

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
 Leah Reidenbach, Rick Bartleson PhD, & Matt Depaolis - SCCF (Sanibel-Captiva Conservation Foundation)

Subject: Caloosahatchee & Estuary Conditions Report

Reporting Period: **December 13 – 19, 2022**

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: Flow to the Caloosahatchee Estuary had a 7-day average of **2,312 cfs** at **S-79** with a 7-day average of **1,372cfs (59%)** coming from the lake at **S-77**. **The 14-day moving average flow at S-79 is 1,810 cfs and has been in the optimal flow envelope (750 - 2100 cfs; RECOVER 2020) for 54 days.**

Recommendation: To keep the Caloosahatchee River and Estuary in the optimal salinity envelope and to avoid unnecessary stress, we encourage the Corps to maintain flows within the RECOVER 2020 optimal flow envelope of 750 – 2,100 cfs at S-79 for the Caloosahatchee Estuary.

USACE Action: With Lake Okeechobee in the intermediate sub band and normal to wet tributary hydrologic conditions and weather forecast, LORS08 Part D currently suggests up to 4,000 cfs at S-77. On 12/3/22 the USACE increased releases from Lake Okeechobee to the Caloosahatchee Estuary from the W.P. Franklin Lock and Dam (S-79) to a seven-day average pulse release of 2,000 cubic feet per second. No lake releases are planned for the St. Lucie Estuary. The USACE is utilizing a make-up release tool which allows them to make releases at levels lower than suggested in LORS08 and bank the volume not released for beneficial use throughout the dry season.

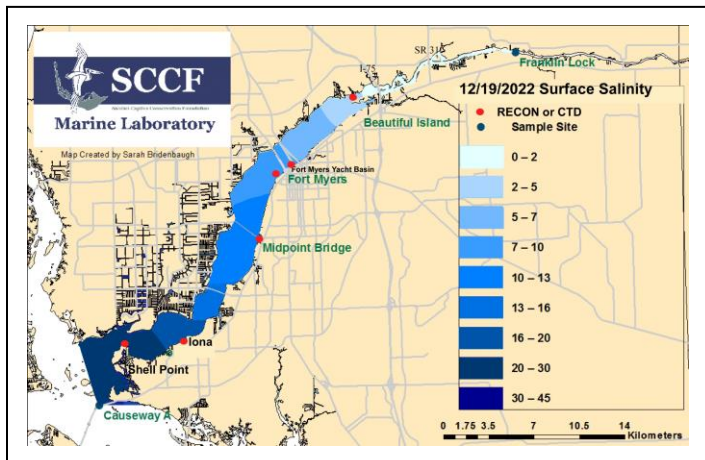
Lake Flows: In the past 7 days the total outflow from Lake Okeechobee was **21,183 AF** with **19,043 AF** to the Caloosahatchee through **S-77**, **35 AF** through **S-310** in Clewiston, and **2,053 AF** to the EAA through **S-351**, **S-352**, and **S-354**. The total net inflow to the Lake was **29,780 AF** (29,714 AF from Fisheating Creek, S-71, S-72, S-84s, S-65EX, and S-65EX1) with a total backflow volume of **65 AF** from **C10A**. Water conservation areas received flows of **4,344 AF**, **0 AF**, and **3,340 AF** at **WCA1**, **WCA2**, and **WCA3**, respectively. Everglades National Park received **20,448 AF**.

Lake Level: 16.42 ft (Intermediate sub-band) Last Week: 16.40 ft Last Year: 15.73 ft

Lake Okeechobee Inflow: 2100 cfs Lake Okeechobee Outflow: 1867 cfs

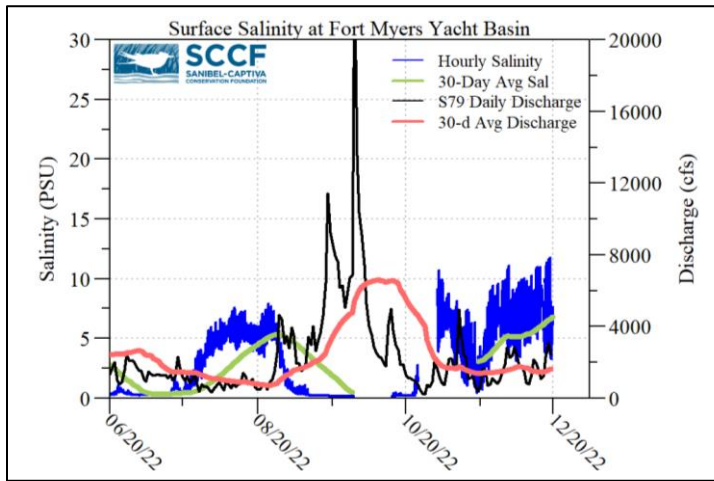
Weekly Rainfall Total: WP Franklin 0.96" Ortona 1.21" Moore Haven 0.81"

7-Day Lake Recession Rate: +0.02 ft/week



ACOE Daily Reports			
Date	S79 Flow (cfs)	S78 Flow (cfs)	S77 Flow (cfs)
12/13/22	1936	1496	2050
12/14/22	1489	1204	2056
12/15/22	NR	655	685
12/16/22	NR	675	0
12/17/22	2289	1588	1304
12/18/22	3084	1817	1867
12/19/22	2761	1833	1639
7-day avg	2312	1239	1372

NR = no report



Site	Light Penetration		Turbidity	Target Values
	25% I _z	Target Values		
	meters		NTU	
Fort Myers	ND	> 1	ND	< 18
Shell Point	1.31	>2.2	1.7	< 18
Causeway	1.33	> 2.2	3.4	< 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 12/19/22 sampling for cyanobacteria by the Lee County Environmental Lab reported the presence of *Microcystis* and *Dolichospermum* upstream of the Franklin Locks and at the Davis Boat Ramp as wind driven tan-green scum along the lock and seawall.

Upper Estuary Conditions: The 30-day average surface salinity at the Fort Myers Yacht Basin was 6.3 psu, within the suitable range for tape grass.

Lower Estuary Conditions: The average salinity at Shell Point RECON was 26 psu, within the optimal range for oysters and 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	0.5 – 2.9 [0.5 – 2.9]	4.0 – 6.2	-----	6.6
Fort Myers Yacht Basin	3.9 – 10 [4.4 – 9.8]	-----	-----	-----
Shell Point	16 – 33 [16 – 30]	5.3 – 6.8	118	1.8
McIntyre Creek	27.8 – 32.9 [27.5 – 29.1]	2.4 – 8.3	-----	-----
Tarpon Bay	27.7 – 34.2 [26.5 – 29.0]	4.7 – 8.1	-----	-----
Wulfert Flats	29.3 – 31.7 [29.3 – 31.5]	3.9 – 8.5	-----	2.6 – 37.5

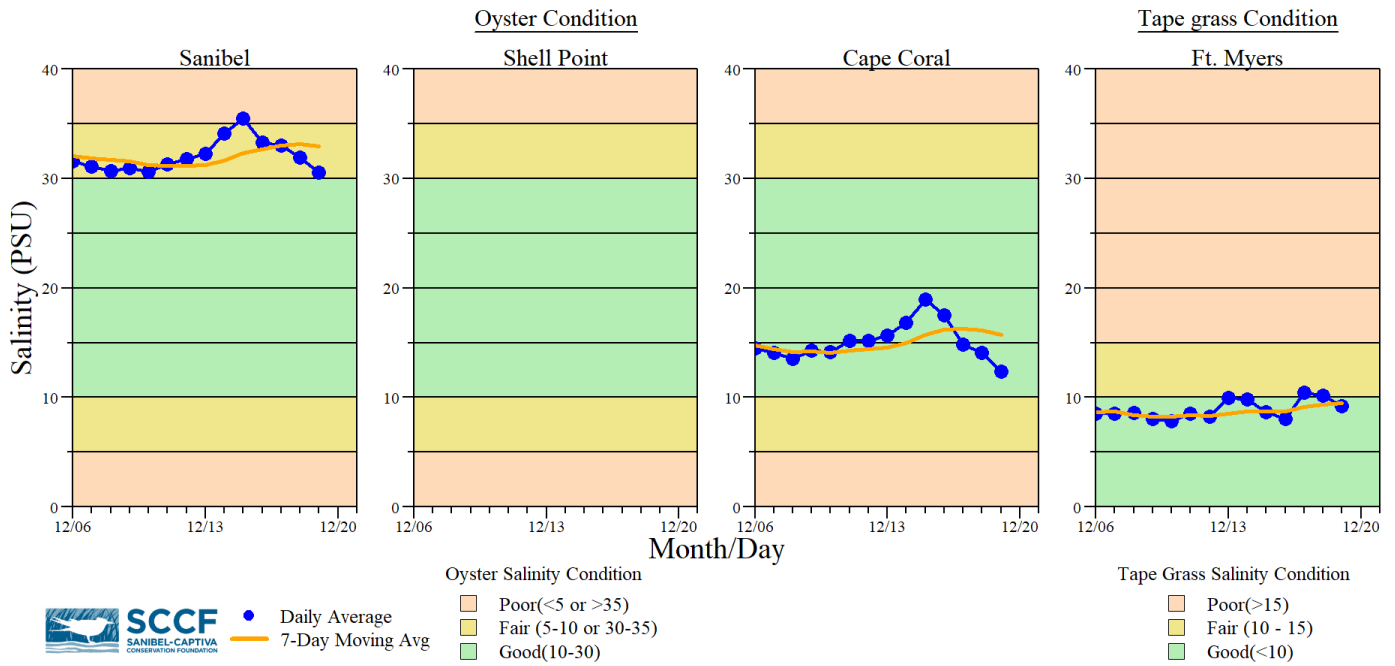
Red values are outside of the preferred range.
^a Salinity target values: BI < 5, FM < 10, SP = 10 – 30
^b Dissolved O₂ target values: all sites > 4
^c FDOM target values: BI < 70, FM < 70, SP < 11
^d Chlorophyll target values: BI < 11, FM < 11, SP < 11
^e Single sonde lower and surface layer or surface grab lab measurement
 ----- no data

Red Tide: On 12/16/22, the FWC reported that over the past week the red tide organism, *Karenia brevis*, was observed in 75 samples collected from Florida's Gulf Coast over the past week. Bloom concentrations (>100,000 cells/liter) were present in 30 samples: 18 in and offshore of Pinellas County, one in Hillsborough County, four in Manatee County, four in Sarasota County, two in Charlotte County, and one offshore of Monroe County.

K. brevis was observed at background to high concentrations in and offshore of Pinellas County, high concentrations in Hillsborough County, background to medium concentrations in and offshore of Manatee County, background to high concentrations in Sarasota County, low to medium concentrations in and offshore of Charlotte County, **background to very low concentrations in and offshore of Lee County**, very low concentrations offshore of Collier County, and background to medium concentrations in and offshore of Monroe County.

Wildlife Impacts: In the past week, the CROW wildlife hospital on Sanibel received 10 patients with toxicosis symptoms: 1 brown pelican (died), 7 double crested cormorants (5 still at CROW, 2 died), 1 osprey (still at CROW), and 1 sanderling (died).

Beach Conditions: In the past week, the City of Sanibel reported 4 dead laughing gulls and 1 dead double crested cormorant on Sanibel beaches, and the Town of Fort Myers Beach reported a horseshoe crab kill.



Water clarity at Lighthouse Beach Park on 12/19/22 at 12:46 PM on a falling tide (low tide: 1.04 ft @ 2:43 PM). [Lighthouse Beach Park Virtual Tour.](#)