

MEMORANDUM

To: USACE Colonel James L. Booth, LTC Todd F. Polk, Richard McMillen, Kim Taplin, SFWMD Governing Board, Executive Director Drew Bartlett, Jennifer Reynolds, Lawrence Glenn, DEP 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: **November 2 – 8, 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 **2,751 cfs** at **S-79** with a 7-day average of **151 cfs (5%)** coming from the lake at **S-77**. **The 14-day moving average flow at S-79 is 2,148 cfs and has been in the stress flow envelope (2,100 – 2,600; RECOVER 2020) for 1 day.**

Recommendation: In order to maintain a beneficial salinity gradient in the Caloosahatchee Estuary for the health of seagrass and oysters, we recommend that the Corps maintain flows at S-79 within the optimum flow envelope (750 – 2,100 cfs) based on the RECOVER performance measure for salinity.

USACE Action: On Saturday, 11/5/21 the USACE increased targeted flows to a 7-day average of 2,000 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 will be reduced and may stop completely based on local basin runoff.

Lake Flows: In the past 7 days the total outflow from Lake Okeechobee was **4,868 AF** with **2,099 AF** to the Caloosahatchee through **S-77**, **996 AF** to St. Lucie through **S-308**, **754 AF** through **S-310** in Clewiston, and **1,020 AF** to the EAA through **S-351**, **S-352**, and **S-354**. The total net inflow to the Lake was **39,397 AF** (37,962 AF from Fisheating Creek, S-71, S-72, S-84s, S-65EX, and S-65EX1) with a total backflow volume of **1,435 AF** from **S310 and C10A**. Water conservation areas received flows of **2,862 AF**, **3,749 AF**, and **8,077 AF** at **WCA1**, **WCA2**, and **WCA3**, respectively. Everglades National Park received **22,693 AF**.

Lake Okeechobee Level: 16.00 ft (Low sub-band)

Last Week: 15.85 ft

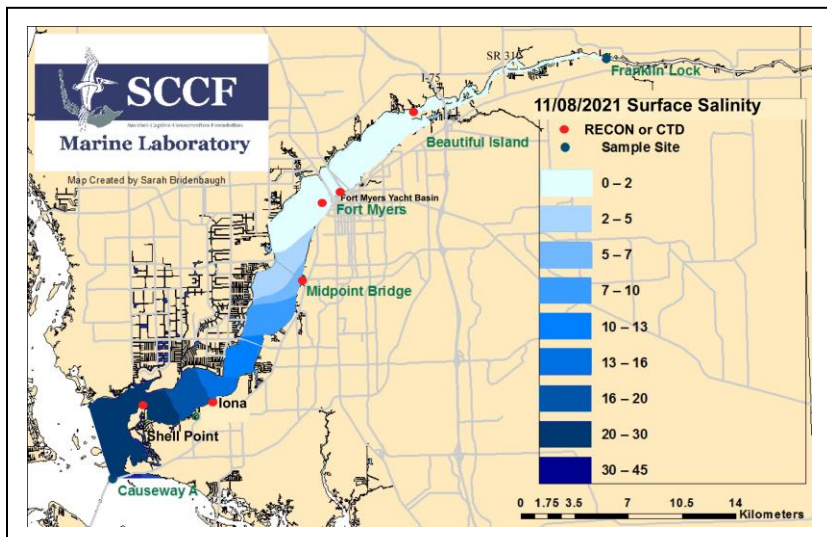
Lake Okeechobee Inflow: 4,696 cfs

Lake Okeechobee Outflow: 0 cfs

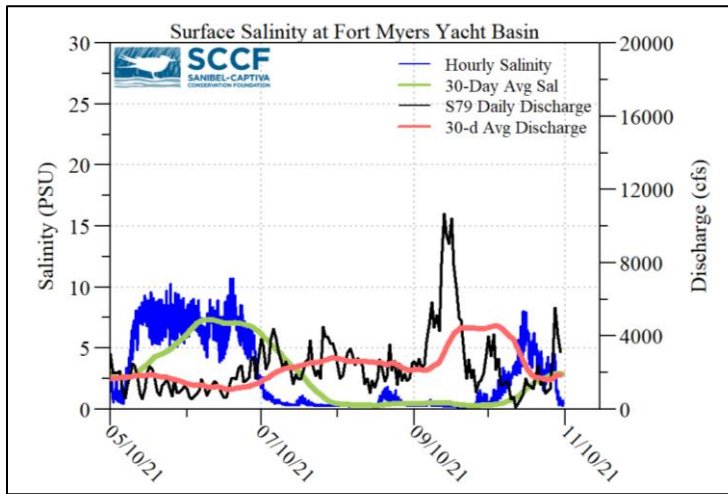
Weekly Rainfall Total: WP Franklin $\geq 2.12''$

Ortona $\geq 2.02''$

Moore Haven $\geq 2.40''$



ACOE Daily Reports			
Date	S79 Flow (cfs)	S78 Flow (cfs)	S77 Flow (cfs)
11/2/21	852	449	363
11/3/21	1008	559	318
11/4/21	1109	638	163
11/5/21	3011	1334	0
11/6/21	5547	2002	0
11/7/21	4063	1982	0
11/8/21	3665	1221	214
7-day avg	2751	1169	151



Light Penetration				
Site	25% I _z	Target Values	Turbidity	Target Values
	meters		NTU	
Fort Myers	0.52 ^c	> 1	2.6	< 18
Shell Point	1.05 ^c	>2.2	1.7	< 18
Causeway	1.20 ^c	> 2.2	7.5	< 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 11/9/21 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 **3.2 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, 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	0.2 – 0.9 [0.4 – 2.8]	3.8 – 5.2	362	7.2
Fort Myers Yacht Basin	0.5 – 5.7 [2.0 – 6.4]	-----	353	6.8
Shell Point	12 – 31 [15 – 31]	5.3 – 7.0	141	2.6
McIntyre Creek	24.7 – 31.9	4.4 – 13.8	7.3 – 12.3	0.3 – 0.9
Tarpon Bay	29.8 – 30.3	-----	6.9 – 19.5	-----
Wulfert Flats	25.7 – 33.9	4.1 – 9.3	-----	3.9 – 21.7

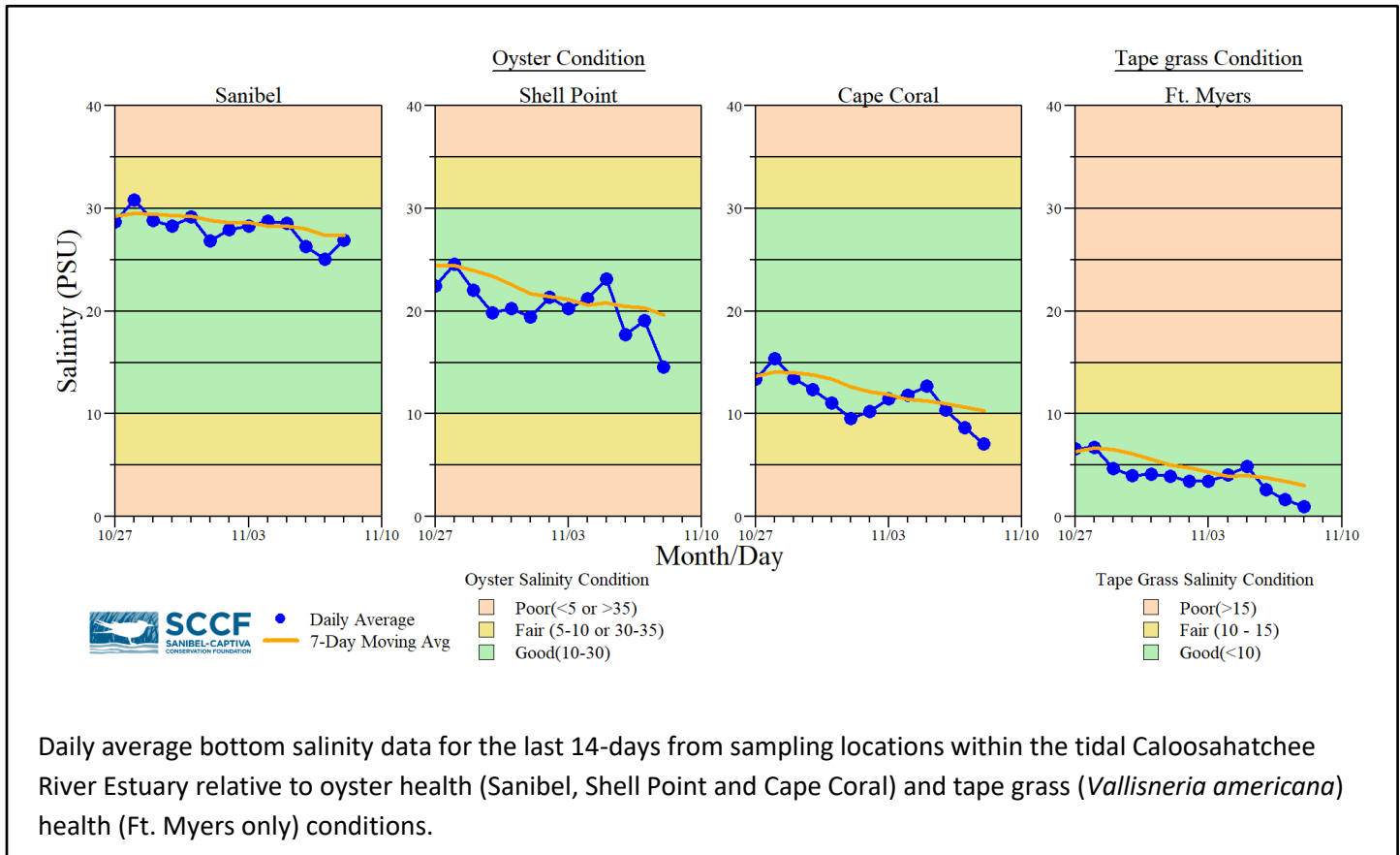
- Red** values are outside of the preferred range.
- ^a Salinity target values: BI < 5, FM < 10, SP = 10 – 25
- ^b Dissolved O₂ target values: all sites > 4
- ^c FDOM target values: BI < 70, FM < 70, SP < 11
- ^d Chlorophyll target values: BI < 11, FM < 11, SP < 11
- ^s Single sonde lower and surface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

Red Tide: On 11/5/21, 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 82 samples. Bloom concentrations (>100,000 cells/liter) were observed in 14 samples: one in Okaloosa County, seven in Bay County, four in Gulf County, one offshore of Levy County, and **one offshore of Lee County**.

In Southwest Florida over the past week, *K. brevis* was observed at background to medium concentrations in and offshore of Lee County.

Wildlife Impacts: In the past week, the CROW wildlife hospital on Sanibel received 15 toxicosis patients: 2 anhinga (still at CROW), 1 black tern (died), 1 brown pelican (still at CROW), 5 double crested cormorants (2 died, 3 still at CROW), 2 laughing gulls (died), 3 royal terns (1 died, 2 still at CROW), and 1 sandwich tern (died).

Fish Kills: In the past week, the [FWC fish kill hotline](#) received 1 report of a fish kill from Pinellas county with red tide as the suspected cause. The FWC is also receiving fish kill reports in the panhandle related to red tide.



Water clarity at Lighthouse Beach Park on 11/8/21 at 1:30 PM on a rising tide (Low tide: -0.48 ft @ 9:46 AM). [Lighthouse Beach Park Virtual Tour.](#)