

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: **August 3 – 9, 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.

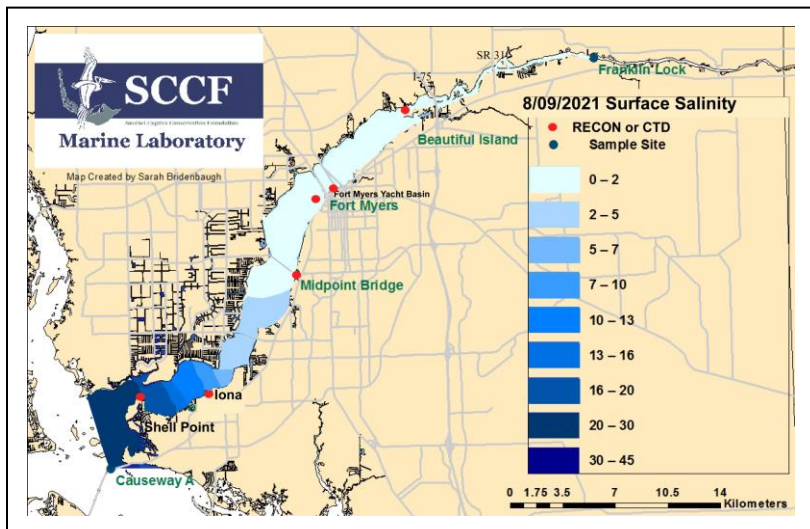
Caloosahatchee Condition Summary: Flows to the Caloosahatchee Estuary had a 7-day average of **3,480 cfs at S-79** and a 7-day average of **0 cfs at S-77**. The 14-day moving average flow at **S-79 is 2,987 cfs and has been within the damaging flow envelope for 4 days (> 2,600 cfs; RECOVER 2020)**. Water 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 damaging flow envelope, with a 14-day average flow of 2,987 cfs. Flow has been above the optimal flow envelope for 31 days. We request that the Corps continue to cease flow from S-77 until watershed flows drop within the optimal flow range.

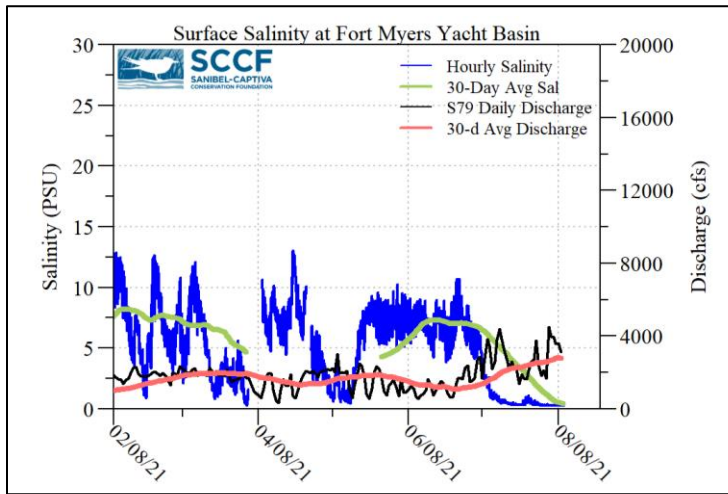
USACE Action: On Saturday, 5/29/21 the USACE decreased targeted flows to a 7-day average of 1,000 cfs (pulse) to the Caloosahatchee Estuary as measured at the WP Franklin Lock & Dam (S-79) and continued no releases to the St. Lucie Lock and Dam (S-80).

Lake Flows: In the past 7 days the total outflow from Lake Okeechobee was **0 AF** with **0 AF** to the Caloosahatchee through **S-77**, **0 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 **77,529 AF** (70,861 AF from Fisheating Creek, S-71, S-72, S-84s, S-65EX, and S-65EX1) with a total backflow volume of **6,668 AF** from **S310**, **C10A**, and **S308**. Water conservation areas received flows of **18,226 AF**, **34,703 AF**, and **19,958 AF** at **WCA1**, **WCA2**, and **WCA3**, respectively. Everglades National Park received **3,731 AF**.

Lake Okeechobee Level: 14.01 ft (Low sub-band) **Last Week: 13.73 ft**
Lake Okeechobee Inflow: 5,139 cfs **Lake Okeechobee Outflow: -165 cfs**
Weekly Rainfall Total: WP Franklin **≥2.62"** Ortona **1.71"** Moore Haven **2.08"**



ACOE Daily Reports			
Date	S79 Flow (cfs)	S78 Flow (cfs)	S77 Flow (cfs)
8/3/21	1658	690	0
8/4/21	4488	1687	0
8/5/21	3994	1977	0
8/6/21	3933	1770	0
8/7/21	3554	1626	0
8/8/21	3612	1359	0
8/9/21	3120	1095	0
7-day avg	3480	1458	0



Light Penetration				
Site	25% I _z	Target Values	Turbidity	Target Values
	meters		NTU	
Fort Myers	-----	> 1	-----	< 18
Shell Point	1.67 ^c	>2.2	2.1	< 18
Causeway	2.03 ^m	> 2.2	1.6	< 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: On 8/10/21 sampling for cyanobacteria by the Lee County Environmental Lab reported the presence of sparse specks of *Microcystis* upstream of the Franklin Locks with light accumulation along the lock and no visible cyanobacteria at the dock (<10 colonies/L at the dock). *Microcystis* and *Dolichospermum*, were present at the Davis Boat Ramp (160 colonies/L) as specks with some light streaks.

Upstream of S-79/Franklin Conditions: On 8/10/21 the Olga Water Treatment plant reported chlorides of **54 mg/L**, apparent color of **192 CU** and turbidity of **3.16 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 **0.5 psu**, within the suitable range for tape grass.

Lower Estuary Conditions: The average salinity at Shell Point RECON was **20 psu**, within the optimal range for oysters, but **below optimal for seagrass**. Diatoms (*Chaetoceros* spp. dominant) were abundant in recent samples around the Causeway.

Water Quality Conditions

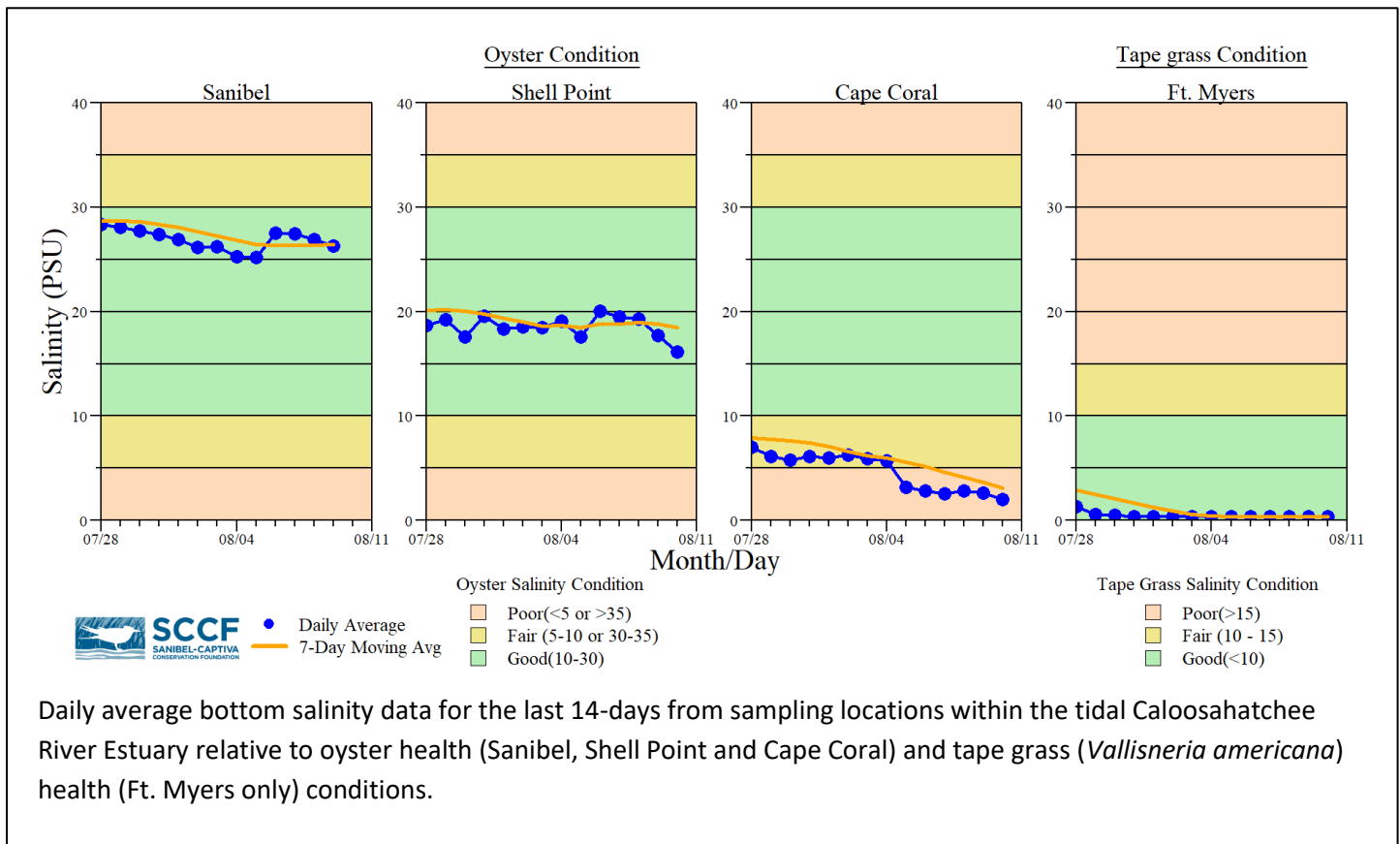
Monitor Site	Salinity (psu) ^a [previous week]	Diss O ₂ (mg/L) ^b	FDOM (qsde) ^c	Chlorophyll (µg/L) ^d
Beautiful Island	0.2 – 0.3 [0.3 – 0.3]	2.1- 4.8	385	8.3
Fort Myers Yacht Basin	0.3 – 0.9 [0.3 – 1.2]	4.0- 7.2	375	-----
Shell Point	7.9 – 30 [11 – 31]	3.1 – 6.5	175	4.9
McIntyre Creek	24.8 – 29.1	2.4 – 11.4	6.8 – 12.3	0.3 – 2.4
Tarpon Bay	-----	-----	-----	-----
Wulfert Flats	25.7 – 29.4	2.0 – 8.8	-----	4.3 – 36.2

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

Red Tide: On 8/6/21, the FWC reported that a bloom of the red tide organism, *Karenia brevis*, persists on the Florida Gulf Coast. Over the past week, *K. brevis* was detected in 81 samples. **Bloom concentrations (>100,000 cells/liter) were observed in 45 samples:** seven from Pasco County, 11 from Pinellas County, two from Manatee County, 24 from Sarasota County, and **one from Lee County**.

In Southwest Florida over the past week, *K. brevis* was observed at background to high concentrations in and offshore of Pinellas County, background concentrations in Hillsborough County, background to medium concentrations in Manatee County, background to high concentrations in Sarasota County, background to low concentrations in Charlotte County, and **background to medium concentrations in Lee County**.

Wildlife Impacts: In the past week, the CROW wildlife hospital on Sanibel received 6 toxicosis patients: 2 snowy egrets (died), 1 white ibis (treated and released), 1 sooty tern (died), 1 American avocet (in treatment), and 1 reddish egret (died).



Drift macroalgae (*Polysiphonia* sp. dominant) on Lighthouse Beach Park on 8/5/21. Photo: City of Sanibel.

Water clarity at Lighthouse Beach Park on 8/6/21 at 10:51 AM on a falling tide (High tide: 3.21 ft @ 10:51 AM). [Lighthouse Beach Park virtual tour.](#)