

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  
 Leslie 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: **June 29 – July 5, 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 **1,905 cfs at S-79** and a 7-day average of **395 cfs at S-77**. The **14-day moving average flow at S-79 is 1,495 cfs and is within the optimal flow envelope (750 – 2,100 cfs; RECOVER 2020)**. Water clarity around Sanibel and Lee County remains good at this time.

**Recommendation:** With tropical storm conditions in coastal Southwest Florida, local basin runoff into the Caloosahatchee is expected to exceed targeted flows (1000 cfs) at S-79. During this time, we request that the Corps cease flow from S-77 until watershed flow dissipates.

**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:** Regional rainfall, increased groundwater tables, and basin runoff from communities around Lake Okeechobee backflowed into the lake at S-308, S-310, and C-10A have contributed to increased lake levels. In the past 7 days there was a net backflow of **3,283 AF** into Lake Okeechobee. There was backflow of **4,477 AF** through **S-308** at Port Mayaca, backflow of **1,212 AF** through **S-310** in Clewiston, and backflow of **359 AF** through **C-10A** at the L-8 canal. The Caloosahatchee received **2,765 AF** through **S-77**. **0 AF** went to the EAA through **S-351, S-352, and S-354**. Water conservation areas received flows of **11,018 AF, 27,429 AF, and 13,904 AF** at **WCA1, WCA2, and WCA3**, respectively. Everglades National Park received **591 AF**.

**Lake Okeechobee Level:** 12.95 ft (Base flow sub-band)

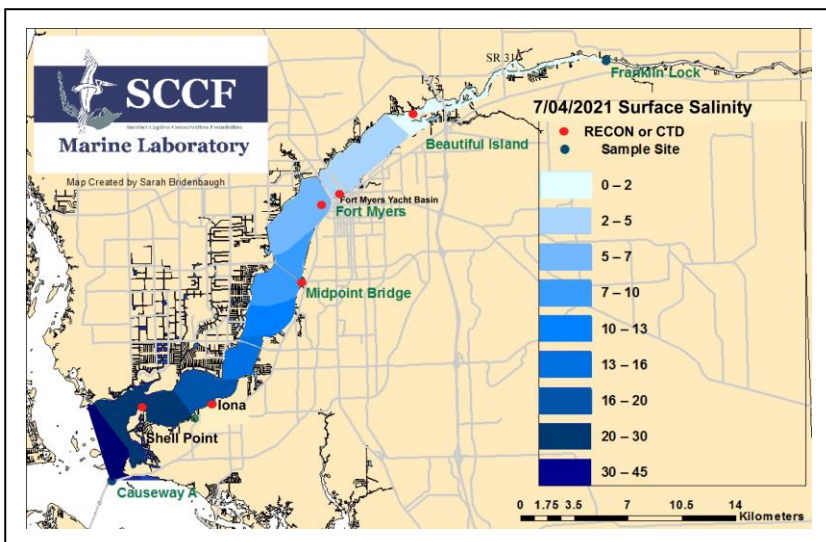
**Last Week:** 12.67 ft

**Lake Okeechobee Inflow:** 3,214 cfs

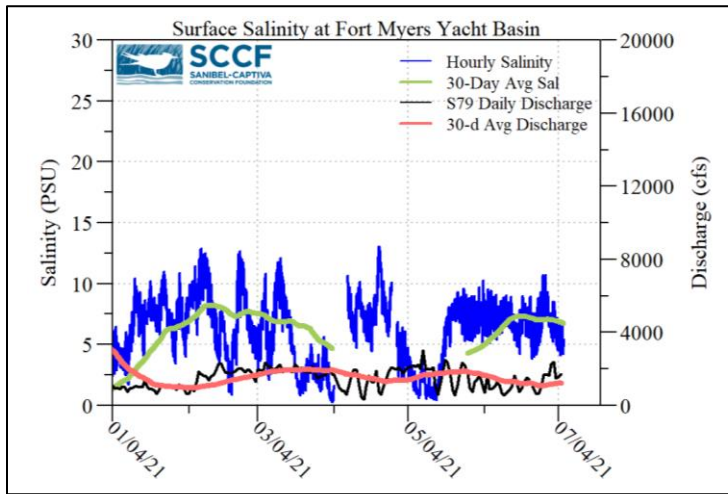
**Lake Okeechobee Outflow:** 0 cfs

**Weekly Rainfall Total:** WP Franklin 1.46" Ortona 1.33"

Moore Haven ≥ 2.22"



ACOE Daily Reports			
Date	S79 Flow (cfs)	S78 Flow (cfs)	S77 Flow (cfs)
6/29/21	1689	999	849
6/30/21	1647	1002	105
7/1/21	2272	1082	0
7/2/21	2939	1114	0
7/3/21	1501	782	350
7/4/21	1577	692	90
7/5/21	1712	820	0
<b>7-day avg</b>	<b>1905</b>	<b>927</b>	<b>199</b>



Light Penetration				
Site	25% Iz	Target Values	Turbidity	Target Values
	meters		NTU	
Fort Myers	1.35 <sup>c</sup>	> 1	2.2	< 18
Shell Point	2.18 <sup>c</sup>	>2.2	1.3	< 18
Causeway	1.89 <sup>m</sup>	> 2.2	2.1	< 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:** Sampling for cyanobacteria by the Lee County Environmental Lab was not conducted for this reporting period due to tropical storm conditions. The Florida Department of Health in Lee County issued a **Health Alert** for the presence of harmful blue-green algal toxins in **Orange River - Manatee Park** on 7/1/21 in response to a water sample take on 6/24/21 and for the **Davis Boat Ramp** on 7/2/21 in response to a water sample taken on 6/29/21.

**Upstream of S-79/Franklin Conditions:** On 7/6/21 the Olga Water Treatment plant reported chlorides of **60 mg/L**, apparent color **82 CU** and turbidity **2.92 NTU**. **Algae** presence is light. The plant is offline at 4 GPM.

**Upper Estuary Conditions:** The 30-day average surface salinity at the Fort Myers Yacht Basin was **6.9 psu**, within the suitable range for tape grass.

**Lower Estuary Conditions:** The average salinity at Shell Point RECON was **27 psu**, within the optimal range for oysters.

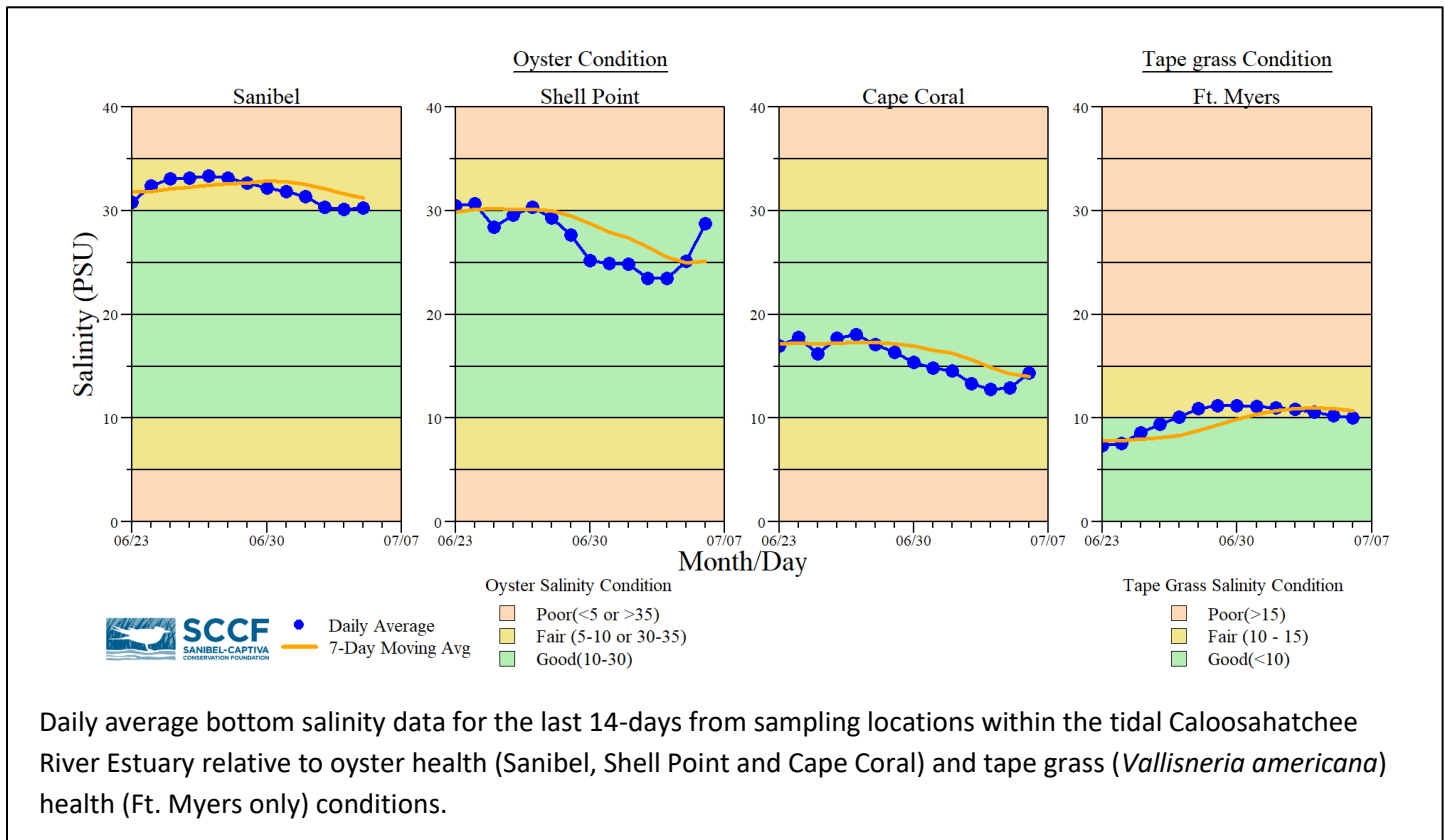
**Water Quality Conditions**

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	1.1 – 2.5 [1.0 – 2.4]	4.1– 7.7	191	8.9
Fort Myers Yacht Basin	4.1 – 10 [4.1 – 10]	2.3 – 7.3	162	7.2
Shell Point	18 – 34 [21 – 35]	4.4– 6.8	59.6	3.3
McIntyre Creek	30.7 – 32.9	3.6 – 14.5	5.1 – 9.0	1.0 – 12.8
Tarpon Bay	30.9 – 35.2	4.3 – 9.6	0.5 – 1.6	0.4 – 1.5
Wulfert Flats	18.3 – 32.9	3.5 – 8.8	-----	1.9 – 36.8

- Red values are outside of the preferred range.
- <sup>a</sup> Salinity target values: BI < 5, FM < 10, SP = 25 – 32
- <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>e</sup> Single sonde lower and surface layer or surface grab lab measurement

**Red Tide:** On 7/2/21, the FWC reported that a patchy bloom of the red tide organism, *Karenia brevis*, persists on the Florida Gulf Coast. Over the past week, *K. brevis* was detected in 83 samples. **Bloom concentrations (>100,000 cells/liter) were observed in 34 samples:** six from Pasco County, ten from Pinellas County, 13 from Hillsborough County, two from Manatee County, and three from Sarasota County. In Southwest Florida over the past week, *K. brevis* was observed at background to high concentrations in and offshore of Pinellas County, background to high concentrations in Hillsborough County, background to medium concentrations in Manatee County, background to medium concentrations in Sarasota County, low concentrations in 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 white ibis (released), 1 little blue heron (died), and 1 tri-colored heron (died).



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 7/2/21 at 14:06 on falling tide. (Low tide: 14:54 @ 1.07 ft)

