

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 24 – 30, 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 Conditions Summary: Flows to the Caloosahatchee estuary had a 7-day average of 1,795 cfs at S-79 with a 7-day average of 0 cfs coming from the lake at S-77. **The 14-day moving average flow at S-79 is 1,886 cfs and has been in the optimal flow envelope (750 – 2,100 cfs; RECOVER 2020) for 3 days after 7 weeks above the optimal flow envelope.** Water clarity is poor in Pine Island Sound from runoff in the Caloosahatchee watershed and Sanibel Island.

Recommendation: We request that the Corps maintains releases from S-79 within the optimum flow envelope of 750 – 2,100 cfs based on the RECOVER 2020 performance measure for salinity while taking into consideration watershed flows from the Caloosahatchee basin.

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 net outflow from Lake Okeechobee was **571 AF** with **0 AF** to the Caloosahatchee through **S-77** and **571 AF** to the EAA through **S-351, S-352, and S-354**. The total net inflow to the Lake was **42,871 AF** (40,395 AF from Fisheating Creek, S-71, S-72, S-84s, S-65EX, and S-65EX1) with a net backflow volume of **2,338 AF** from **S310 and C10A**. Water conservation areas received flows of **14,198 AF, 11,318 AF, and 13,853 AF** at **WCA1, WCA2, and WCA3**, respectively. Everglades National Park received **8,043 AF**.

Lake Okeechobee Level: 14.67 ft (Low sub-band)

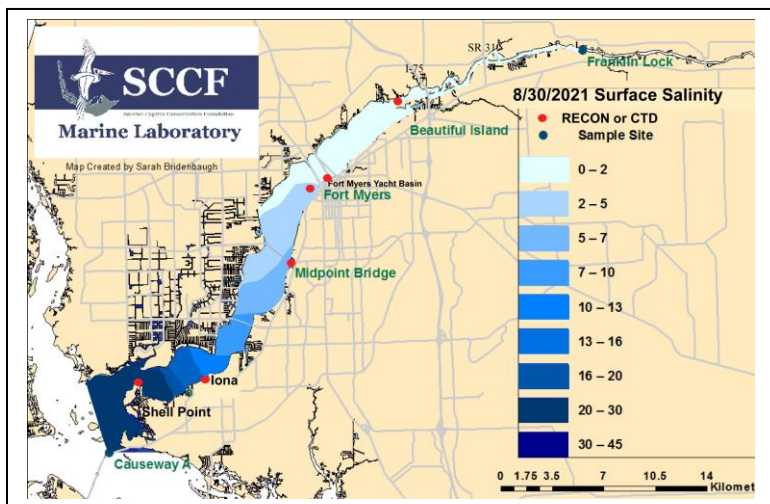
Last Week: 14.47 ft

Lake Okeechobee Inflow: 3,373 cfs

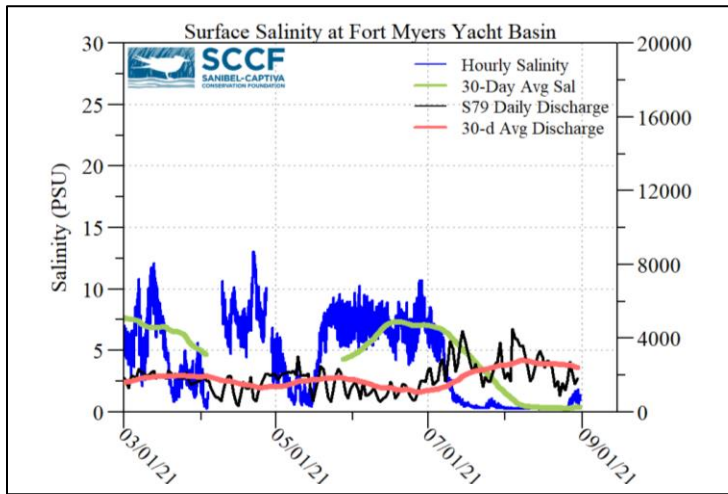
Lake Okeechobee Outflow: 0 cfs

Weekly Rainfall Total: WP Franklin 1.80" Ortona 2.97"

Moore Haven ≥2.33"



ACOE Daily Reports			
Date	S79 Flow (cfs)	S78 Flow (cfs)	S77 Flow (cfs)
8/24/21	1554	296	0
8/25/21	1172	623	0
8/26/21	1665	889	0
8/27/21	2696	1299	0
8/28/21	2153	1235	0
8/29/21	1514	646	0
8/30/21	1809	740	0
7-day avg	1795	818	0



Light Penetration				
Site	25% Iz	Target Values	Turbidity	Target Values
	meters		NTU	
Fort Myers	0.85 ^c	> 1	2.5	< 18
Shell Point	1.31 ^c	>2.2	2.2	< 18
Causeway	1.62 ^m	> 2.2	1.8	< 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.
^m measured, ^c calculated

Cyanobacteria Status: On 8/31/21 sampling for cyanobacteria by the Lee County Environmental Lab reported no visible cyanobacteria in the Caloosahatchee.

Upstream of S-79/Franklin Conditions: On 8/31/21 the Olga Water Treatment plant reported chlorides of **59 mg/L**, apparent color of **123 CU** and turbidity of **1.85 NTU**. No 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 **0.4 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, but below optimal for seagrass.

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 – 0.3 [0.2 – 0.3]	2.9 – 4.6	363	7.7
Fort Myers Yacht Basin	0.3 – 1.8 [0.2 – 0.3]	3.6 – 6.3	366	6.9
Shell Point	11 – 31 [7.4 – 31]	3.0 – 5.9	124	6.5
McIntyre Creek	26.2 – 29.6	2.6 – 14.2	7.7 – 12.6	0.1 – 0.6
Tarpon Bay	-----	-----	-----	-----
Wulfert Flats	-----	-----	-----	-----

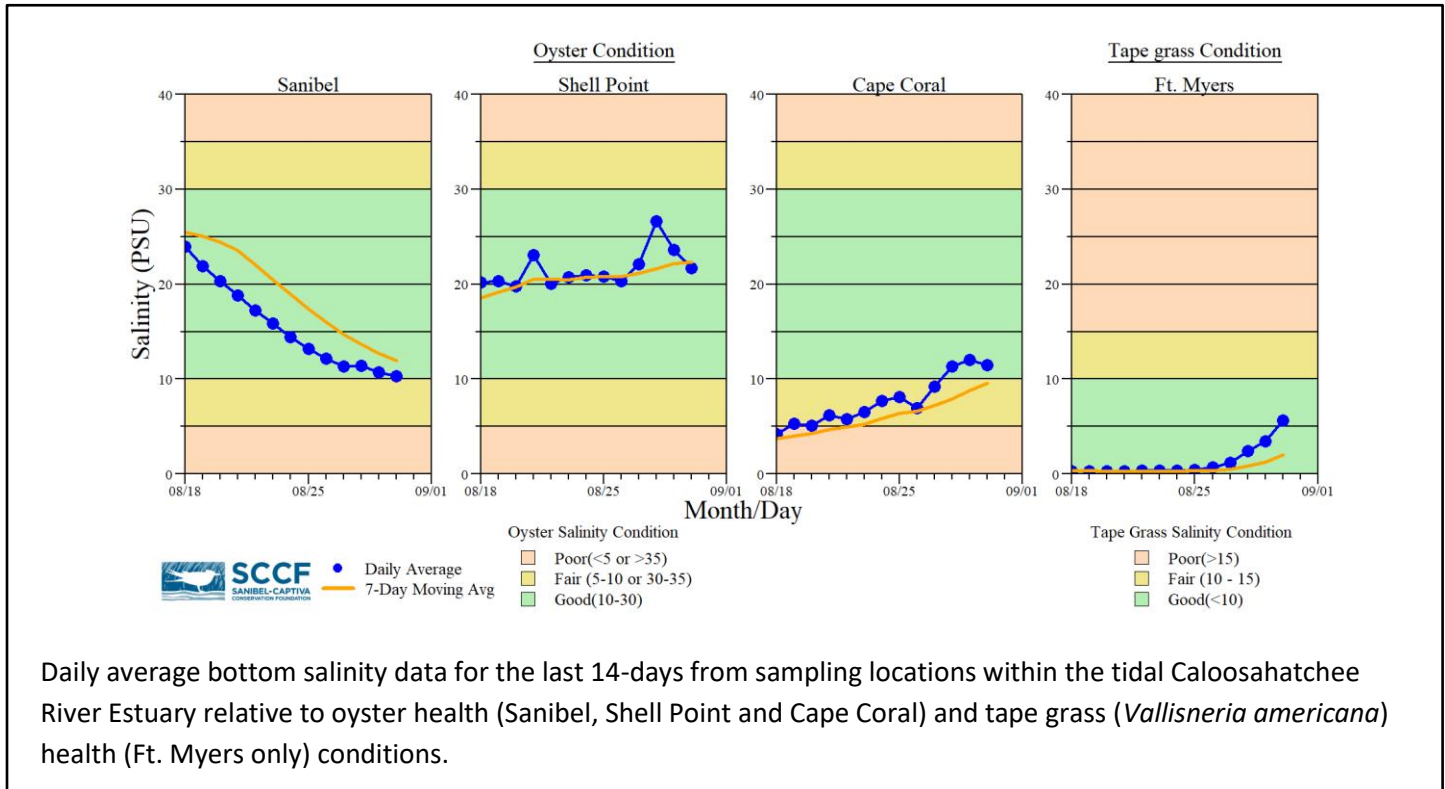
Red values are outside of the preferred range.
^a Salinity target values: BI < 5, FM < 10, SP = 10 – 25
^b Dissolved O₂ target values: all sites > 4
^c FDOM target values: BI < 70, FM < 70, SP < 11
^d Chlorophyll target values: BI < 11, FM < 11, SP < 11
^e Single sonde lower and surface layer or surface grab lab measurement

Red Tide: On 8/27/21, the FWC reported that a patchy bloom of the red tide organism, *Karenia brevis*, persists in Southwest Florida, where *K. brevis* was detected in 76 samples over the past week. **Bloom concentrations (>100,000 cells/liter) were observed in 19 samples:** four from and offshore of Pinellas County, eight from Sarasota County, one from Charlotte County, and **six from and offshore of Lee County.**

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

Wildlife Impacts: In the past week, the CROW wildlife hospital on Sanibel received 12 toxicosis patients: 2 double crested cormorant (1 died, 1 still at CROW), 2 brown pelicans (1 died, 1 still at CROW), 1 white Ibis (released), 1 wood stork (still at CROW) 3 sanderlings (still at CROW), 1 black skimmer (died), 1 red shouldered hawk (still at CROW), and 1 western sandpiper (died).

Beach reports: On 8/22/21 – 8/26/21 the FWC fish kill hotline continued to receive reports of fish kills nearshore and offshore Pinellas, Sarasota, and Lee counties. Locations affected include Englewood Beach, Clearwater, Venice, Boca Grande, and offshore sites. Affected species included pinfish, catfish, trout, sea robins, puffers, whiting (or similar sciaenid), lizard fish, jack crevalle, mangrove snapper, blue crab, mud crab, and mantis shrimp. The suspected cause is red tide.



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 8/27/21 at 11:06 AM on a low tide (Low tide: 0.88 ft @ 10:49 AM). [Lighthouse Beach Park virtual tour.](#)

