

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: **October 5 – 11, 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 **2,270 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 2,640 cfs and has been in the damaging flow envelope (>2,600; RECOVER 2020) for 25 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 net outflow from Lake Okeechobee was **130 AF** with **0 AF** to the Caloosahatchee through **S-77**, **130 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 **53,387 AF** (50,922 AF from Fisheating Creek, S-71, S-72, S-84s, S-65EX, and S-65EX1) with a net backflow volume of **2,465 AF** from **C10A**. Water conservation areas received flows of **7,380 AF**, **7,202 AF**, and **20,333 AF** at **WCA1**, **WCA2**, and **WCA3**, respectively. Everglades National Park received **11,018 AF\***.

\*data missing for ENP on 10/9 – 10/11.

**Lake Okeechobee Level:** 15.83 ft (Low sub-band)

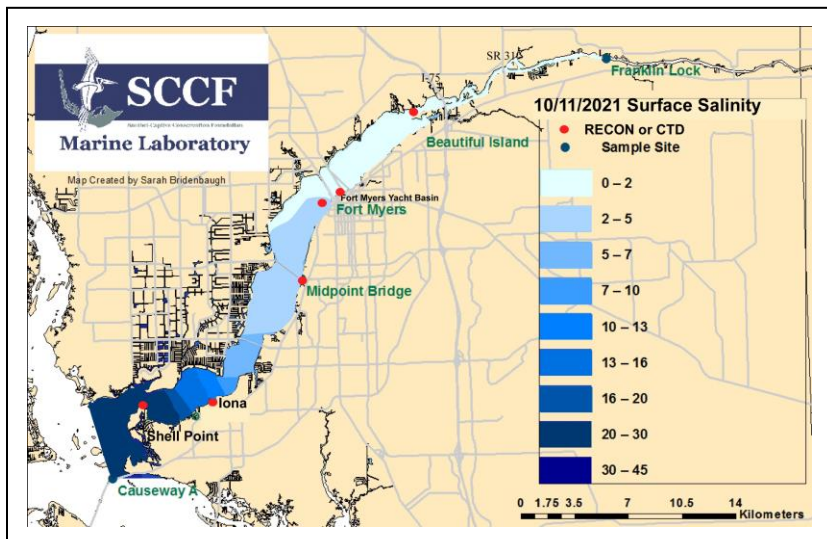
**Last Week:** 15.60 ft

**Lake Okeechobee Inflow:** 4,791 cfs

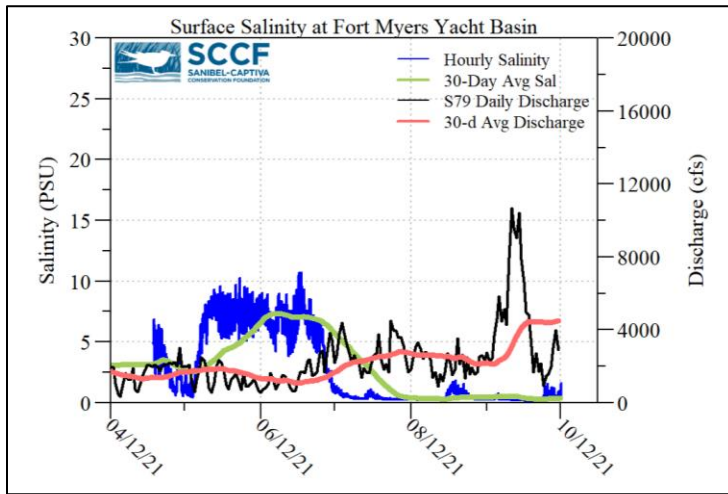
**Lake Okeechobee Outflow:** 0 cfs

**Weekly Rainfall Total:** WP Franklin **0.74"** Ortona **≥0.00"**

Moore Haven **≥0.98"**



ACOE Daily Reports			
Date	S79 Flow (cfs)	S78 Flow (cfs)	S77 Flow (cfs)
10/5/21	943	493	0
10/6/21	1491	496	0
10/7/21	1556	505	0
10/8/21	1980	498	0
10/9/21	3019	506	0
10/10/21	3985	498	0
10/11/21	2913	492	0
7-day avg	2270	498	0



Light Penetration				
Site	25% Iz	Target Values	Turbidity	Target Values
	meters		NTU	
Fort Myers	0.56 <sup>c</sup>	> 1	3.0	< 18
Shell Point	1.02 <sup>c</sup>	>2.2	2.2	< 18
Causeway	1.40 <sup>c</sup>	> 2.2	1.4	< 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.  
<sup>m</sup> measured, <sup>c</sup> calculated

**Cyanobacteria Status:** On 10/12/21 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.

**Lower Estuary Conditions:** The average salinity at Shell Point RECON was **23 psu**, within the optimal range for oysters, but **below optimal for seagrass**. Diatoms, including *Coscinodiscus* and *Palmerina*, were the dominant phytoplankton group in San Carlos Bay and into the Gulf on 10/8/21.

**Water Quality Conditions**

Monitor Site	Salinity (psu) <sup>a</sup> [previous week]	Diss O <sub>2</sub> (mg/L) <sup>b</sup>	FDOM (qsde) <sup>c</sup>	Chlorophyll (µg/L) <sup>d</sup>
Beautiful Island	0.2 – 0.2 [0.2 – 0.2]	2.3– 3.6	358	7.4
Fort Myers Yacht Basin	0.2 – 1.6 [0.2 – 0.2]	4.2 – 6.1	321	7.2
Shell Point	12 – 31 [1.1 – 30]	4.6– 6.4	147	3.0
McIntyre Creek	23.6 – 28.6	2.1 – 11.8	9.5 – 17.0	0.2 – 0.8
Tarpon Bay	23.9 – 32.8	7.9 – 10.2	7.5 – 19.4	-----
Wulfert Flats	22.9 – 27.6	3.1 – 8.7	-----	6.1 – 34.8

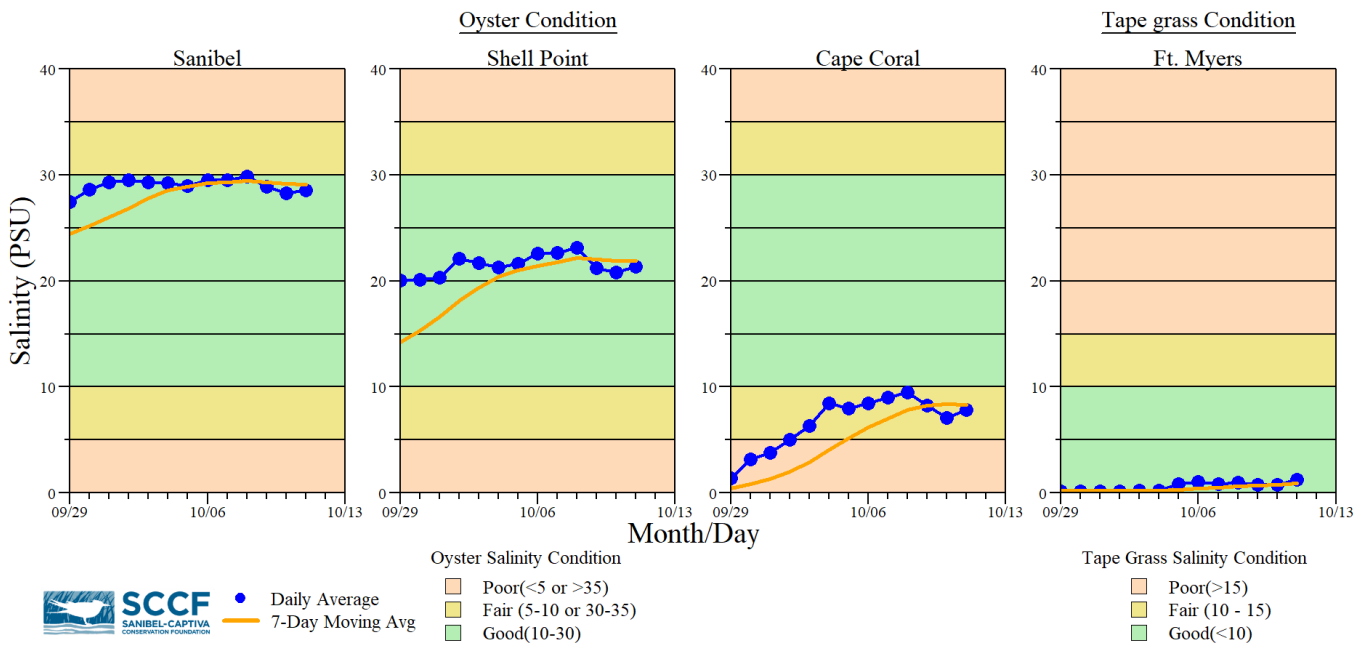
- Red** values are outside of the preferred range.
- <sup>a</sup> Salinity target values: BI < 5, FM < 10, SP = 10 – 25
- <sup>b</sup> Dissolved O<sub>2</sub> target values: all sites > 4
- <sup>c</sup> FDOM target values: BI < 70, FM < 70, SP < 11
- <sup>d</sup> Chlorophyll target values: BI < 11, FM < 11, SP < 11
- <sup>s</sup> Single sonde lower and surface layer or surface grab lab measurement

**Red Tide:** On 10/8/21, 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 129 samples. Bloom concentrations (>100,000 cells/liter) were observed in 47 samples: five in and offshore of Franklin County, two offshore of Dixie County, two offshore of Levy County, five in and offshore of Pasco County, 16 in and offshore of Pinellas County, five in Manatee County, 11 in Sarasota County, and one in 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 to high concentrations in Manatee County, background to high concentrations in or offshore of Sarasota County, background to high concentrations in Charlotte County, **and background and very low concentrations in Lee County.**

**Wildlife Impacts:** In the past week, the CROW wildlife hospital on Sanibel received 2 toxicosis patients: 1 royal tern (still at CROW) and 1 Anhinga (still at CROW).

**Beach Conditions:** In the past week, the [FWC fish kill hotline](#) continues to receive numerous reports of fish kills from Pinellas, Sarasota, and Charlotte Counties with red tide as the suspected cause.



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 10/12/21 at 12:23 PM on a falling tide (Low tide: 0.14 ft @ 1:25 PM). [Lighthouse Beach Park virtual tour.](#)