

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: **August 31 – September 6, 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 **2,227 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 2,011 cfs and has been in the optimal flow envelope (750 – 2,100 cfs; RECOVER 2020)) for 10 days after 7 weeks above the optimal flow envelope.**

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 total net outflow from Lake Okeechobee was **0 AF** with **0 AF** to the Caloosahatchee through **S-77**, **0 AF** to the St. Lucie River through **S-308** and **0 AF** to the EAA through **S-351**, **S-352**, and **S-354**. The total net inflow to the Lake was **31,756 AF** (**30,403 AF** from Fisheating Creek, S-71, S-72, S-84s, S-65EX, and S-65EX1) with a net backflow volume of **111 AF** from **S310** in Clewiston and **1,242 AF** from **C10A**. Water conservation areas received flows of **7,111 AF**, **11,816 AF**, and **13,579 AF** at **WCA1**, **WCA2**, and **WCA3**, respectively. Everglades National Park received **6,795 AF**.

Lake Okeechobee Level: 14.71 ft (Low sub-band)

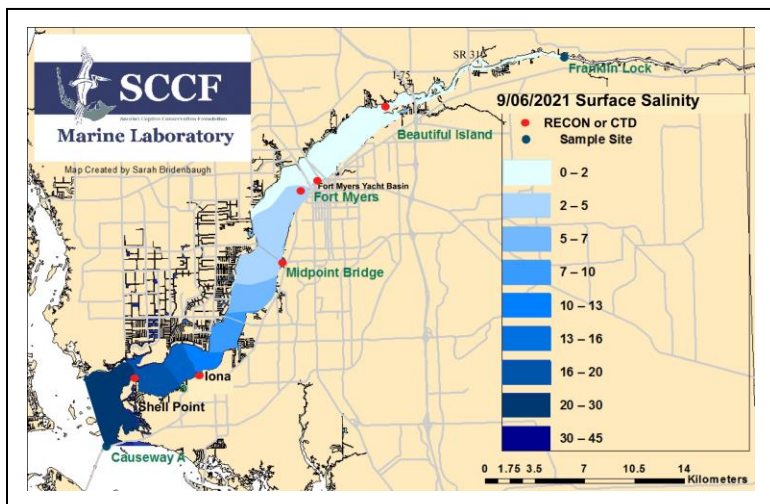
Last Week: 14.67 ft

Lake Okeechobee Inflow: 2,478 cfs

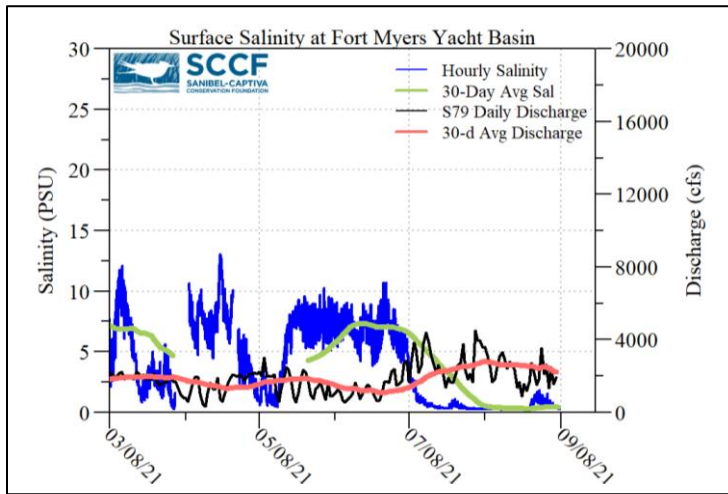
Lake Okeechobee Outflow: 7 cfs

Weekly Rainfall Total: WP Franklin 1.54" Ortona 0.60"

Moore Haven 1.82"



ACOE Daily Reports			
Date	S79 Flow (cfs)	S78 Flow (cfs)	S77 Flow (cfs)
8/31/21	3546	946	0
9/1/21	2126	261	0
9/2/21	2647	391	0
9/3/21	1326	584	0
9/4/21	2481	460	0
9/5/21	1547	468	0
9/6/21	1919	464	0
7-day avg	2227	511	0



Light Penetration				
Site	25% Iz	Target Values	Turbidity	Target Values
	meters		NTU	
Fort Myers	0.89 ^c	> 1	1.7	< 18
Shell Point	1.21 ^c	>2.2	2.2	< 18
Causeway	1.69 ^m	> 2.2	2.1	< 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 9/7/21 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 **21 psu**, within the optimal range for oysters, but **below optimal for seagrass**. Hypoxia was recorded on 9/3/21.

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]	2.2 – 4.6	360	7.7
Fort Myers Yacht Basin	0.3 – 1.5 [0.3 – 1.8]	2.3 – 7.0	342	7.8
Shell Point	11 – 30 [11 – 31]	2.8 – 5.6	145	3.3
McIntyre Creek	25.5 – 29.1	1.6 – 11.9	8.5 – 12.9	0.1 – 0.5
Tarpon Bay	26.3 – 30.8	3.9 – 9.1	9.0 – 14.3	-----
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

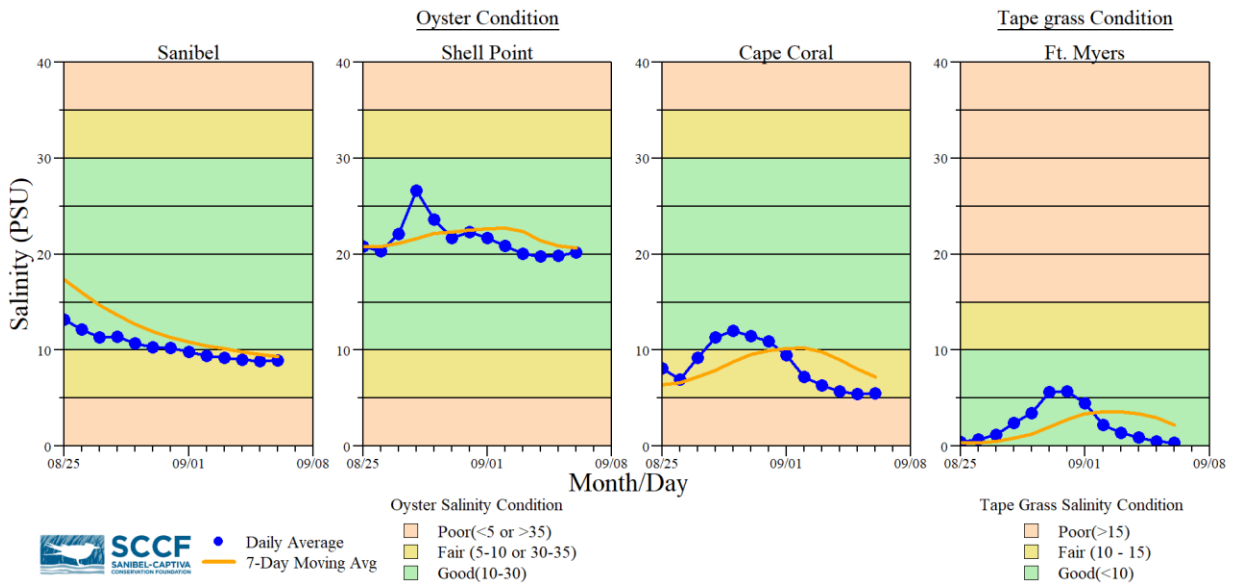
^s Single sonde lower and surface layer or surface grab lab measurement

Red Tide: On 9/3/21, 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 36 samples. Bloom concentrations (>100,000 cells/liter) were observed in nine samples: seven from Pinellas County and two from Charlotte County.

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

Wildlife Impacts: In the past week, the CROW wildlife hospital on Sanibel received 10 toxicosis patients: 1 least sandpiper (died), 1 osprey (died), 2 red shouldered hawks (died), 1 brown pelican (died), 3 anhinga (1 died, 2 still at CROW), 1 semipalmated plover (released), 1 double crested cormorant (still at CROW).

Beach reports: On 8/26/21 – 9/2/21 the [FWC fish kill hotline](#) continued to receive reports of fish kills inshore ranging from Pinellas to Lee counties. Locations affected include Indian Shores Beach, Manasota Key, and Placida Harbor. Affected species include Spot, Horseshoe Crabs, Red Drum, Pufferfish, pompanos, Snook, Pinfish, Silver Perch, crabs, and Irish Pompano. Since 8/26/21, monitoring partners, Mote Marine and Sarasota County Government documented an additional 42 reports in each county ranging from Indian Shores south to the Boca Grande Lighthouse.



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 9/3/21 at 1:44 PM on a falling tide (High tide: 3.08 ft @ 9:51 AM). [Lighthouse Beach Park virtual tour.](#)