

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 & Jeremy Conrad - 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: **July 27 – August 2, 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 Condition Summary:** Flows to the Caloosahatchee Estuary had a 7-day average of **2,494 cfs at S-79** and a 7-day average of **0 cfs at S-77**. The 14-day moving average flow at S-79 is **2,214 cfs** and is within the stress flow envelope (2,100 – 2,600 cfs; RECOVER 2020). Water clarity around Sanibel and Lee County has declined with the higher flows from the watershed.

**Recommendation:** Local basin runoff into the Caloosahatchee is within the RECOVER 2020 stress flow envelope, with a 14-day average flow of 2,214 cfs and has been outside of the optimal flow envelope for 24 days. We request that the Corps continue to cease flow from S-77 until watershed flows drop within the optimal flow range.

**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 net outflow from Lake Okeechobee was **46 AF** with **0 AF** to the Caloosahatchee through **S-77**, **46 AF** through S-310 in Clewiston, and **0 AF** to the EAA through **S-351**, **S-352**, and **S-354**. The total net inflow was **5,010 AF** with a backflow of **1,146 AF** from the St. Lucie River through **S-308**, and a backflow of **3,864 AF** from the **L-8 canal**. Water Conservation Areas received flows of **14,815 AF**, **14,930 AF**, and **13,416 AF** at **WCA1**, **WCA2**, and **WCA3**, respectively. Everglades National Park received **4,850 AF**.

**Lake Okeechobee Level:** 13.73 ft (Low sub-band)

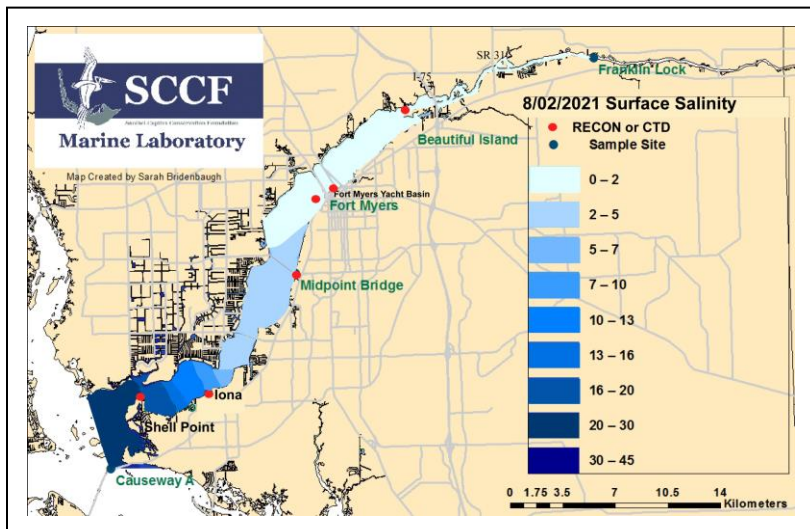
**Last Week:** 13.54 ft

**Lake Okeechobee Inflow:** 3,285 cfs

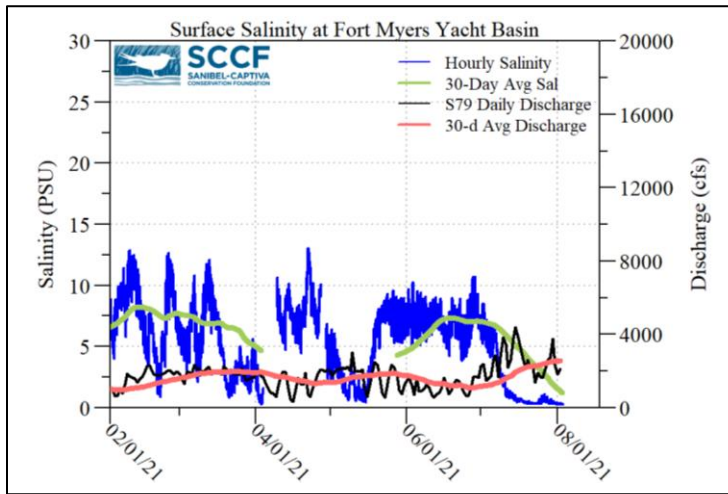
**Lake Okeechobee Outflow:** -216 cfs

**Weekly Rainfall Total:** WP Franklin 5.26" Ortona 2.58"

Moore Haven 2.09"



ACOE Daily Reports			
Date	S79 Flow (cfs)	S78 Flow (cfs)	S77 Flow (cfs)
7/27/21	2115	642	0
7/28/21	2595	791	0
7/29/21	2711	1126	0
7/30/21	3744	1710	0
7/31/21	2358	854	0
8/1/21	1803	593	0
8/2/21	2134	570	0
7-day avg	2494	898	0



Light Penetration				
Site	25% I <sub>z</sub>	Target Values	Turbidity	Target Values
	meters		NTU	
Fort Myers	0.86 <sup>c</sup>	> 1	4.3	< 18
Shell Point	1.75 <sup>c</sup>	>2.2	1.1	< 18
Causeway	1.85 <sup>m</sup>	> 2.2	1.1	< 5

25% I<sub>z</sub> 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 8/3/21 sampling for cyanobacteria by the Lee County Environmental Lab reported the presence of sparse specks of *Microcystis*, *Dolichospermum*, and *Cuspidothrix* at the Davis Boat Ramp (160 colonies/L). *Microcystis* was present as visible sparse specks at North Shore Park (40 colonies/L) with a light accumulation along the seawall.

**Upstream of S-79/Franklin Conditions:** On 8/3/21 the Olga Water Treatment plant reported chlorides of 57 mg/L, apparent color of 160 CU and turbidity of 1.68 NTU. No visible algae were reported. The plant is offline at 0 GPM.

**Upper Estuary Conditions:** The 30-day average surface salinity at the Fort Myers Yacht Basin was 1.4 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. Diatoms (*Leptocylindricus* sp. dominant) were abundant in recent samples around the Causeway.

**Water Quality Conditions**

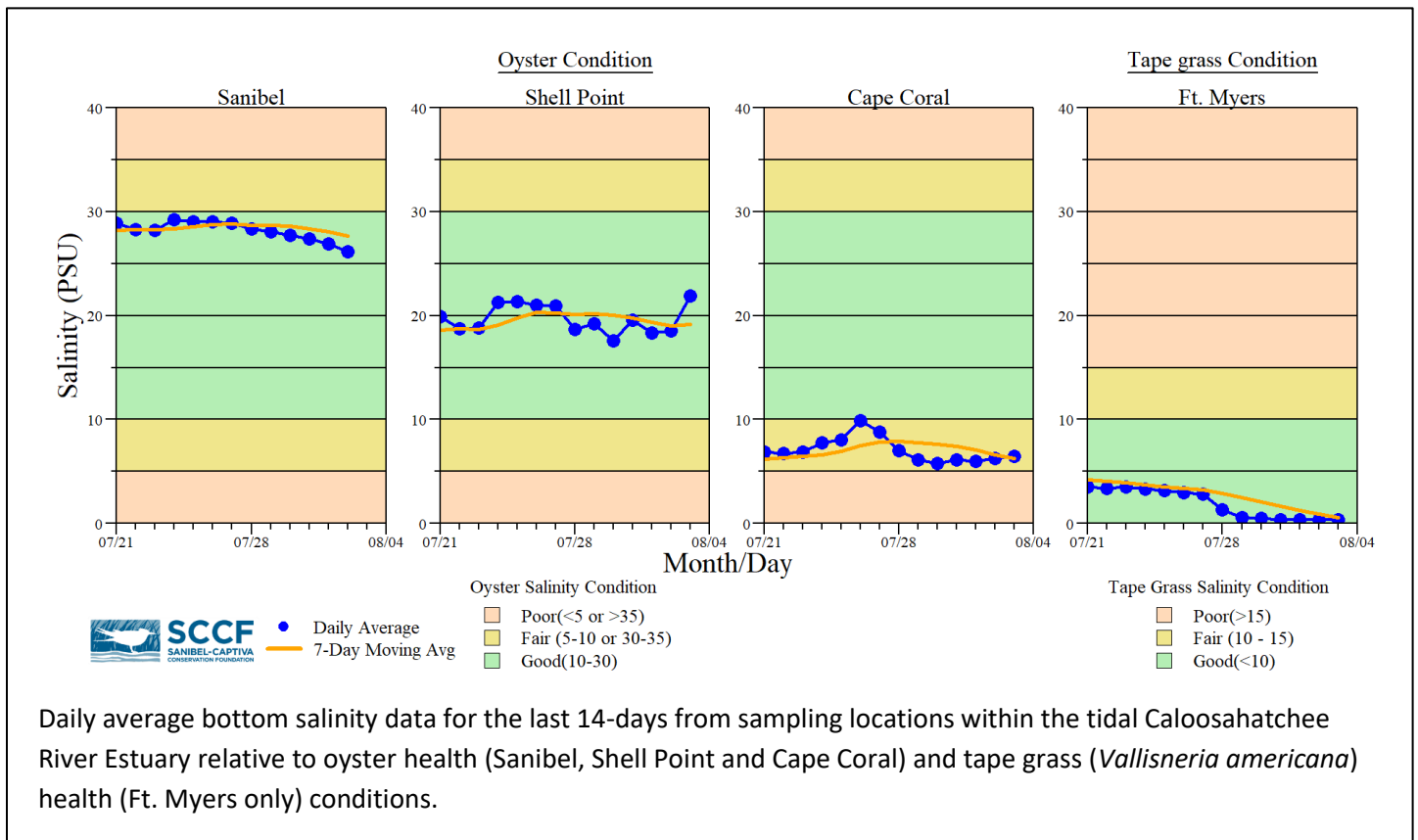
Monitor Site	Salinity (psu) <sup>a</sup> [previous week]	Diss O <sub>2</sub> (mg/L) <sup>b</sup>	FDOM (qsde) <sup>c</sup>	Chlorophyll (µg/L) <sup>d</sup>
Beautiful Island	0.3 – 0.3 [0.3 – 0.3]	ND	387	7.8
Fort Myers Yacht Basin	0.3 – 1.2 [0.3 – 1.0]	ND	334	ND
Shell Point	11 – 31 [10 – 32]	3.6 – 7.0	164	3.3
McIntyre Creek	27.3 – 29.4	2.6 – 12.9	6.1 – 10.1	1.2 – 5.4
Tarpon Bay	-----	-----	-----	-----
Wulfert Flats	28.1 – 29.5	3.0 – 9.1	-----	9.1 – 35.1

- 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 7/23/21, the FWC reported that a bloom of the red tide organism, *Karenia brevis*, persists on the Florida Gulf Coast and in Lower Tampa Bay. Conditions remain improved in other areas of Tampa Bay relative to prior weeks. Over the past week, *K. brevis* was detected in 103 samples. **Bloom concentrations (>100,000 cells/liter) were observed in 70 samples:** seven from Pasco County, 24 from Pinellas County, six from Manatee County, 27 from Sarasota County, four from Charlotte County, and 2 from Lee County.

*K. brevis* was observed at background to high concentrations in and offshore of Pinellas County, low to high concentrations in Manatee County, low to high concentrations in Sarasota County, medium to high concentrations in Charlotte County, **background to medium concentrations in and offshore of Lee County**, and background to very low concentrations in Collier County.

**Wildlife Impacts:** In the past week, the CROW wildlife hospital on Sanibel received 5 toxicosis patients: 2 great egrets (died), 1 anhinga (died), 1 black skimmer (still at CROW), and 1 black crowned night heron (still at CROW).



Water clarity at Lighthouse Beach Park on 8/3/21 at 10:40 AM on a falling tide (High tide: 2.87 ft @ 08:10 AM)

