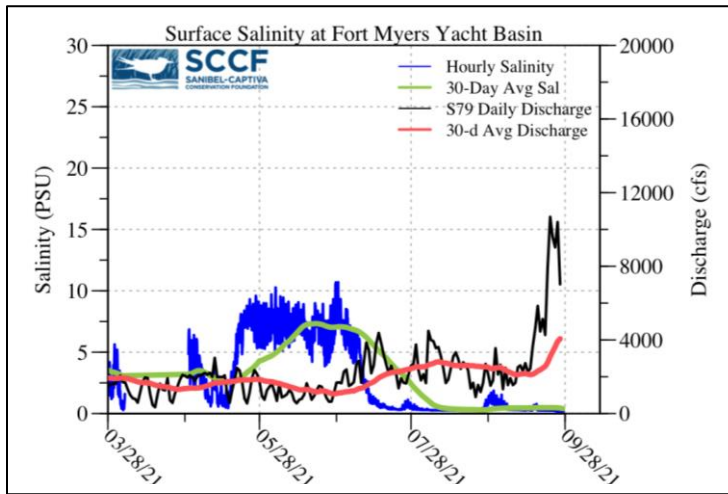
Lake Okeechobee Outflow: 0 cfs

Weekly Rainfall Total: WP Franklin 2.00" Ortona 1.89"

Moore Haven ≥4.31"



ACOE Daily Reports			
Date	S79 Flow (cfs)	S78 Flow (cfs)	S77 Flow (cfs)
9/21/21	6602	2607	0
9/22/21	10678	3879	0
9/23/21	9564	3811	0
9/24/21	9047	4385	0
9/25/21	10378	4381	0
9/26/21	7699	3412	0
9/27/21	6602	2282	0
7-day avg	8874	3537	0



Light Penetration				
Site	25% Iz	Target Values	Turbidity	Target Values
	meters		NTU	
Fort Myers	0.41 ^c	> 1	2.2	< 18
Shell Point	0.74 ^c	>2.2	1.4	< 18
Causeway	1.05 ^c	> 2.2	1.6	< 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 9/28/21 sampling for cyanobacteria by the Lee County Environmental Lab reported no visible cyanobacteria in the Caloosahatchee.

Upper Estuary Conditions: The 30-day average surface salinity at the Fort Myers Yacht Basin was **0.4 psu**, within the suitable range for tape grass. The diatom *Gomphonema* was the dominant phytoplankton (28,000 cells/L) at Ft. Myers RECON on 9/22/21 and was also abundant at the Midpoint Bridge on 9/26/21.

Lower Estuary Conditions: The average salinity at Shell Point RECON was **15 psu**, within the optimal range for oysters, but **below optimal for seagrass**. The large swings in salinity are harmful to seagrasses and other estuarine species. The diatom *Thalassiosira* was dominant (120,000 cells/L) at the Sanibel boat ramp on 9/26/21.

Water Quality Conditions

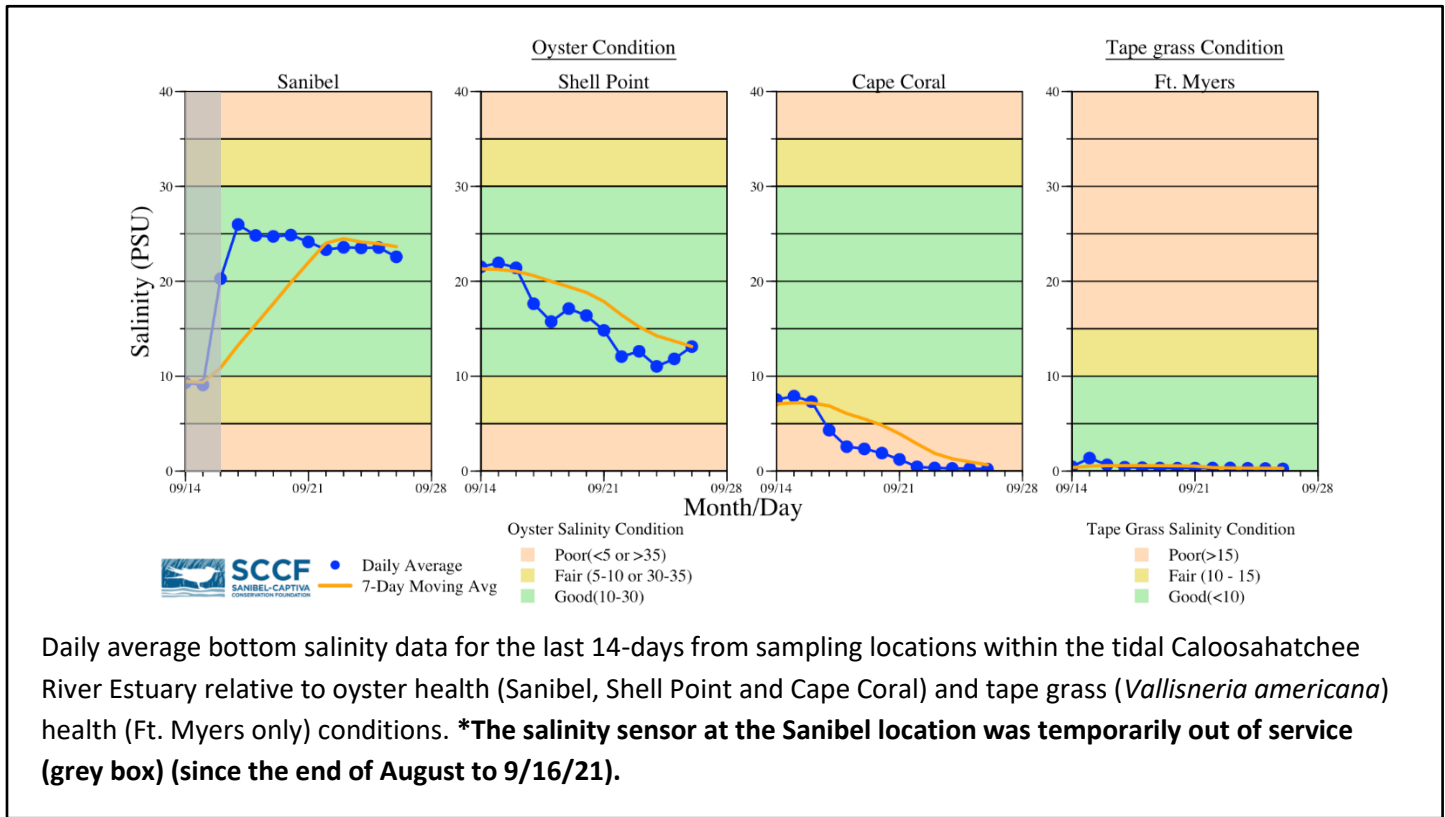
Monitor Site	Salinity (psu) ^a [previous week]	Diss O ₂ (mg/L) ^b	FDOM (qsde) ^c	Chlorophyll (µg/L) ^d
Beautiful Island	0.2 – 0.3 [0.3 – 0.3]	2.6– 4.4	345	8.3
Fort Myers Yacht Basin	0.2 – 0.3 [0.3 – 0.9]	3.2 – 5.8	361	9.0
Shell Point	1.1 – 27 [7.2 – 30]	3.9 – 6.1	229	3.6
McIntyre Creek	17.1 – 25.1	1.9 – 15.2	6.3 – 21.2	0.1 – 0.9
Tarpon Bay	19.3 – 28.4	3.2 – 10.0	12.1 – 26.8	-----
Wulfert Flats	18.2 – 25.5	1.5 – 9.0	-----	6.1 – 28.3

- Red values are outside of the preferred range.
- ^a Salinity target values: BI < 5, FM < 10, SP = 10 – 25
- ^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

Red Tide: On 9/10/21, the FWC reported that a patchy bloom of the red tide organism, *Karenia brevis*, persists along Florida’s Gulf Coast. Over the past week, *K. brevis* was detected in 49 samples. Bloom concentrations (>100,000 cells/liter) were observed in 20 samples: one in Okaloosa County, two in Walton County, 10 in and offshore of Pinellas County, two in Manatee County, three offshore of Sarasota County, and two in and offshore of Charlotte County.

In Southwest Florida over the past week, *K. brevis* was observed at background to high concentrations in or offshore of Pinellas County, background concentrations offshore of Hillsborough County, low to medium concentrations in Manatee County, background to medium concentrations in or offshore of Sarasota County, background to high concentrations in or offshore of Charlotte County, and **background concentrations in Lee County**.

Wildlife Impacts: In the past week, the CROW wildlife hospital on Sanibel received 3 toxicosis patients: 1 laughing gull (died), 1 mottled duck (still at CROW), and 1 ruddy turnstone.



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. ***The salinity sensor at the Sanibel location was temporarily out of service (grey box) (since the end of August to 9/16/21).**



The diatom *Gomphonema* was the dominant phytoplankton (28,000 cells/L) at Ft. Myers RECON on 9/22/21 and was also abundant at the Midpoint Bridge on 9/26/21. SCCF

Water clarity at Lighthouse Beach Park on 9/24/21 at 3:18 PM on a high tide (High tide: 2.42 ft @ 3:28 AM). [Lighthouse Beach Park virtual tour.](#)