

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 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: **October 12 – 18, 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.

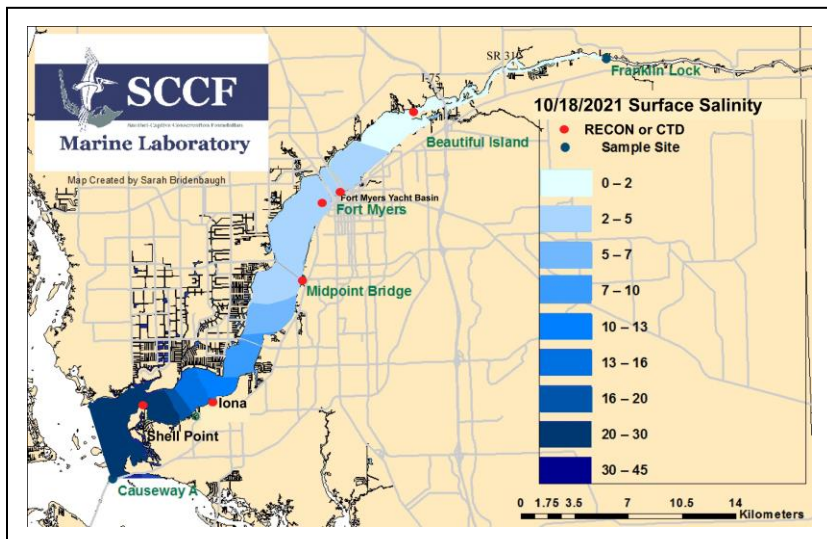
Caloosahatchee Conditions Summary: Flows to the Caloosahatchee Estuary had a 7-day average of **2,086 cfs** at S-79 with a 7-day average of **0 cfs** coming from the lake at **S-77**. **The 14-day moving average flow at S-79 is 2,178 cfs and has been in the stress flow envelope (2,100 – 2,600; RECOVER 2020) for 7 days.** The flow at S-79 has been above the optimal flow envelope for 40 days.

Recommendation: With watershed flows above the optimal 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.

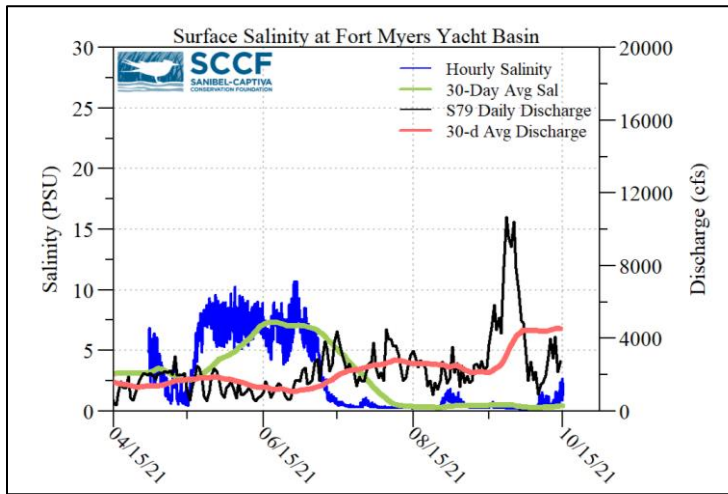
USACE Action: On Saturday, 5/29/21 the USACE decreased targeted flows to a 7-day average of 1,000 cfs (pulse) to the Caloosahatchee Estuary as measured at the WP Franklin Lock & Dam (S-79) and continued no releases to the St. Lucie Lock and Dam (S-80).

Lake Flows: In the past 7 days the net outflow from Lake Okeechobee was **1,228 AF** with **0 AF** to the Caloosahatchee through **S-77**, **417 AF** through **S-310** in Clewiston, and **781** to the EAA through **S-351**, **S-352**, and **S-354**. The total net inflow to the Lake was **61,146 AF** (56,383 AF from Fisheating Creek, S-71, S-72, S-84s, S-65EX, and S-65EX1) with a net backflow volume of **4,763 AF** from **C10A**. Water conservation areas received flows of **11,638 AF**, **17,333 AF**, and **16,506 AF** at **WCA1**, **WCA2**, and **WCA3**, respectively. Everglades National Park received **14,729 AF**.

Lake Okeechobee Level: 15.86 ft (Low sub-band) **Last Week:** 15.83 ft
Lake Okeechobee Inflow: 3,153 cfs **Lake Okeechobee Outflow:** 394 cfs
Weekly Rainfall Total: WP Franklin **0.00"** Ortona **0.00"** Moore Haven **0.31"**



ACOE Daily Reports			
Date	S79 Flow (cfs)	S78 Flow (cfs)	S77 Flow (cfs)
10/12/21	4076	591	0
10/13/21	2160	644	0
10/14/21	2758	629	0
10/15/21	1301	216	0
10/16/21	1333	0	0
10/17/21	1482	332	0
10/18/21	1489	292	0
7-day avg	2086	386	0



Light Penetration				
Site	25% I _z	Target Values	Turbidity	Target Values
	meters		NTU	
Fort Myers	0.52 ^c	> 1	1.5	< 18
Shell Point	1.07 ^c	>2.2	1.2	< 18
Causeway	1.33 ^c	> 2.2	4.5	< 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 10/19/21 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 **0.7 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.

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 – 0.4 [0.2 – 0.2]	2.1 – 3.3	358	7.5
Fort Myers Yacht Basin	0.4 - 3.8 [0.2 – 1.6]	3.6 – 5.6	311	6.8
Shell Point	11 - 31 [12 – 31]	4.4 – 6.2	136	4.2
McIntyre Creek	24.9 – 26.9	3.0 – 13.7	10.4 – 15.5	0.2 – 0.6
Tarpon Bay	21.2 – 28.9	-----	12.1 – 20.3	-----
Wulfert Flats	25.7 – 27.4	3.0 – 8.5	-----	3.9 – 19.5

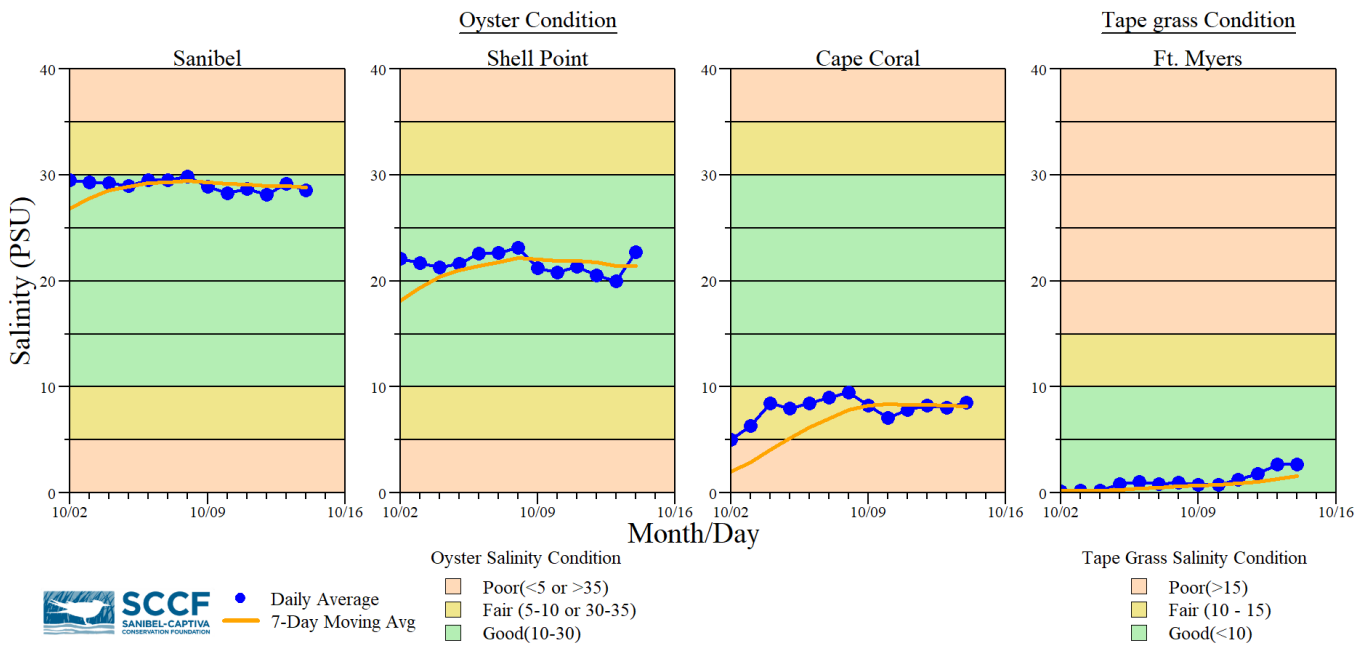
- Red values are outside of the preferred range.
- ^a Salinity target values: BI < 5, FM < 10, SP = 10 – 25
- ^b Dissolved O₂ target values: all sites > 4
- ^c FDOM target values: BI < 70, FM < 70, SP < 11
- ^d Chlorophyll target values: BI < 11, FM < 11, SP < 11
- ^s Single sonde lower and surface layer or surface grab lab measurement

Red Tide: On 10/15/21, 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 157 samples. **Bloom concentrations** (>100,000 cells/liter) were observed in 61 samples: one in Bay County, one in Franklin County, two in and offshore of Pasco County, 13 in and offshore of Pinellas County, 10 in and offshore of Manatee County, 30 in Sarasota County, one in Charlotte County, and **three in Lee County**. *K. brevis* was also detected at background concentrations along Florida’s East Coast.

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

Wildlife Impacts: In the past week, the CROW wildlife hospital on Sanibel received 1 toxicosis patient: 1 sanderling (died).

Beach Conditions: In the past week, the [FWC fish kill hotline](#) continues to receive numerous reports of fish kills from Sarasota (9 reports), Pinellas (7 reports), Manatee (4 reports), and Charlotte (2 reports) Lee (1 report) counties with red tide as the suspected cause. The FWC is also receiving fish kill reports in north west counties along the Gulf of Mexico related to red tide.



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.



Water clarity at Lighthouse Beach Park on 10/15/21 at 1:54 PM on a falling tide (Low tide: 0.33 ft @ 4:55 PM).