

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 13 – 20, 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.

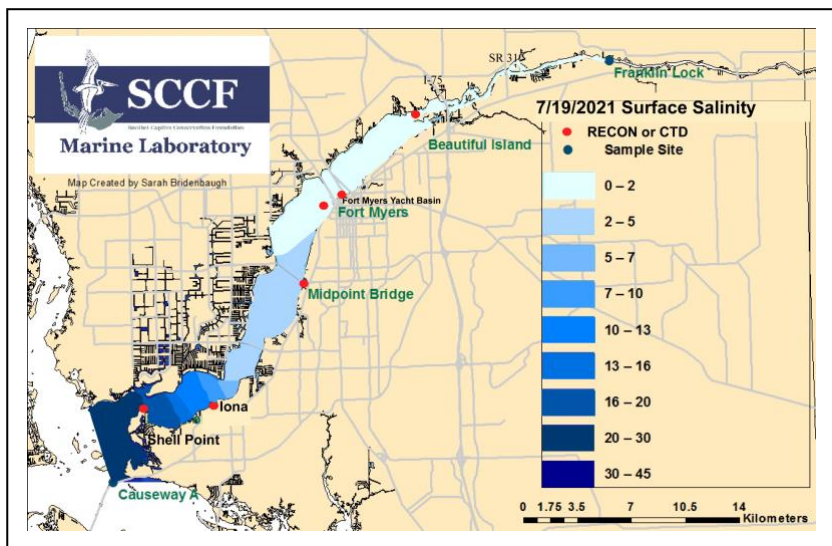
**Caloosahatchee Condition Summary:** Flows to the Caloosahatchee Estuary had a 7-day average of **3,236 cfs at S-79** and a 7-day average of **75 cfs at S-77**. The **14-day moving average flow at S-79 is 3,010 cfs and is within the harmful flow envelope (>2,600 cfs; RECOVER 2020)**. Water clarity around Sanibel and Lee County has declined with the higher flows from the watershed.

**Recommendation:** Local basin runoff into the Caloosahatchee is averaging more than 3,236 cfs at S-79. We request that the Corps cease flow from S-77 until watershed flows drop within the optimal flow range.

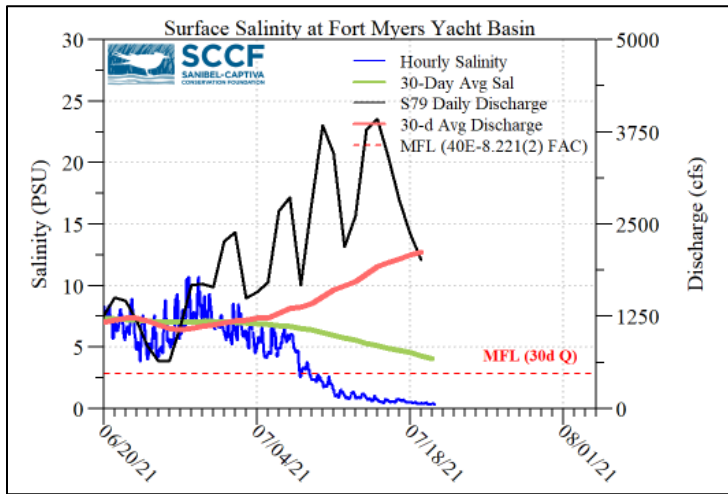
**USACE Action:** On Saturday, 5/29/21 the USACE decreased targeted flows to a 7-day average of 1,000 cfs (pulse) to the Caloosahatchee Estuary as measured at the WP Franklin Lock & Dam (S-79) and continued no releases to the St. Lucie Lock and Dam (S-80).

**Lake Flows:** In the past 7 days **1,582 AF** was discharged from Lake Okeechobee (4,303 AF back-flowed to the Lake), with **1,035 AF (65%)** to the Caloosahatchee through **S-77**, **-2,987 AF** to the St. Lucie River through **S-308**, **-920 AF** through **S-310** in Clewiston, **832 AF (34%)** through **C-10A** to the L-8 canal, and **0 AF (0%)** to the EAA through **S-351, S-352, and S-354**. Water conservation areas received flows of **4,826 AF, 18,793 AF, and 11,782 AF** at **WCA1, WCA2, and WCA3**, respectively. Everglades National Park received **1,283 AF**.

**Lake Okeechobee Level:** 13.47 ft (Base flow sub-band) **Last Week:** 13.32 ft  
**Lake Okeechobee Inflow:** 2,630 cfs **Lake Okeechobee Outflow:** 89 cfs  
**Weekly Rainfall Total:** WP Franklin **≥1.26"** Ortona **2.44"** Moore Haven **0.78"**



ACOE Daily Reports			
Date	S79 Flow (cfs)	S78 Flow (cfs)	S77 Flow (cfs)
7/13/21	2614	1175	0
7/14/21	3789	1575	0
7/15/21	4379	1888	0
7/16/21	3818	1849	0
7/17/21	3188	1285	165
7/18/21	2677	948	160
7/19/21	2186	869	197
<b>7-day avg</b>	<b>3,236</b>	<b>1,370</b>	<b>75</b>



Light Penetration				
Site	25% I <sub>z</sub>	Target Values	Turbidity	Target Values
	meters		NTU	
Fort Myers	0.71 <sup>m</sup>	> 1	6.2	< 18
Shell Point	1.85 <sup>c</sup>	>2.2	1.6	< 18
Causeway	2.55 <sup>m</sup>	> 2.2	1.0	< 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:** Sampling for cyanobacteria by the Lee County Environmental Lab identified very sparse specks of *Microcystis* at the Alva Boat Ramp (40 colonies/L) and at the Franklin Lock (30 colonies/L) and visible specks of at the Davis Boat Ramp (320 colonies/L), sparse specks and some wind-driven accumulation at North Shore Park (100 colonies/L), and sparse specks at Midpoint Bridge Park (40 colonies/L).

**Upstream of S-79/Franklin Conditions:** On 7/20/21 the Olga Water Treatment plant reported chlorides of **80 mg/L**, apparent color **130 CU** and turbidity **3.01 NTU**. **Algae** presence is trace. The plant is offline at 0 GPM.

**Upper Estuary Conditions:** The 30-day average surface salinity at the Fort Myers Yacht Basin was **4.5 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.

**Water Quality Conditions**

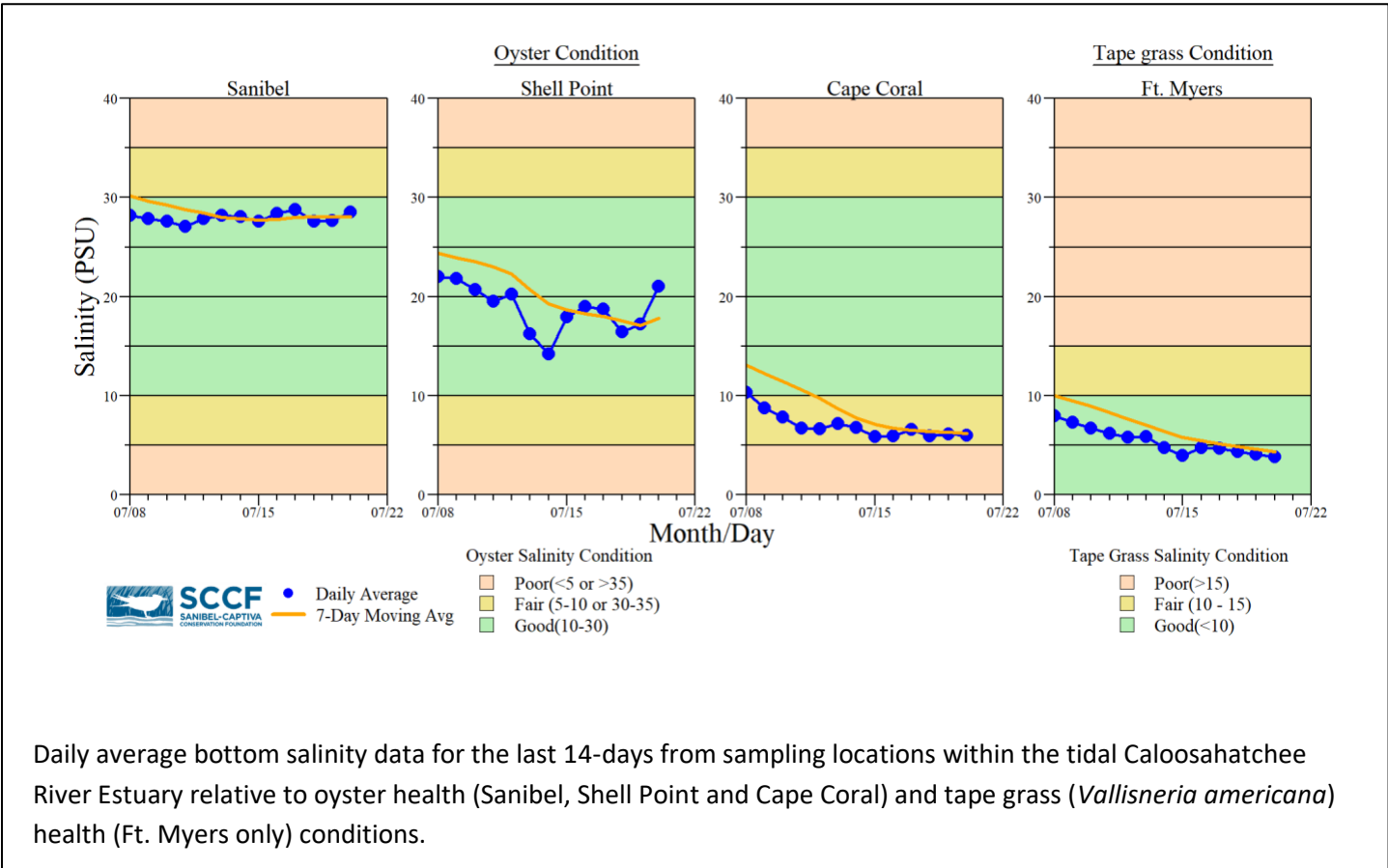
Monitor Site	Salinity (psu) <sup>a</sup> [previous week]	Diss O <sub>2</sub> (mg/L) <sup>b</sup>	FDOM (qsde) <sup>c</sup>	Chlorophyll (µg/L) <sup>d</sup>
Beautiful Island	0.3 – 0.3 [0.3 – 2.5]	3.1 – 5.8	282	9
Fort Myers Yacht Basin	0.4 – 1.4 [0.8 – 6.8]	4.0 – 7.0	267	9.5
Shell Point	10 – 30 [12 – 32]	3.8 – 6.9	130	4.1
McIntyre Creek	26.2 – 27.8	4.3 – 16.4	6.4 – 8.9	0.5 – 7.2
Tarpon Bay	26.4 – 31.5	4.0 – 10.0	-----	-----
Wulfert Flats	26.9 – 28.3	3.9 – 9.4	-----	1.9 – 15.6

- 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 7/16/21, the FWC reported that a bloom of the red tide organism, *Karenia brevis*, along the Florida Gulf Coast. Over the past week, *K. brevis* was detected in 118 samples. **Bloom concentrations (>100,000 cells/liter) were observed in 79 samples:** 26 from Pinellas County, 23 from Hillsborough County, 8 from Manatee County, and 21 from Sarasota County. In Southwest Florida over the past week, *K. brevis* was observed at background to high concentrations along Pinellas County, background to high concentrations in Hillsborough County, background to high concentrations in Manatee County, background to high concentrations in Sarasota County, background concentrations in Charlotte County, and background to low concentrations in Lee County.

**Wildlife Impacts:** In the past week, the CROW wildlife hospital on Sanibel received 2 toxicosis patients: 1 yellow-crowned night heron (died) and 1 snowy plover (died).

**Shellfish Advisory:** Shellfish harvest area #6222/6232 Pine Island Sound Section 2 and 3 Shellfish Harvest Area (Matlacha Pass) and #6212 Pine Island Sound Section 1 Shellfish Harvest Area were **CLOSED** by the Florida Department of Agriculture and Consumer Services as of 7/7/21 based on operating procedures in Chapter 5L-1.003 (1), Florida Administrative Code.



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.

