

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
 James Evans, Leah Reidenbach, & Rick Bartleson PhD - SCCF (Sanibel-Captiva Conservation Foundation)

Subject: Caloosahatchee & Estuary Conditions Report

Reporting Period: **May 31 – June 6, 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: Flows to the Caloosahatchee Estuary had a 7-day average of **2247 cfs** at **S-79** with a 7-day average of **56 cfs (2%)** coming from the lake at **S-77**. **The 14-day moving average flow at S-79 is 1625 cfs and has been in the optimal flow envelope (750 – 2,100 cfs; RECOVER 2020) for 197 days.**

Recommendation: With ongoing spawning activity for many estuarine and marine organisms, including oysters and fishes, **we request that the Corps maintain flows at S-79** at current levels, while monitoring the salinity gradient throughout the estuary for the health of seagrass and oysters.

USACE Action: On 6/3/22 the USACE announced that Port Mayaca Lock and Dam (S-308) and Julian Keen Lock and Dam (S-77) will be closed during Tropical Cyclone One and all local basin runoff will be passed through downstream structures to tide, suspending the current weekly release target of 1,000 cfs at S-79 to the Caloosahatchee. USACE has not scheduled regular lake releases through the S-80 since Spring of 2021. Any release decisions made after the storm will be communicated prior to execution.

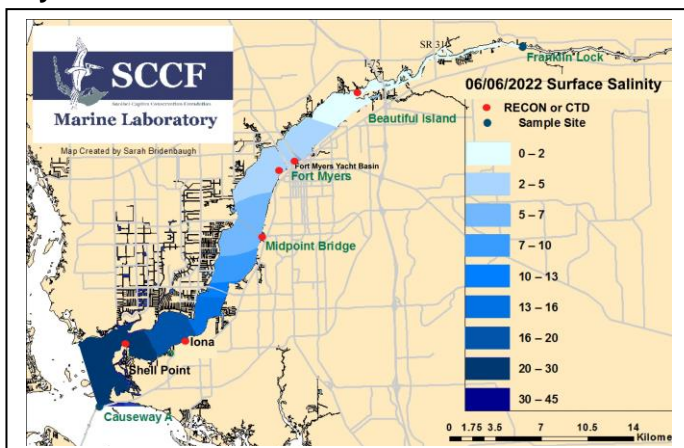
Lake Flows: In the past 7 days the total outflow from Lake Okeechobee was **1,511 AF** with **230 AF** to the Caloosahatchee through **S-77**, **1,047 AF** through **S-308** in Port Mayaca, **0 AF** through **S-310** in Clewiston, and **0 AF** to the EAA through **S-351**, **S-352**, and **S-354**. The total net inflow to the Lake was **11,466 AF** (6,847 AF from Fisheating Creek, S-71, S-72, S-84s, S-65EX, and S-65EX1) with a total backflow volume of **4,619 AF** from **S310**, **C10A**, and **S308**. Water conservation areas received flows of **12,180 AF**, **19,549 AF**, and **7,480 AF** at **WCA1**, **WCA2**, and **WCA3**, respectively. Everglades National Park received **2,636 AF**.

Lake Level: 12.75 ft (Base Flow sub-band) Last Week: 12.62 ft Last Year: 12.75 ft

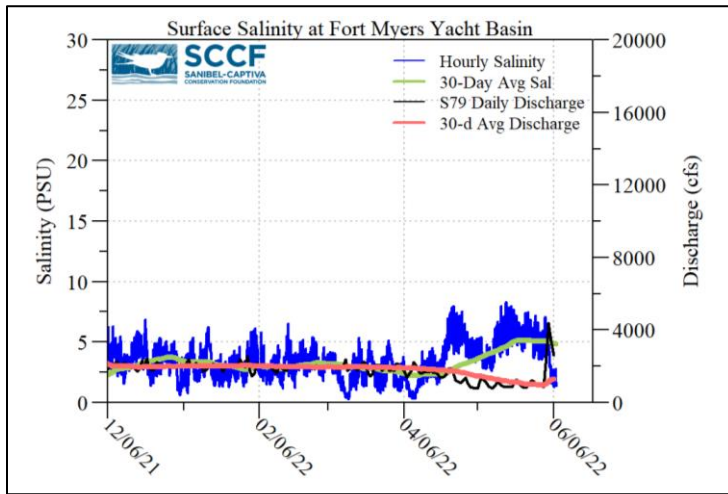
Lake Okeechobee Inflow: 910 cfs Lake Okeechobee Outflow: 0 cfs

Weekly Rainfall Total: WP Franklin 3.31" Ortona 2.72" Moore Haven 1.84"

7-Day Lake Recession Rate: 0.13 ft/week



ACOE Daily Reports			
Date	S79 Flow (cfs)	S78 Flow (cfs)	S77 Flow (cfs)
5/31/22	954	579	279
6/1/22	931	544	116
6/2/22	851	473	0
6/3/22	2612	1255	0
6/4/22	4393	1850	0
6/5/22	3378	1481	0
6/6/22	2607	1042	0
7-day avg	2247	1032	56



Light Penetration				
Site	25% Iz	Target Values	Turbidity	Target Values
	meters		NTU	
Fort Myers	ND	> 1	ND	< 18
Shell Point	1.58 ^c	>2.2	1.6	< 18
Causeway	1.77 ^c	> 2.2	0.8	< 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 6/7/22 sampling for cyanobacteria by the Lee County Environmental Lab reported **moderately abundant** *Microcystis*, *Dolichospermum* and cyanobacterial filaments at the **Alva Boat Ramp** with some specks and accumulation on the ramp. *Microcystis*, *Dolichospermum*, and cyanobacterial filaments were **present** upstream of the **Franklin Locks** as with slight accumulation along the lock. *Dolichospermum* and cyanobacterial filaments were **present** at **North Shore Park** with some specks visible.

Upper Estuary Conditions: The 30-day average surface salinity at the Fort Myers Yacht Basin was 5.5 psu, within the suitable range for tape grass. The dissolved oxygen concentration dropped into the hypoxic range at Beautiful Island daily.

Lower Estuary Conditions: The average salinity at Shell Point RECON was 26 psu, within the optimal range for seagrasses and oysters.

Water Quality Conditions

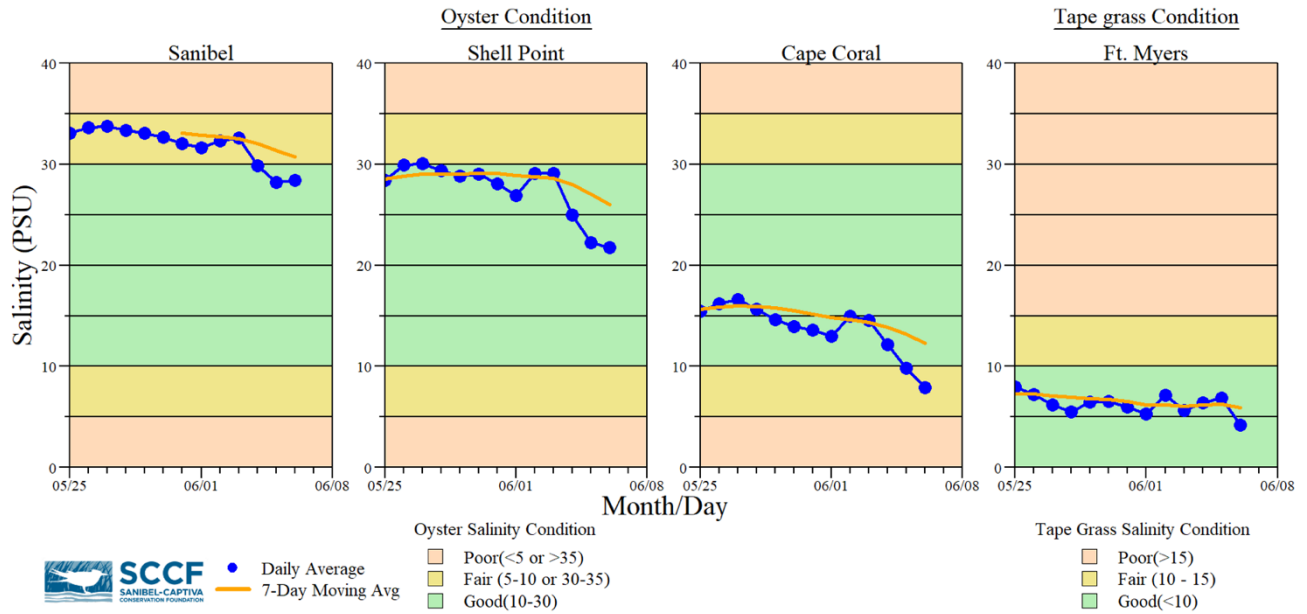
Monitor Site	Salinity (psu) ^a [previous week]	Diss O ₂ (mg/L) ^b	FDOM (qsde) ^c	Chlorophyll (µg/L) ^d
Beautiful Island	0.3 – 1.3 [0.6 – 1.6]	1.9 – 6.9	205	-----
Fort Myers Yacht Basin	1.6 – 6.5 [3.8 – 7.0]	-----	173	-----
Shell Point	13 – 34 [21 – 34]	4.1 – 7.1	68.5	3.0
McIntyre Creek	19.4 – 33.2 [32.7 – 35.0]	3.3 – 12.3	-----	-----
Tarpon Bay	26.5 – 34.8 [31.6 – 34.6]	4.4 – 9.5	-----	-----
Wulfert Flats	----- [-----]	-----	-----	-----

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 6/3/22, the FWC reported that the red tide organism, *Karenia brevis* was observed at background concentrations in Lee County and offshore of Collier County.

Wildlife Impacts: In the past week (5/31 – 6/6), the CROW wildlife hospital on Sanibel received 3 toxicosis patients: 1 double crested cormorant (died), 1 laughing gull (still at CROW), and 1 roseate spoonbill (still at CROW).

Shellfish Advisory: Shellfish harvest area #6222/6232 Pine Island Sound Section 2 and 3 Shellfish Harvest Area (Matlacha Pass) was **CLOSED** by the Florida Department of Agriculture and Consumer Services as of 6/4/22 due to excessive rainfall based on operating procedures in Chapter 5L-1.003 (1), Florida Administrative Code.



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 6/6/22 at 2:16 PM on a rising tide (Low tide: 1.72 ft @ 11:49 AM). [Lighthouse Beach Park Virtual Tour](#).