

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
 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: **September 7 – 13, 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.

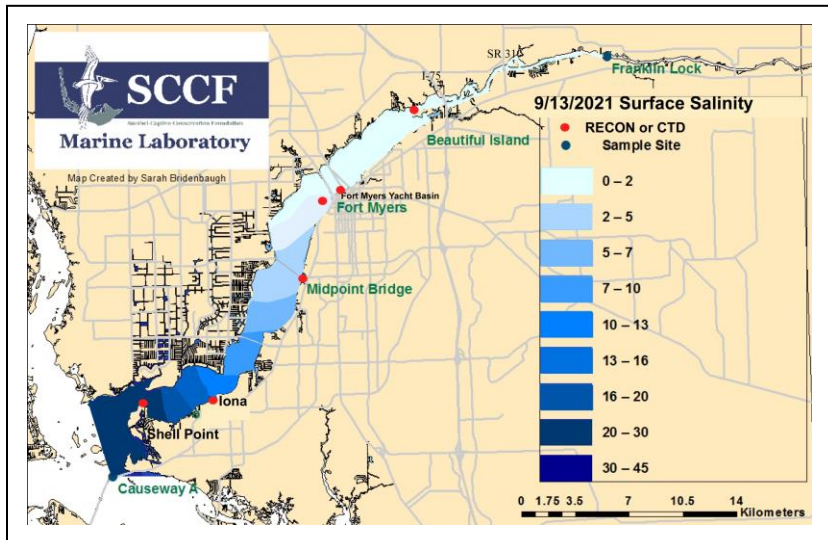
Caloosahatchee Conditions Summary: Flows to the Caloosahatchee estuary had a 7-day average of **2,234 cfs** at S-79 with a 7-day average of **0 cfs** coming from the lake at **S-77**. **The 14-day moving average flow at S-79 is 2,224 cfs and has been in the stress flow envelope (2,100 – 2,600 cfs; RECOVER 2020) for 5 days.**

Recommendation: We request that the Corps maintain 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.

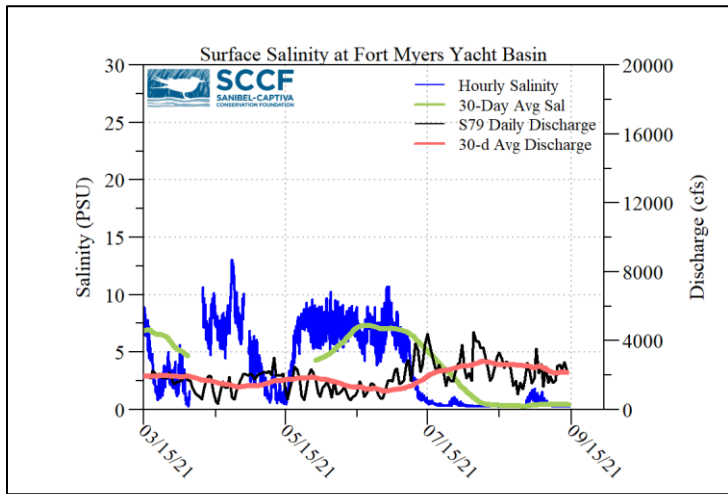
USACE Action: On Saturday, 5/29/21 the USACE decreased targeted flows to a 7-day average of 1,000 cfs (pulse) to the Caloosahatchee Estuary as measured at the WP Franklin Lock & Dam (S-79) and continued no releases to the St. Lucie Lock and Dam (S-80).

Lake Flows: In the past 7 days the total outflow from Lake Okeechobee was **0 AF** with **0 AF** to the Caloosahatchee through **S-77**, and **0 AF** to the EAA through **S-351**, **S-352**, and **S-354**. The total net inflow to the Lake was **36,174 AF** (**33,927 AF** from Fisheating Creek, S-71, S-72, S-84s, S-65EX, and S-65EX1) with a total backflow volume of **2,246 AF** from **S310** and **C10A**. Water conservation areas received flows of **5,950 AF**, **16,497 AF**, and **14,440 AF** at **WCA1**, **WCA2**, and **WCA3**, respectively. Everglades National Park received **6,609 AF**.

Lake Okeechobee Level: 14.80 ft (Low sub-band) Last Week: 14.71 ft
Lake Okeechobee Inflow: 3,363 cfs Lake Okeechobee Outflow: 4 cfs
Weekly Rainfall Total: WP Franklin 0.81" Ortona 1.65" Moore Haven 2.90"



ACOE Daily Reports			
Date	S79 Flow (cfs)	S78 Flow (cfs)	S77 Flow (cfs)
9/7/21	1548	465	0
9/8/21	1670	539	0
9/9/21	2514	697	0
9/10/21	2613	830	0
9/11/21	2297	1028	0
9/12/21	2734	1150	0
9/13/21	2263	1147	0
7-day avg	2234	837	0



Light Penetration				
Site	25% I _z	Target Values	Turbidity	Target Values
	meters		NTU	
Fort Myers	0.78 ^m	> 1	4.0	< 18
Shell Point	1.20 ^c	>2.2	1.7	< 18
Causeway	1.51 ^m	> 2.2	2.5	< 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 9/14/21 sampling for cyanobacteria by the Lee County Environmental Lab reported no visible cyanobacteria in the Caloosahatchee.

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. Hypoxia was recorded at the Beautiful Island and Fort Myers RECON sites on 9/1/21.

Lower Estuary Conditions: The average salinity at Shell Point RECON was **22 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 [0.3 – 0.3]	3.1 – 4.5	370	7.4
Fort Myers Yacht Basin	0.3 – 0.5 [0.3 – 1.5]	5.6 – 6.8	365	8.6
Shell Point	11 – 30 [11 – 30]	3.7 – 5.9	146	4.8
McIntyre Creek	26.8 – 28.5	2.1 – 12.7	8.9 – 11.6	0.2 – 0.6
Tarpon Bay	25.5 – 31.4	3.7 – 9.4	8.2 – 15.7	-----
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

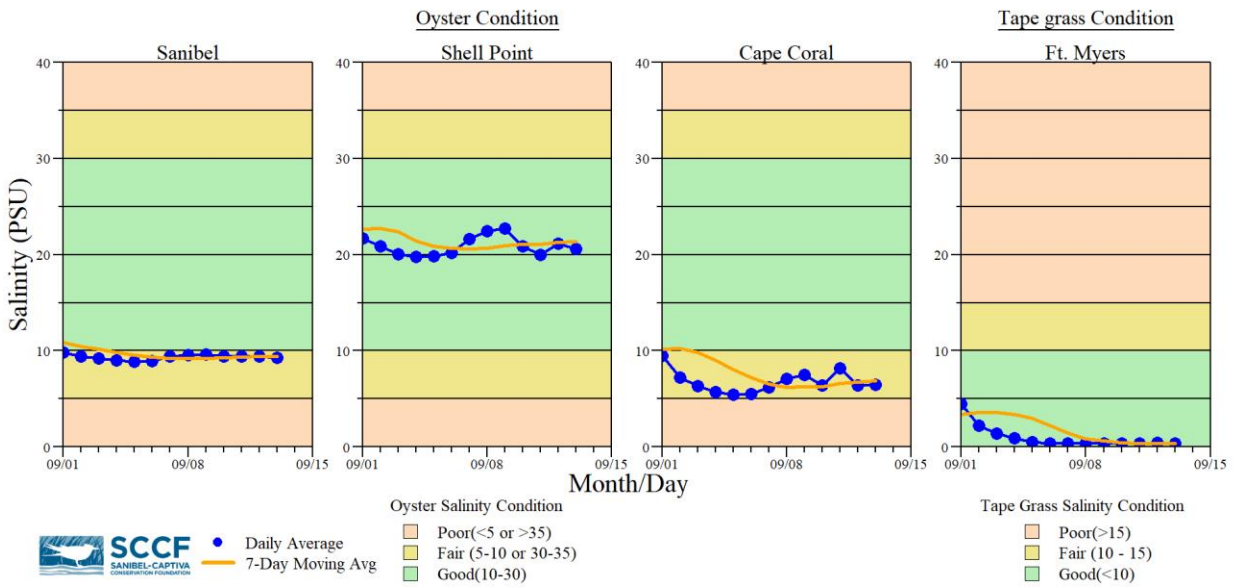
^s Single sonde lower and surface layer or surface grab lab measurement

Red Tide: On 9/10/21, the FWC reported that a patchy bloom of the red tide organism, *Karenia brevis*, persists along Florida’s Gulf Coast. Over the past week, *K. brevis* was detected in 63 samples. **Bloom concentrations (>100,000 cells/liter)** were observed in 31 samples: three offshore of Hernando County, five in and offshore of Pasco County, 16 in and offshore of Pinellas County, four from Charlotte County, and **three in and offshore of 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 Sarasota County, very low to 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 7 toxicosis patients: 2 brown pelicans (1 died, 1 still at CROW), 2 royal terns (still at CROW), 1 white ibis (still at CROW), and 1 clapper rail (still at CROW).

Beach reports: On 9/7/21 – 9/10/21 the [FWC fish kill hotline](#) continued to receive reports of fish kills in Pinellas (20 reports), Sarasota (4 reports), and Lee (1 report) counties with red tide reported as the suspected cause. Affected species include Atlantic spadefish, sea snake, stingray, catfish, grunt, American eel, eel, and baitfish.



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 9/13/21 at 1:27 PM on a low tide (Low tide: 0.36 ft @ 1:32 AM). [Lighthouse Beach Park virtual tour.](#)