

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: **June 14 – 20, 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 **2367 cfs** at **S-79** with a 7-day average of **0 cfs (0%)** coming from the lake at **S-77**. **The 14-day moving average flow at S-79 is 3351 cfs and has been in the **damaging** flow envelope (>2600 cfs; RECOVER 2020) for 12 days.**

Recommendation: Local basin runoff into the Caloosahatchee is averaging more than 2,100 cfs at S-79. We request that the Corps cease flow from S-77 until watershed flows drop within the optimal flow range (750 – 2,100 cfs; RECOVER 2020).

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 **1,573 AF** with **0 AF** to the Caloosahatchee through **S-77**, **183 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 **8,703 AF** (7,299 AF from Fisheating Creek, S-71, S-72, S-84s, S-65EX, and S-65EX1) with a total backflow volume of **1,404 AF** from **S310** and **S308**. Water conservation areas received flows of **18,050 AF**, **55,716 AF**, and **16,701 AF** at **WCA1**, **WCA2**, and **WCA3**, respectively. Everglades National Park received **6,056 AF**.

Lake Level: 12.94 ft (Base Flow sub-band)

Last Week: 13.02 ft

Last Year: 12.56 ft

Lake Okeechobee Inflow: 526 cfs

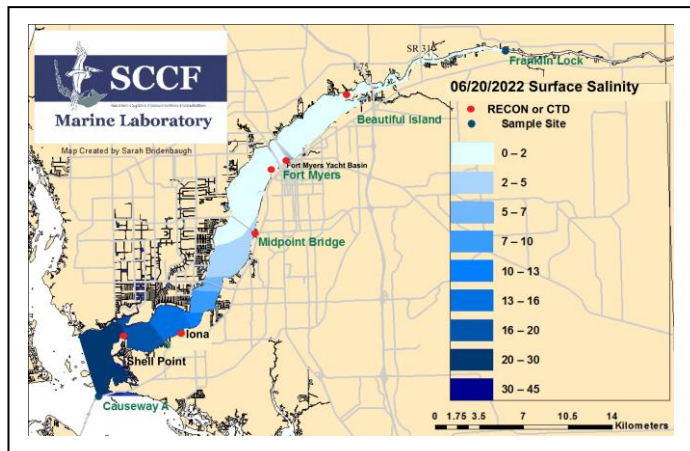
Lake Okeechobee Outflow: 113 cfs

Weekly Rainfall Total: WP Franklin ≥ 1.26"

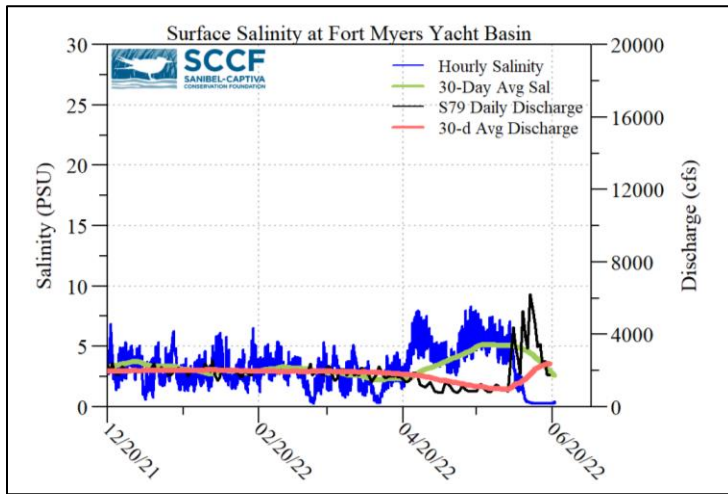
Ortona ≥ 0.24"

Moore Haven ≥ 0.10"

7-Day Lake Recession Rate: -0.08 ft/week



ACOE Daily Reports			
Date	S79 Flow (cfs)	S78 Flow (cfs)	S77 Flow (cfs)
6/14/22	3307	1648	0
6/15/22	3466	895	0
6/16/22	2365	812	0
6/17/22	2534	837	0
6/18/22	1796	443	0
6/19/22	1763	257	0
6/20/22	1335	301	0
7-day avg	2367	742	0



Light Penetration				
Site	25% Iz	Target Values	Turbidity	Target Values
	meters		NTU	
Fort Myers	ND	> 1	ND	< 18
Shell Point	1.29 ^c	>2.2	1.5	< 18
Causeway	1.75 ^c	> 2.2	1.5	< 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 6/20/22 sampling for cyanobacteria by the Lee County Environmental Lab reported the presence of *Microcystis* and cyanobacterial filaments at the **Alva Boat Ramp** as light streaks. *Microcystis* and a dinoflagellate bloom were present upstream of the **Franklin Locks** with accumulation along the lock and sparse specks visible at the dock. *Dolichospermum* and *Microcystis* were moderately abundant at the **Davis Boat Ramp** as streaks with some accumulation along the seawall.

Upper Estuary Conditions: The 30-day average surface salinity at the Fort Myers Yacht Basin was 2.7 psu, within the suitable range for tape grass.

Lower Estuary Conditions: The average salinity at Shell Point RECON was 20 psu, within the optimal range for oysters, but below optimal for seagrass.

Water Quality Conditions

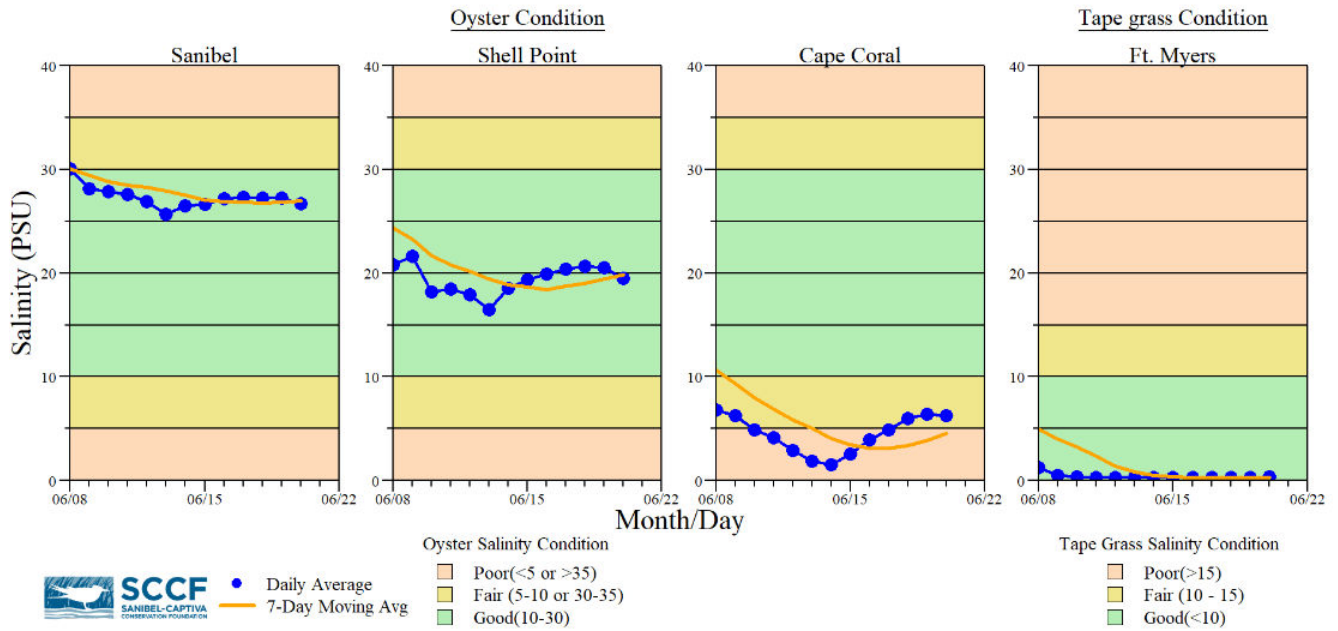
Monitor Site	Salinity (psu) ^a [previous week]	Diss O ₂ (mg/L) ^b	FDOM (qsde) ^c	Chlorophyll (µg/L) ^d
Beautiful Island	0.3 – 0.3 [0.2 – 0.3]	-----	---	-----
Fort Myers Yacht Basin	0.3 – 0.5 [0.3 – 2.7]	-----	---	-----
Shell Point	5.5 – 30 [7.9 – 30]	3.5 – 6.8	100	2.7
McIntyre Creek	24.3 – 27.9 [25.4 – 30.3]	1.2 – 9.5	-----	-----
Tarpon Bay	23.5 – 30.2 [25.0 – 32.3]	3.6 – 8.1	-----	-----
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 6/17/22, the FWC reported that the red tide organism, *Karenia brevis* was observed at background and very low concentrations offshore of Collier County.

Wildlife Impacts: In the past week (6/14 – 6/20), the CROW wildlife hospital on Sanibel received 1 toxicosis patient: 1 osprey (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 6/20/22 due to reported fish kill and milky runoff.

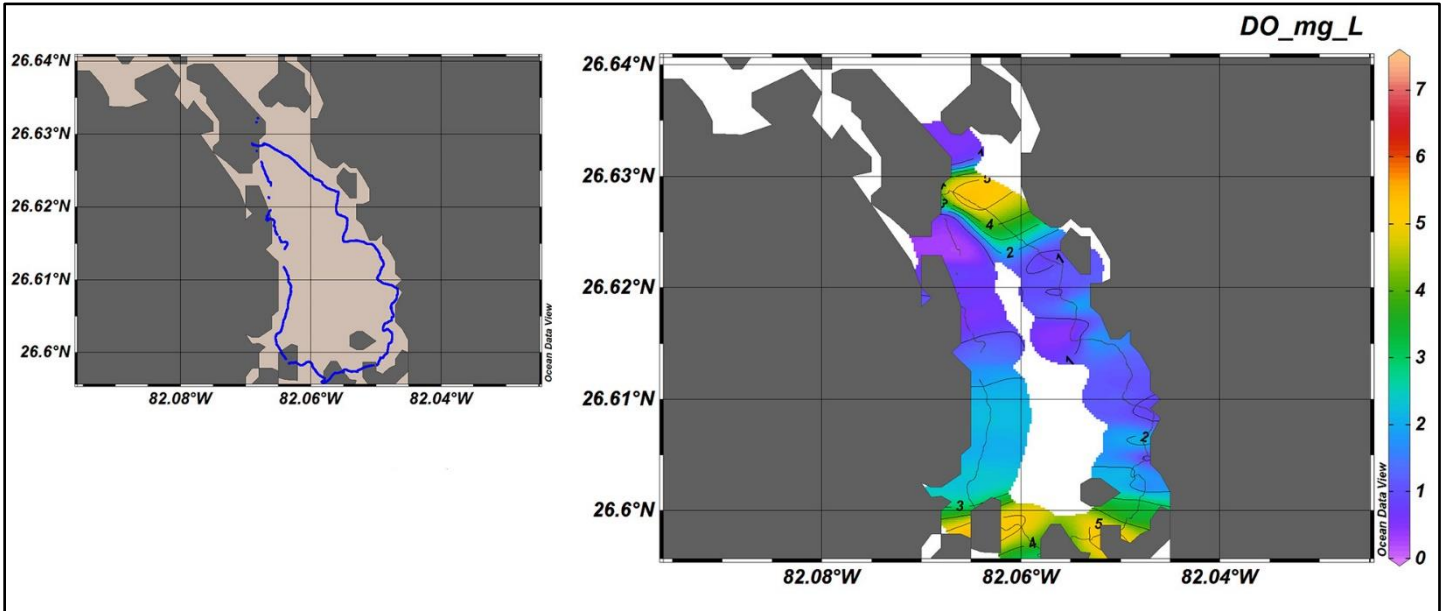


Daily average bottom salinity data for the last 14-days from sampling locations within the tidal Caloosahatchee River Estuary relative to oyster health (Sanibel, Shell Point and Cape Coral) and tape grass (*Vallisneria americana*) health (Ft. Myers only) conditions.

Data are provisional and subject to change.



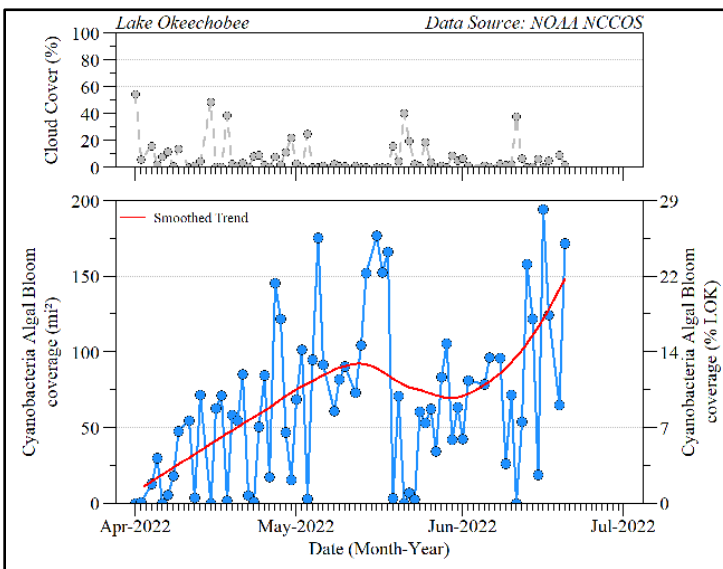
Water clarity at Lighthouse Beach Park on 6/20/22 at 1:38 PM on a rising tide (Low tide: 1.56 ft @ 12:38 PM). [Lighthouse Beach Park Virtual Tour](#).



Anoxia in Matlacha Pass has been related to the milky white colored water and a fish kill event. The white color is caused by sulfur particles that precipitate from H₂S (hydrogen sulfide) produced from the bacterial decomposition of the macroalga *Caulerpa*. Transects (above) show oxygen levels throughout Matlacha Pass (left) on Saturday morning, 6/18/22. SCCF.



Cyanobacterial blooms on the Northwest edge of Lake Okeechobee on 6/15/22 (above). Ralph Arwood & Calusa Waterkeeper.



Percent coverage of cyanobacteria on Lake Okeechobee (above). Tropical Storm One dispersed algae on the Lake, but we are now back to pre-tropical storm trends with 171.7 mi² or approximately 24.6% of the Lake area as of 6/20/22. SCCF.