

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: **October 25 – 31, 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 **578 cfs** at **S-79** with a 7-day average of **155 cfs (27%)** coming from the lake at **S-77**. **The 14-day moving average flow at S-79 is 956 cfs and has been in the optimal flow envelope (750 – 2,100 cfs; RECOVER 2020) for 6 days.** *Karenia brevis* was found with bloom concentrations in 5 samples from Lee County.

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 10/29/22 the USACE will begin releases at the W.P. Franklin Lock and Dam (S-79) with a 7-day average pulse release of 1,200 cfs. Water from the lake will only be released in amounts needed to supplement local basin runoff to meet the downstream target of 1,200 cfs.

Lake Flows: In the past 7 days the total outflow from Lake Okeechobee was **3,594 AF** with **2,152 AF** to the Caloosahatchee through **S-77**, **345 AF** through **S-310** in Clewiston, and **1,097 AF** to the EAA through **S-351**, **S-352**, and **S-354**. The total net inflow to the Lake was **125,714 AF** (125,667 AF from Fisheating Creek, S-71, S-72, S-84s, S-65EX, and S-65EX1) with a total backflow volume of **48 AF** from **C10A**. Water conservation areas received flows of **1,099 AF**, **2,594 AF**, and **12,758 AF** at **WCA1**, **WCA2**, and **WCA3**, respectively. Everglades National Park received **36,962 AF**.

Lake Level: 15.85 ft (Base flow sub-band)

Last Week: 15.62 ft

Last Year: 15.83 ft

Lake Okeechobee Inflow: 7,196 cfs

Lake Okeechobee Outflow: 82 cfs

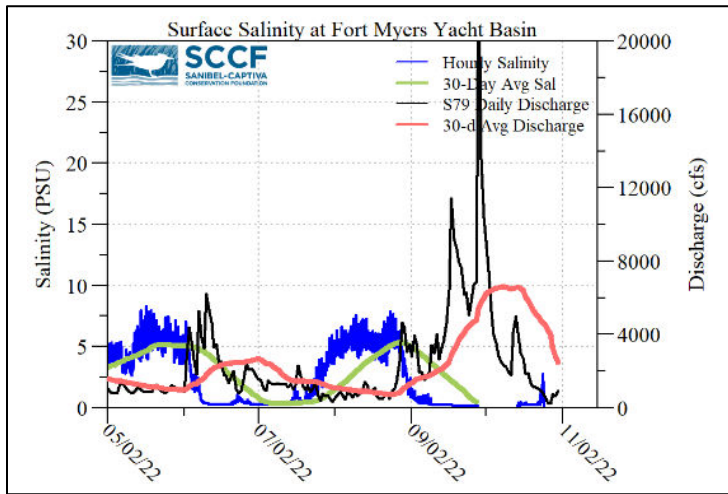
Weekly Rainfall Total: WP Franklin ≥ 0.00

Ortona ≥ 0.00"

Moore Haven ≥ 0.00"

7-Day Lake Recession Rate: +0.23 ft/week

ACOE Daily Reports			
Date	S79 Flow (cfs)	S78 Flow (cfs)	S77 Flow (cfs)
10/25/22	770	176	0
10/26/22	529	80	0
10/27/22	242	0	0
10/28/22	209	0	0
10/29/22	738	0	0
10/30/22	625	0	0
10/31/22	933	628	1085
7-day avg	578	126	155



Light Penetration				
Site	25% I _z	Target Values	Turbidity	Target Values
	meters		NTU	
Fort Myers	ND	> 1	ND	< 18
Shell Point	ND	>2.2	ND	< 18
Causeway	ND	> 2.2	ND	< 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 10/31/22 sampling for cyanobacteria by the Lee County Environmental Lab reported no cyanobacteria in the Caloosahatchee Estuary.

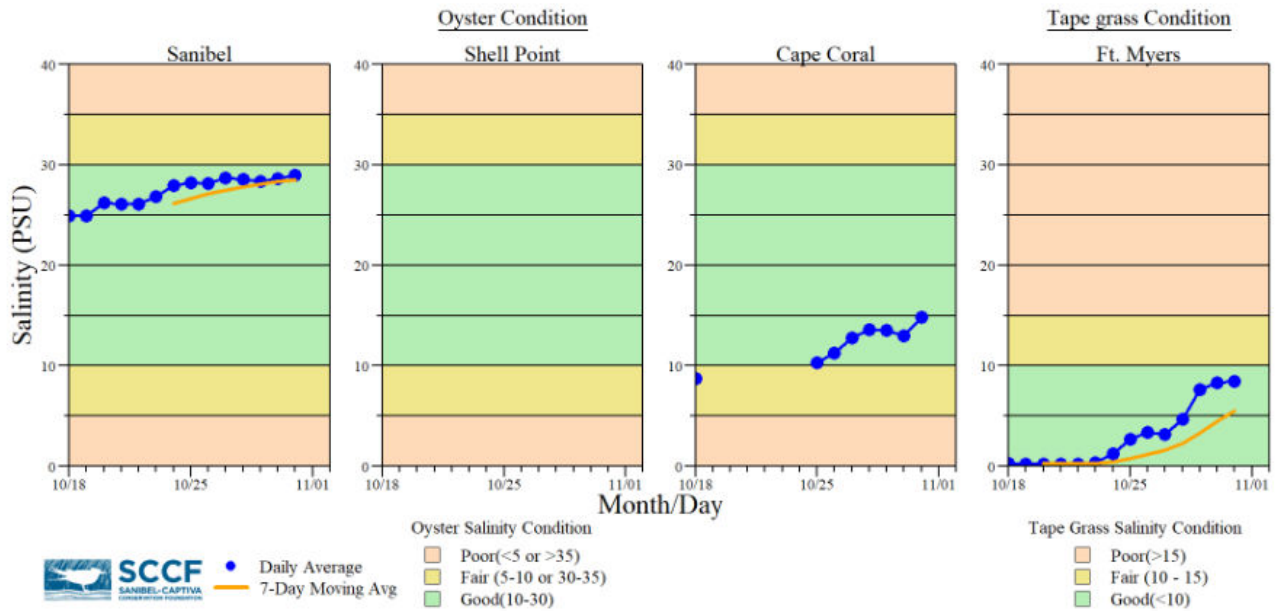
Water Quality Conditions:

Monitor Site	Salinity (psu) ^a [previous week]	Diss O ₂ (mg/L) ^b	FDOM (qsde) ^c	Chlorophyll (µg/L) ^d
Beautiful Island	0.2 – 1.0 [0.2 – 0.2]	3.7 – 5.4	221	4.8
Fort Myers Yacht Basin	1.4 – 7.8 [0.2 – 1.4]	-----	-----	-----
Shell Point	----- [11.1 – 27.3]	-----	-----	-----
McIntyre Creek	25.9 – 27.9 [22.1 – 29.6]	0.7 – 7.6	-----	-----
Tarpon Bay	-----	-----	-----	-----
Wulfert Flats	27.6 – 28.7 [24.1 – 30.5]	1.2 – 7.0	-----	13.6

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 10/28/22, the FWC reported that over the past week the red tide organism, *Karenia brevis*, was observed in 57 samples. Bloom concentrations (>100,000 cells/liter) were present in 18 samples: four in Sarasota County, nine offshore of Charlotte County, and **five offshore of Lee County**. In Southwest Florida over the past week, *K. brevis* was observed at background to high concentrations in and offshore of Sarasota County, background to high concentrations in and offshore of Charlotte County, **background to high concentrations in and offshore of Lee County**, and background to low concentrations offshore of Collier County.

Wildlife Impacts: In the past week (10/25 – 10/31) the CROW wildlife hospital on Sanibel received 0 patients with toxicosis symptoms.



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.

Data are provisional and subject to change.



Water clarity at Lighthouse Beach Park on 10/28/22 at 1:39 PM on a rising tide (high tide: 1.97 ft @ 4:47 PM). [Lighthouse Beach Park Virtual Tour.](#)