

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: **April 19 – 25, 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 **1,599 cfs** at **S-79** with a 7-day average of **1,196 cfs (74%)** coming from the lake at **S-77**. The **14-day moving average flow at S-79 is 1,633 cfs** and has been in the **optimal flow envelope (750 – 2,100 cfs; RECOVER 2020)** for 153 days.

Recommendation: With spawning months beginning for many estuarine and marine organisms, including oysters and fishes, decreased flows from S-79 help prevent advection of larvae to less suitable downstream locations. If the Corps determines reduction in flows to S-79 necessary, we request that the Corps make a slight reduction in flows at S-79 to simulate a natural decrease in flows and increase in salinity as the dry season progresses. Drastic decreases in flows should be avoided to prevent stress to estuarine and marine organisms.

USACE Action: Part D of the 2008 LORS suggests flows up to 450 cfs at S-79 and up to 200 cfs at S-80. As of 4/16/21, target flow to the Caloosahatchee Estuary as measured at the WP Franklin Lock & Dam (S-79) was reduced to 1,500 cfs (7-day average, pulse release) and no flow continues to the St. Lucie Lock and Dam (S-80).

Lake Flows: In the past 7 days the total outflow from Lake Okeechobee was **62,415 AF** with **17,345 AF** to the Caloosahatchee through **S-77**, **9,679 AF** to St Lucie through **S-308**, **703 AF** through **S-310** in Clewiston, and **33,838 AF** to the EAA through **S-351**, **S-352**, and **S-354**. The total net inflow to the Lake was **18,417 AF** (18,228 AF from Fisheating Creek, S-71, S-72, S-84s, S-65EX, and S-65EX1) with a total backflow volume of **189 AF** from **S310** and **C10A**. Water conservation areas received flows of **0 AF**, **964 AF**, and **4 AF** at **WCA1**, **WCA2**, and **WCA3**, respectively. Everglades National Park received **2,894 AF**.

Lake Level: 13.08 ft (Base Flow sub-band)

Last Week: 13.36 ft

Last Year: 14.17 ft

Lake Okeechobee Inflow: 1500 cfs

Lake Okeechobee Outflow: 4620 cfs

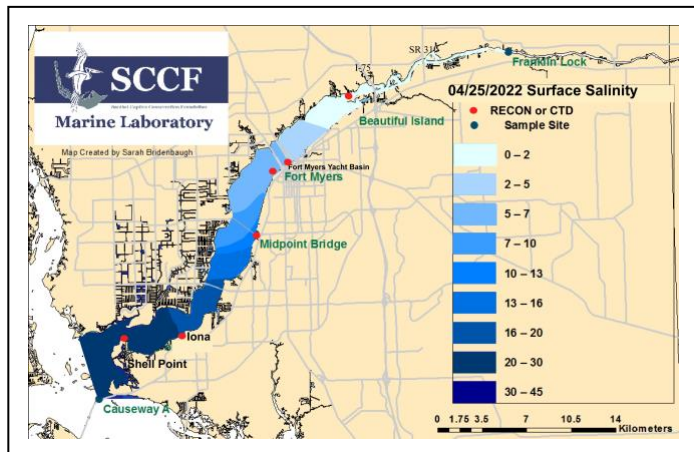
Weekly Rainfall Total:

WP Franklin **0.00"**

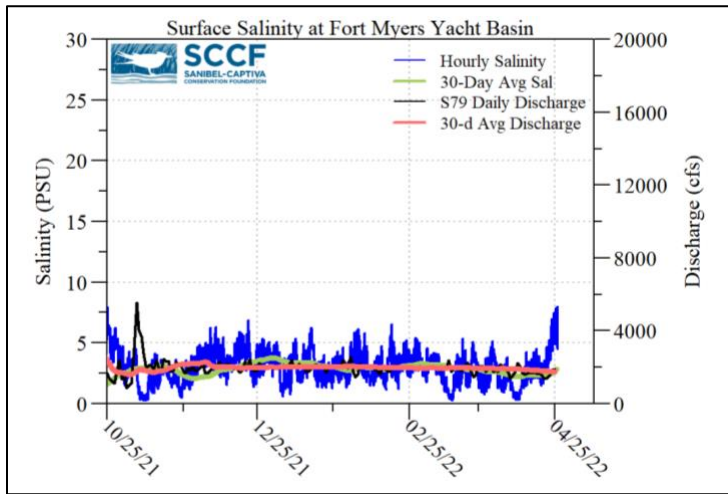
Ortona **0.00"**

Moore Haven **0.77"**

7-Day Lake Recession Rate: -0.28 ft/week



ACOE Daily Reports			
Date	S79 Flow (cfs)	S78 Flow (cfs)	S77 Flow (cfs)
4/19/22	1670	1056	495
4/20/22	1492	1004	477
4/21/22	1356	1121	1283
4/22/22	1406	1087	1676
4/23/22	1540	1192	NR
4/24/22	1850	1677	1487
4/25/22	1882	1767	1758
7-day avg	1599	1272	1196



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	1.82 ^c	> 2.2	4.6	< 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 4/25/22 sampling for cyanobacteria by the Lee County Environmental Lab reported **moderately abundant** cyano-filaments, *Dolichospermum*, and *Microcystis*, at the **Alva Boat Ramp** as visible streaks, and the **Davis Boat Ramp** and the **Franklin Locks** as visible streaks with accumulation.

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 **27 psu**, within the optimal range for oysters and seagrasses.

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 – 0.7 [0.2 – 0.4]	-----	201	-----
Fort Myers Yacht Basin	1.9 - 7.0 [1.2 – 3.9]	-----	153	-----
Shell Point	----- [-----]	-----	50.0	-----
McIntyre Creek	30.1 – 33.7 [31.7 – 33.5]	3.0 – 11.3	-----	-----
Tarpon Bay	29.5 – 33.1 [31.7 – 33.7]	4.6 – 8.3	-----	-----
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

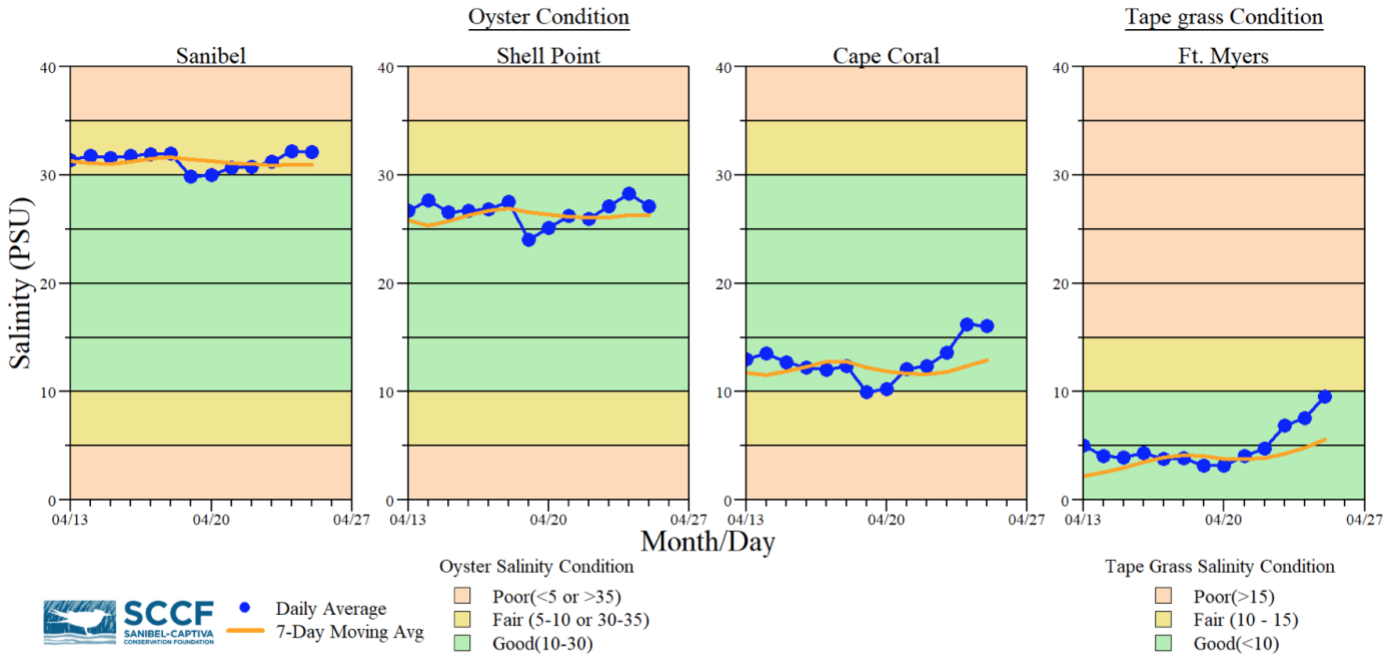
^d Chlorophyll target values: BI < 11, FM < 11, SP < 11

^s Single sonde lower and surface layer or surface grab lab measurement

----- no data

Red Tide: On 4/22/22, the FWC reported that the red tide organism, *Karenia brevis* was observed at background concentrations in Manatee County and offshore of Monroe County.

Wildlife Impacts: In the past week (4/19 – 4/25), the CROW wildlife hospital on Sanibel received 3 toxicosis patients: 3 double crested cormorants (3 still at CROW).



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.