

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: **March 14 – 20, 2023**

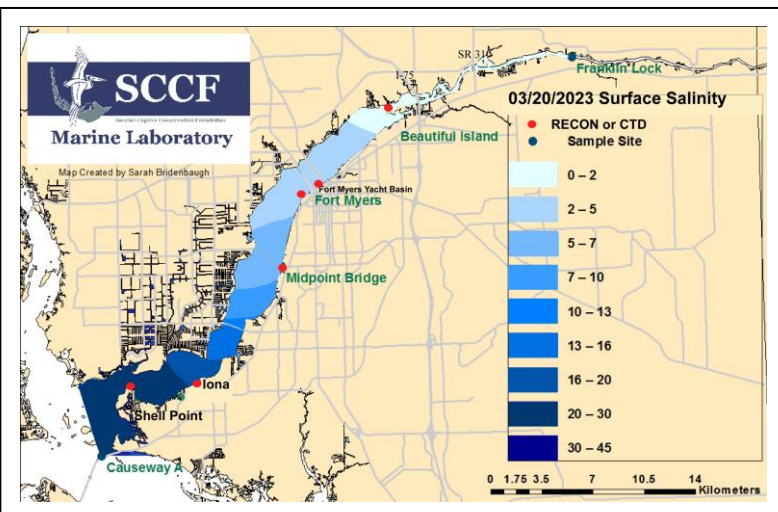
This report provides a scientific assessment of Caloosahatchee River and Estuary conditions and how these conditions affect the health, productivity, and function of the system.

Caloosahatchee Conditions Summary: Flow to the Caloosahatchee Estuary had a 7-day average of **1,971 cfs** at **S-79** with a 7-day average of **1,701 cfs (86%)** coming from the lake at **S-77**. **The 14-day moving average flow at S-79 is 1,935 cfs and has been in the optimum flow envelope (750 – 2,100 cfs; RECOVER 2020) for 34 days.**

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

USACE Action: With Lake Okeechobee in the Low sub band and dry tributary hydrologic conditions, LORS08 Part D suggests up to 450 cfs at S-79 and up to 200 cfs at S-80. On 1/21/23 the USACE increased releases from Lake Okeechobee to the St. Lucie Estuary (S-80) to a 7-day average steady release of 500 cfs and to the Lake Worth Lagoon to a 7-day average steady release of 100 cfs. Flows to the Caloosahatchee Estuary from the W.P. Franklin Lock and Dam (S-79) were sustained at seven-day average pulse release of 2,000 cubic feet per second. **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.

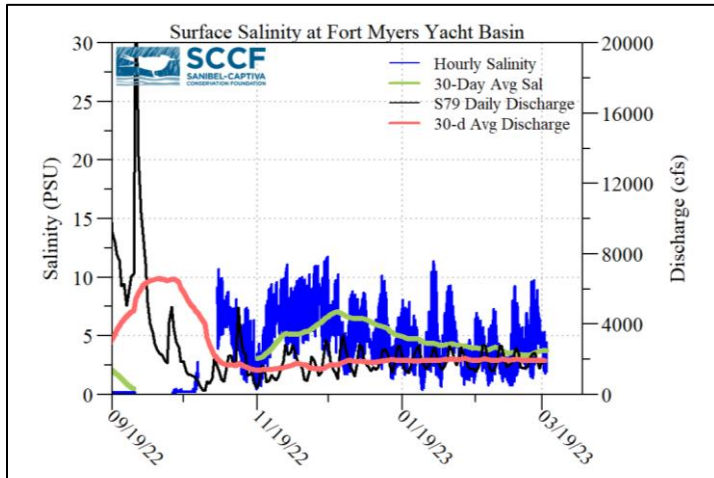
Lake Flows: In the past 7 days the total outflow from Lake Okeechobee was **45,673 AF** with **23,613 AF** to the Caloosahatchee through **S-77**, **4,877 AF** through **S-308** in Port Mayaca, **1,180 AF** through **S-310** in Clewiston, and **12,466 AF** to the EAA through **S-351**, **S-352**, and **S-354**. The total net inflow to the Lake was **7,978 AF** (7,978 AF from Fisheating Creek, S-71, S-72, S-84s, S-65EX, and S-65EX1). Water conservation areas received flows of **0 AF**, **129 AF**, and **1,434 AF** at **WCA1**, **WCA2**, and **WCA3**, respectively. Everglades National Park received **9,552 AF**.



Lake Level: 14.87 ft (Low sub-band)
Last Week: 15.11 ft
Last Year: 14.13 ft
7-Day Lake Recession Rate: -0.24 ft/week

Lake Okeechobee Inflow: 530 cfs
Lake Okeechobee Outflow: 2,005 cfs

Weekly Rainfall Total:
WP Franklin: 0.15"
Ortona: ≥0.10"
Moore Haven: 0.21"



Cyanobacteria Status: The Lee County Environmental Lab did not collect cyanobacteria samples in the Caloosahatchee Estuary during the week of 3/14/23.

Upper Estuary Conditions: The 30-day average surface salinity at the Fort Myers Yacht Basin was 4.3 psu, within the suitable range for tape grass.

Lower Estuary Conditions: The average salinity at Shell Point RECON was 27 psu, within the optimal range for oysters and seagrass. *Karenia* spp. counts at Sanibel and the Causeway were low to background during the week and diatom concentrations were also low.

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 – 1.1 [0.2 – 0.5]	3.0 – 6.5	261	4.5
Fort Myers Yacht Basin	----- [-----]	-----	-----	-----
Shell Point	15 – 35 [17 – 34]	4.4 – 6.2	80.1	1.8
McIntyre Creek	29.6 – 33.8 [32.4 – 34.1]	0.1 – 4.2	-----	-----
Tarpon Bay	28.8 – 25.7 [32.2 – 34.7]	4.4 – 8.9	-----	1.6 – 70.5
Wulfert Flats	29.7 – 35.3 [33.8 – 34.8]	3.3 – 9.5	-----	1.9 – 24.7

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 3/17/23, the FWC reported that over the past week the red tide organism, *Karenia brevis*, was detected in 79 samples along Florida’s Gulf Coast. Bloom concentrations (>100,000 cells/liter) were present in 18 samples: 12 in and offshore of Pinellas County, two in Manatee County, and four in Collier County

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

Wildlife Impacts: In the past week, the CROW wildlife hospital on Sanibel received 7 patients with toxicosis symptoms 1 adult black-bellied plover (still at CROW), 1 juvenile double crested cormorant (died), 1 adult great blue heron (still at CROW), 1 adult herring gull (died), 1 juvenile ring-billed gull (still at CROW), 1 ruddy turnstone (died), and 1 adult white pelican (died).

Light Penetration

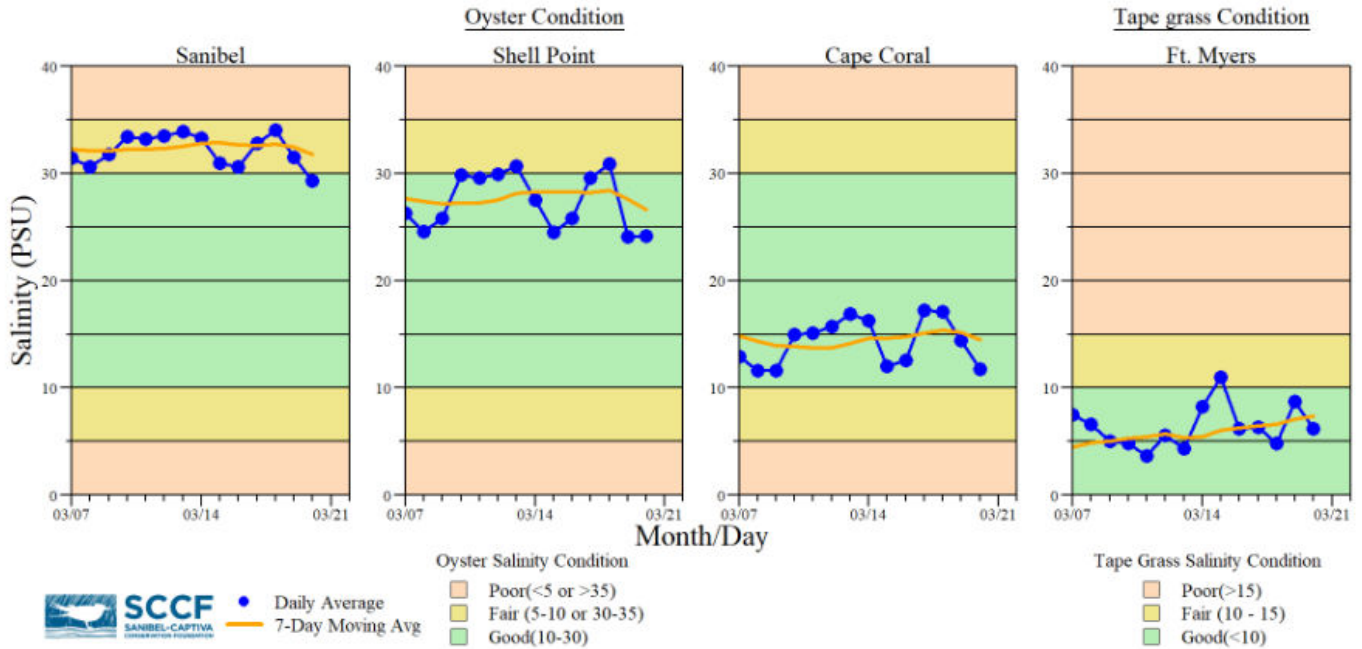
Site	25% I _z	Target Values	Turbidity	Target Values
	meters		NTU	
Fort Myers	ND	> 1	ND	< 18
Shell Point	1.75	>2.2	2.5	< 18
Causeway	2.87	> 2.2	4.5	< 5

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

ACOE Daily Reports

Date	S79 Flow (cfs)	S78 Flow (cfs)	S77 Flow (cfs)
3/14/23	2123	1324	1735
3/15/23	2343	1826	1898
3/16/23	2322	1998	2534
3/17/23	1872	1405	1742
3/18/23	1467	835	1278
3/19/23	1912	1124	1258
3/20/23	1758	1441	1460
7-day avg	1971	1422	1701



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 3/20/23 at 1:13 PM on a high tide (1.8 ft). [Lighthouse Beach Park Virtual Tour.](#)