

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: **May 2 – 8, 2023**

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 **1,438 cfs** at **S-79** with a 7-day average of **1,531 cfs (106%)** coming from the lake at **S-77**. **The 14-day moving average flow at S-79 is 1,591 cfs and has been in the optimum flow envelope (750 – 2,100 cfs; RECOVER 2020) for 26 days.**

Recommendation: As the rainy season approaches, we remain concerned with the high level of the lake and that it will not meet the Corps' target level of 13.09 ft by June 1. We strongly encourage the Corps to utilize all options to reduce lake levels prior to the wet season to prevent damaging releases to the estuaries and to maintain an optimum flow envelope of 750 – 2,100 cfs at S-79 (RECOVER 2020) to support an optimal salinity gradient and spawning activities of oysters in the estuary.

USACE Action: With Lake Okeechobee in the Low sub band and dry tributary hydrologic conditions, LORS08 Part D suggests up to 650 cfs at S-79. On 4/15/23 the USACE decreased releases from Lake Okeechobee to the St. Lucie Estuary (S-80) to 0 cfs and to the Caloosahatchee Estuary from the W.P. Franklin Lock and Dam (S-79) to 1,800 cfs. **Since entering the low sub band on 2/13/23 the USACE began utilizing banked releases** from a make-up release tool which allowed them to make releases at levels lower than suggested in LORS08 since 11/18/22 and bank the volume not released for beneficial releases throughout the dry season.

Lake Flows: In the past 7 days the total outflow from Lake Okeechobee was **25,448 AF** with **21,259 AF** to the Caloosahatchee through **S-77, 797 AF** through **S-308** in Port Mayaca, **28 AF** through **S-310** in Clewiston, and **1,652 AF** to the EAA through **S-351, S-352, and S-354**. The total net inflow to the Lake was **4,854 AF** (4,691 AF from Fisheating Creek, S-71, S-72, S-84s, S-65EX, and S-65EX1) with a total backflow volume of **163 AF** from **S310**. Water conservation areas received flows of **4,225 AF, 4,157 AF, and 15,338 AF** at **WCA1, WCA2, and WCA3**, respectively. Everglades National Park received **10,631 AF**.

Lake Level: 14.11 ft (Low sub-band)

Last Week: 14.30 ft

Last Year: 12.91 ft

7-Day Lake Recession Rate: -0.19 ft/week

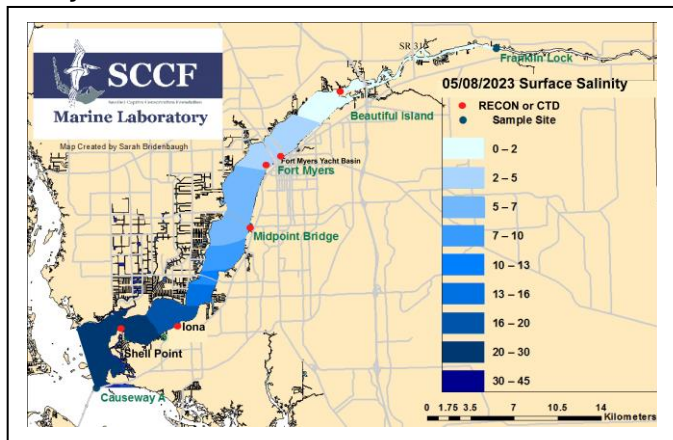
Lake Okeechobee Inflow: 270 cfs

Lake Okeechobee Outflow: 2,283 cfs

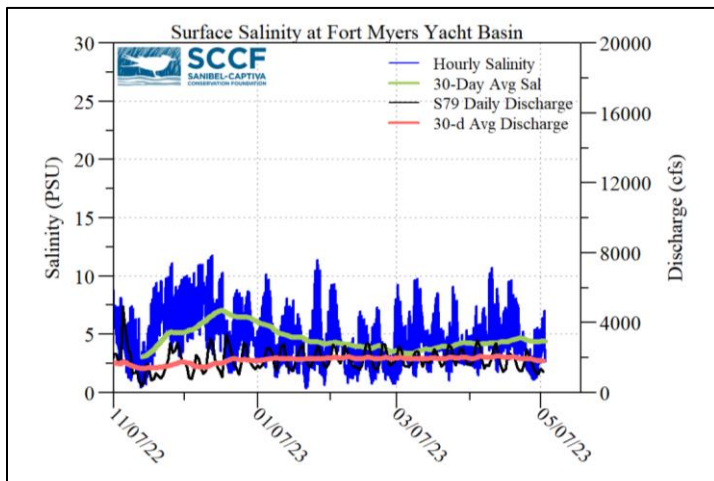
Weekly Rainfall Total: WP Franklin: 0.00"

Ortona: 0.00"

Moore Haven: 0.00"



ACOE Daily Reports			
Date	S79 Flow (cfs)	S78 Flow (cfs)	S77 Flow (cfs)
5/2/23	2088	1763	1950
5/3/23	1734	1511	1966
5/4/23	1372	860	1110
5/5/23	1147	652	893
5/6/23	1055	1008	1406
5/7/23	1383	1098	1936
5/8/23	1287	978	1457
7-day avg	1438	1149	1531



Light Penetration

Site	25% I _z	Target Values	Turbidity	Target Values
	meters		NTU	
Fort Myers	ND	> 1	ND	< 18
Shell Point	1.67	>2.2	1.6	< 18
Causeway	3.59	> 2.2	2.2	< 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 5/8/23 sampling for cyanobacteria by the Lee County Environmental Lab reported **moderately abundant** *Dolichospermum* and *Microcystis* at the **Alva Boat Ramp** as visible specks on the surface and in the water column. *Dolichospermum* and *Microcystis* were **moderately abundant** upstream of the **Franklin Locks** as some streaks with accumulation along the shore and Lock. *Dolichospermum* was **present** at the **Davis Boat Ramp** as light streaks.

Upper Estuary Conditions: The 30-day average surface salinity at the Fort Myers Yacht Basin was 4.5 psu, within the suitable range for tape grass.

Lower Estuary Conditions: The average salinity at Shell Point RECON was 27 psu, in the optimal range for seagrass and oysters.

Water Quality Conditions:

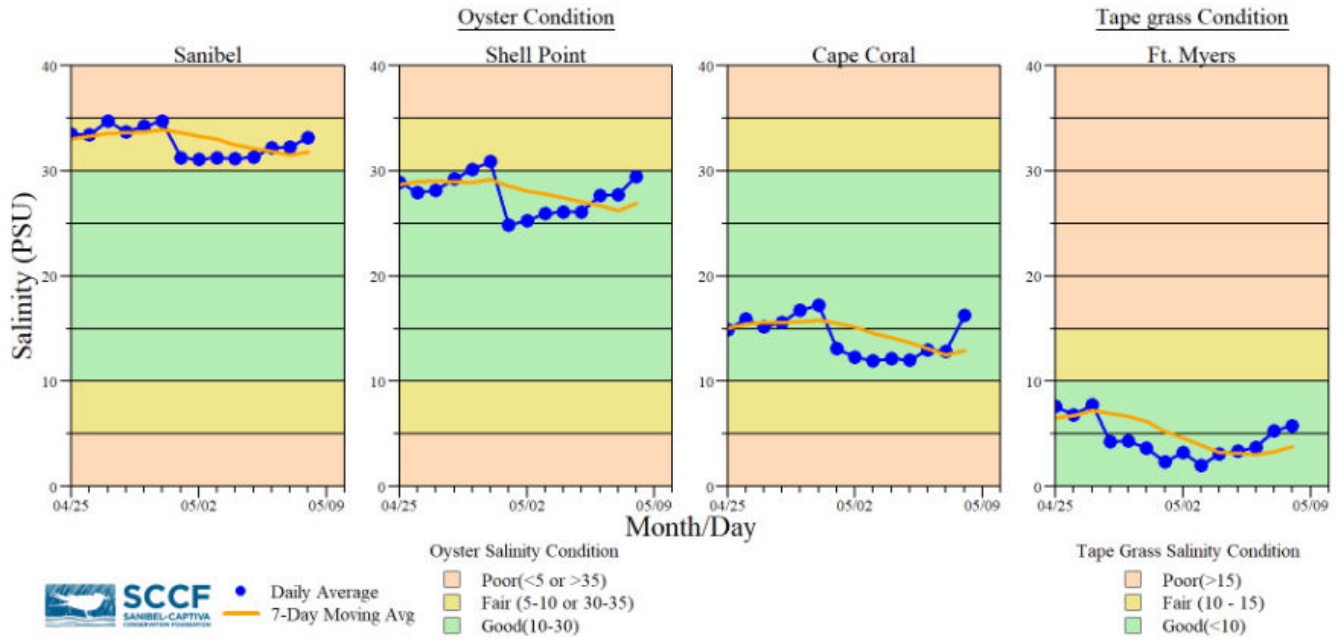
Monitor Site	Salinity (psu) ^a [previous week]	Diss O ₂ (mg/L) ^b	FDOM (qsde) ^c	Chlorophyll (µg/L) ^d
Beautiful Island	0.3 - 0.4 [0.2 - 0.8]	4.1 - 8.3	-----	6.8
Fort Myers Yacht Basin	----- [-----]	-----	-----	-----
Shell Point	17 - 33 [16 - 34]	5.5 - 7.1	88.3	1.8
McIntyre Creek	31.6 - 34.3 [32.3 - 34.7]	3.2 - 8.11	-----	-----
Tarpon Bay	32.3 - 35.4 [31.7 - 36.3]	4.6 - 9.3	1.6 - 3.6	1.0 - 13.9
Wulfert Flats	32.9 - 35.5 [32.6 - 33.8]	4.5 - 8.7	-----	2.2 - 12.8

- 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
- ^s Single sonde lower and surface layer or surface grab lab measurement
- no data

Red Tide: On 5/5/23, the FWC reported that over the past week the red tide organism, *Karenia brevis*, was detected in 46 samples collected from Florida’s Gulf Coast. Bloom levels (>100,000 cells per liter) were not observed.

In Southwest Florida over the past week, *K. brevis* was observed at very low concentrations in Pinellas County, background to very low concentrations in Manatee County, background to low concentrations in Sarasota County, background to very low concentrations in Charlotte County, **background to low concentrations in Lee County**, and background to very low concentrations in and offshore of Collier County. For additional information, view the Southwest Coast report and map.

Wildlife Impacts: In the past week, the CROW wildlife hospital on Sanibel received 3 patients with toxicosis symptoms: 1 adult semipalmated sandpiper (died), 1 adult great blue heron (died), and 1 juvenile common loon (died).



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.

*Ft. Myers sensor is in the lower strata

Data are provisional and subject to change.



Water clarity at Lighthouse Beach Park on 5/8/23 at 2:00 PM on a high tide (3.4 ft). [Lighthouse Beach Park Virtual Tour.](#)