

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 6 – 12, 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.

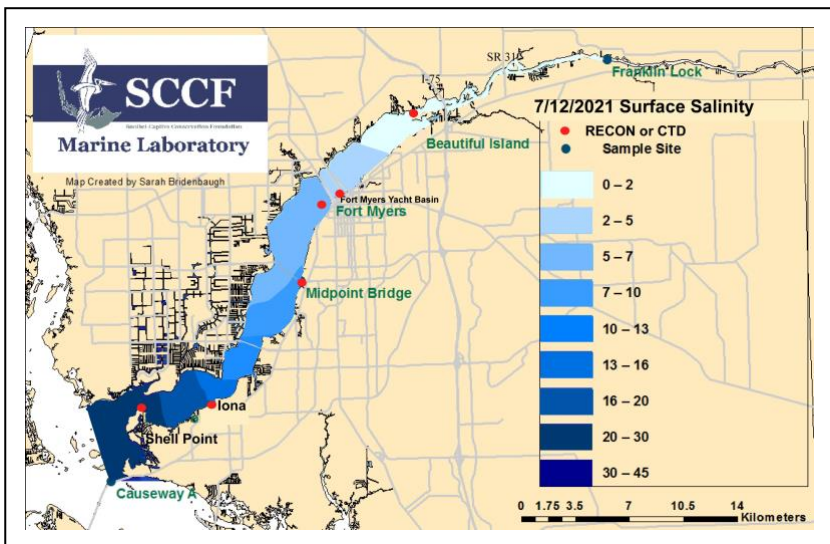
Caloosahatchee Condition Summary: Flows to the Caloosahatchee Estuary had a 7-day average of **2,785 cfs at S-79** and a 7-day average of **29 cfs at S-77**. The **14-day moving average flow at S-79 is 2,345 cfs and is within the stressful flow envelope (2,100 – 2,600 cfs; RECOVER 2020)**. Water clarity around Sanibel and Lee County remains good at this time.

Recommendation: Local basin runoff into the Caloosahatchee is averaging more than 2,100 cfs at S-79. We request that the Corps cease flow from S-77 until watershed flows drop within the optimal flow range.

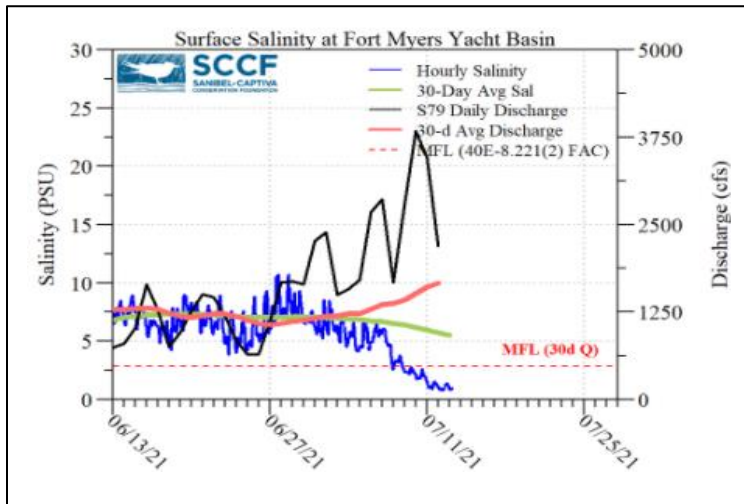
USACE Action: On Saturday, 5/29/21 the USACE decreased targeted flows to a 7-day average of 1,000 cfs (pulse) to the Caloosahatchee Estuary as measured at the WP Franklin Lock & Dam (S-79) and continued no releases to the St. Lucie Lock and Dam (S-80).

Lake Flows: In the past 7 days **59,812 AF** was discharged from Lake Okeechobee (**6,116 AF back flowed to the Lake**), with **397 AF (66%)** to the Caloosahatchee through **S-77**, **-4520 AF** to the St. Lucie River through **S-308**, **-1,022 AF** through **S-310** in Clewiston, **-573 AF** through **C-10A** to the **L-8 canal**, and **0 AF** to the EAA through **S-351**, **S-352**, and **S-354**. Water conservation areas received flows of **6,559 AF**, **33,919 AF**, and **13,839 AF** at **WCA1**, **WCA2**, and **WCA3**, respectively. Everglades National Park received **1,037 AF**.

Lake Okeechobee Level: 13.32 ft (Base flow sub-band) **Last Week:** 12.95 ft
Lake Okeechobee Inflow: 3,559 cfs **Lake Okeechobee Outflow:** -114 cfs
Weekly Rainfall Total: WP Franklin 4.98" Ortona 3.51" Moore Haven ≥ 2.07"



ACOE Daily Reports			
Date	S79 Flow (cfs)	S78 Flow (cfs)	S77 Flow (cfs)
7/6/21	2677	1292	0
7/7/21	2860	1609	0
7/8/21	1675	1359	0
7/9/21	2788	1278	0
7/10/21	3844	1832	0
7/11/21	3459	1844	0
7/12/21	2191	954	200
7-day avg	2,785	1,453	29



Light Penetration				
Site	25% I _z Target Values		Turbidity Target Values	
	meters		NTU	
Fort Myers	1.16 ^c	> 1	6.2	< 18
Shell Point	2.01 ^c	>2.2	2.9	< 18
Causeway	2.10 ^c	> 2.2	1.2	< 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: Sampling for cyanobacteria by the Lee County Environmental Lab identified some visible specks of *Microcystis* at the Alva Boat Ramp (200 colonies/L) and at the Franklin Lock (120 colonies/L) and visible specks and some wind-driven accumulation of *Microcystis*, *Dolichospermum*, and *Alphanizomenon* at the Davis Boat Ramp (490 colonies/L). The Florida Department of Health in Lee County issued a **Health Alert** for the presence of harmful blue-green algal toxins 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 7/13/21 the Olga Water Treatment plant reported chlorides of **64 mg/L**, apparent color **N/A** and turbidity **3.63 NTU**. **Algae** presence is light. The plant is offline at 0 GPM.

Upper Estuary Conditions: The 30-day average surface salinity at the Fort Myers Yacht Basin was **6.0 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.

Water Quality Conditions

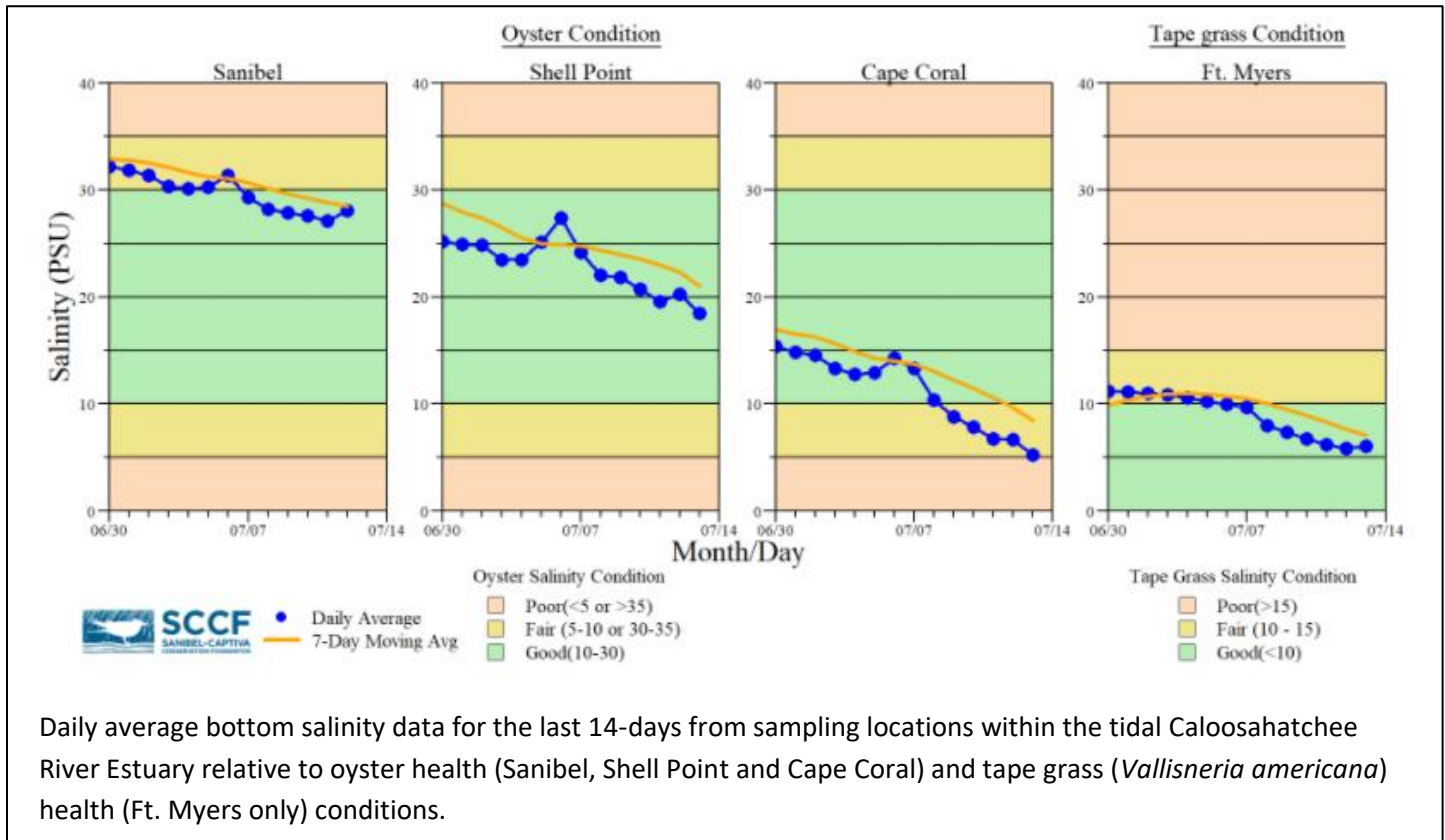
Monitor Site	Salinity (psu) ^a [previous week]	Diss O ₂ (mg/L) ^b	FDOM (qsde) ^c	Chlorophyll (µg/L) ^d
Beautiful Island	0.3 – 2.5 [1.1 – 2.5]	4.4– 8.7	191	10
Fort Myers Yacht Basin	0.8 – 6.8 [4.1 – 10]	4.7 – 8.6	177	7.8
Shell Point	12 – 32 [18 – 34]	3.9 – 7.6	59.6	3.5
McIntyre Creek	21.0 – 32.1	4.2 – 13.4	2.8 – 10.5	1.0 – 11.7
Tarpon Bay	26.1 – 34.3	4.3 – 10.0	0.3 – 1.0	0.4 – 1.2
Wulfert Flats	26.2 – 32.8	3.0 – 9.3	-----	2.2 – 16.6

- Red values are outside of the preferred range.
- ^a Salinity target values: BI < 5, FM < 10, SP = 25 – 32
- ^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 7/9/21, 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 40 samples. **Bloom concentrations (>100,000 cells/liter) were observed in 21 samples:** 12 from Pinellas County, eight from Hillsborough County, and one 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 very low concentrations in Manatee County, background to medium concentrations in Sarasota County, background to low concentrations in Charlotte County, and **low concentrations in Lee County.**

Wildlife Impacts: In the past week, the CROW wildlife hospital on Sanibel received **0 toxicosis patients**,

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.



Water clarity at Lighthouse Beach Park on 7/9/21 at 13:01 on falling tide. (High tide: 11:36 @ 3.25 ft)

