

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: **March 15 – 21, 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 **1,976 cfs** at **S-79** with a 7-day average of **1,716 cfs (86%)** coming from the lake at **S-77**. The **14-day moving average flow at S-79 is 1,961 cfs** and has been in the **optimal flow envelope (750 – 2,100 cfs; RECOVER 2020)** for 118 days.

Recommendation: In order to maintain a beneficial salinity gradient in the Caloosahatchee Estuary for the health of seagrass and oysters, we recommend that the Corps maintain flows at S-79 within the optimum flow envelope (750 – 2,100 cfs) based on the RECOVER performance measure for salinity.

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 11/5/21, target flow to the Caloosahatchee Estuary as measured at the WP Franklin Lock & Dam (S-79) is 2,000 cfs (7-day average, pulse release) and no flow to the St. Lucie Lock and Dam (S-80). Lake flows will be reduced and may stop completely based on local basin runoff.

Lake Flows: In the past 7 days the total outflow from Lake Okeechobee was **40,396 AF** with **23,823 AF** to the Caloosahatchee through **S-77**, **6,587 AF** to St Lucie through **S-308**, **709 AF** through **S-310** in Clewiston, and **6,928 AF** to the EAA through **S-351**, **S-352**, and **S-354**. The total net inflow to the Lake was **9,225 AF** (9,221 AF from Fisheating Creek, S-71, S-72, S-84s, S-65EX, and S-65EX1) with a total backflow volume of **4 AF** from **S310**. Water conservation areas received flows of **470 AF**, **0 AF**, and **4,457 AF** at **WCA1**, **WCA2**, and **WCA3**, respectively. Everglades National Park received **7,882 AF**.

Lake Level: 14.06 ft (Low sub-band)

Last Week: 14.14 ft

Last Year: 14.81 ft

Lake Okeechobee Inflow: 789 cfs

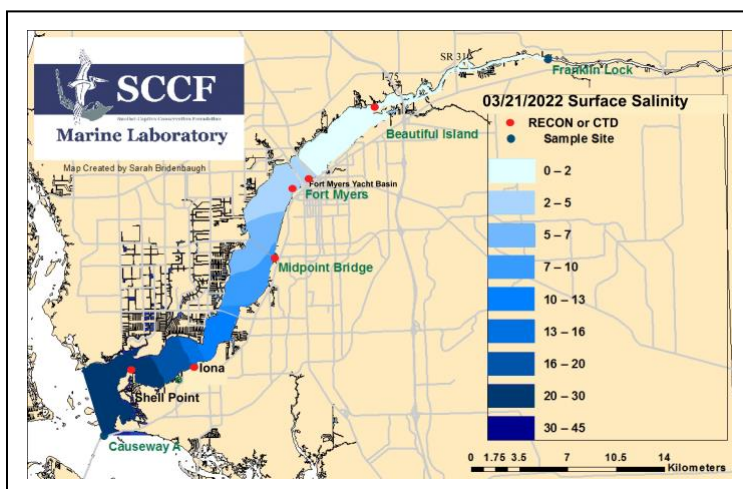
Lake Okeechobee Outflow: 2,526 cfs

Weekly Rainfall Total: WP Franklin 0.00"

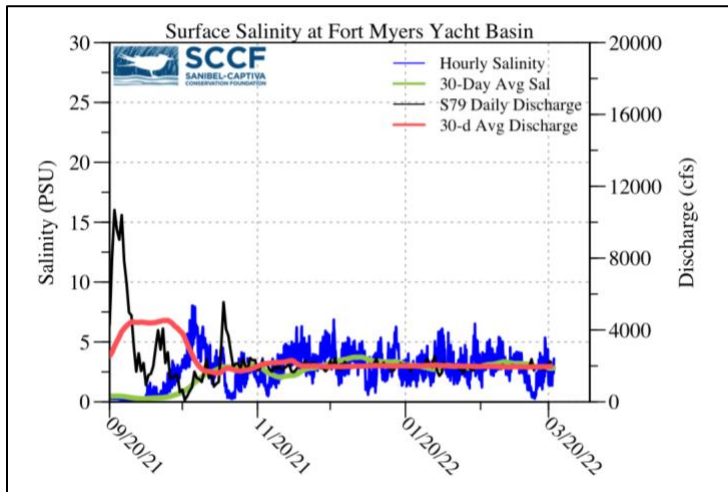
Ortona 0.46"

Moore Haven 0.42"

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



ACOE Daily Reports			
Date	S79 Flow (cfs)	S78 Flow (cfs)	S77 Flow (cfs)
3/15/22	1937	1502	1832
3/16/22	1878	1467	1743
3/17/22	1917	1331	1424
3/18/22	1790	1350	1420
3/19/22	1913	1511	1450
3/20/22	2193	1570	2000
3/21/22	2207	1620	2142
7-day avg	1976	1479	1716



Light Penetration				
Site	25% I _z	Target Values	Turbidity	Target Values
	meters		NTU	
Fort Myers	ND	> 1	ND	< 18
Shell Point	1.63 ^c	>2.2	1.7	< 18
Causeway	1.68 ^c	> 2.2	8.1	< 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 3/21/22 sampling for cyanobacteria by the Lee County Environmental Lab reported the presence of *Dolichospermum* and *Microcystis* upstream of the Franklin Locks with some wind driven accumulation and streaks along the lock. *Dolichospermum* and *Microcystis* were moderately abundant at the Davis Boat Ramp with wind driven accumulation and streaks.

Upper Estuary Conditions: The 30-day average surface salinity at the Fort Myers Yacht Basin was 3.0 psu, within the suitable range for tape grass.

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

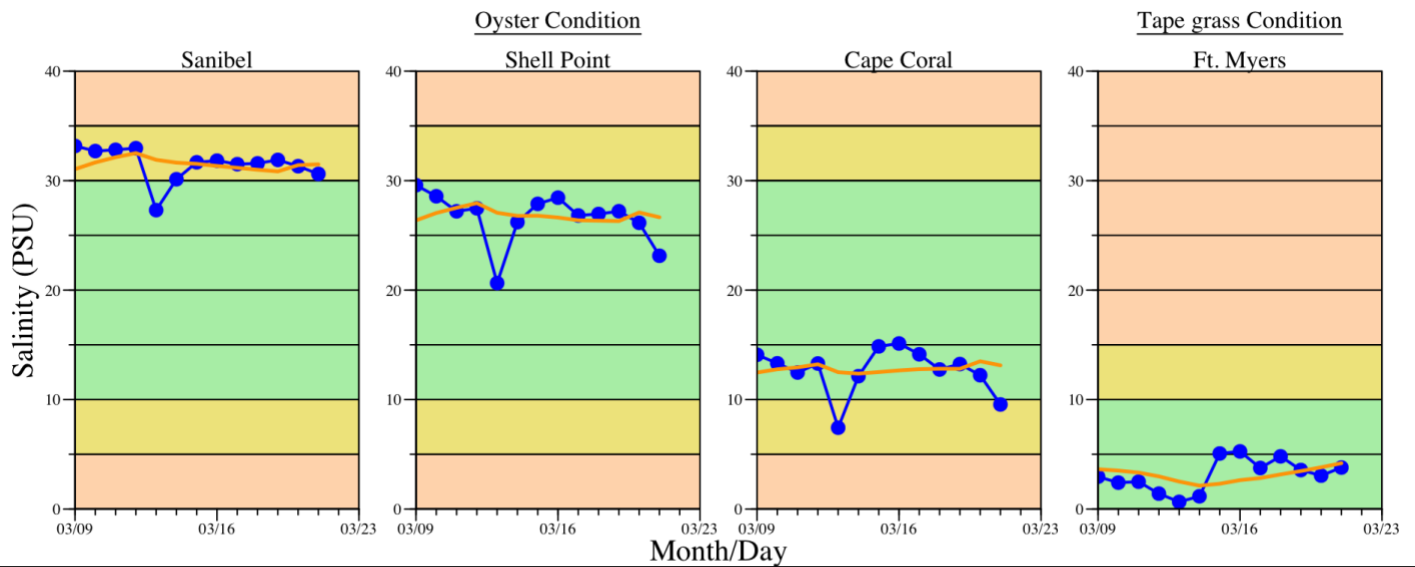
Water Quality Conditions

Monitor Site	Salinity (psu) ^a [previous week]	Diss O ₂ (mg/L) ^b	FDOM (qsde) ^c	Chlorophyll (µg/L) ^d
Beautiful Island	----- [0.2 – 0.4]	-----	-----	-----
Fort Myers Yacht Basin	0.5 – 4.4 [0.4 – 4.0]	-----	201	9.0
Shell Point	16 – 32 [12 – 34]	5.7 – 7.5	62.0	2.7
McIntyre Creek	30.0 – 32.4 [29.6 – 33.9]	3.0 – 9.1	-----	-----
Tarpon Bay	30.7 – 33.4 [26.5 – 34.5]	4.8 – 9.1	-----	-----
Wulfert Flats	13.3 – 32.4 [30.9 – 33.8]	2.8 – 8.9	-----	2.8 – 30.5

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 3/18/22, the FWC reported that *K. brevis* was not observed in samples collected statewide over the past week.

Wildlife Impacts: In the past week (3/15– 3/20), the CROW wildlife hospital on Sanibel received 3 toxicosis patients:2 double crested cormorants (still at CROW), and 1 great blue heron (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.



Water clarity at Lighthouse Beach Park on 3/21/22 at 12:31 PM on a rising tide (high tide: 2.69 ft @ 2:26 PM). [Lighthouse Beach Park Virtual Tour.](#)