

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 1 –7, 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 **2,014 cfs (102%)** coming from the lake at **S-77**. The **14-day moving average flow at S-79 is 1,973 cfs** and has been in the **optimal flow envelope (750 – 2,100 cfs; RECOVER 2020)** for 104 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.

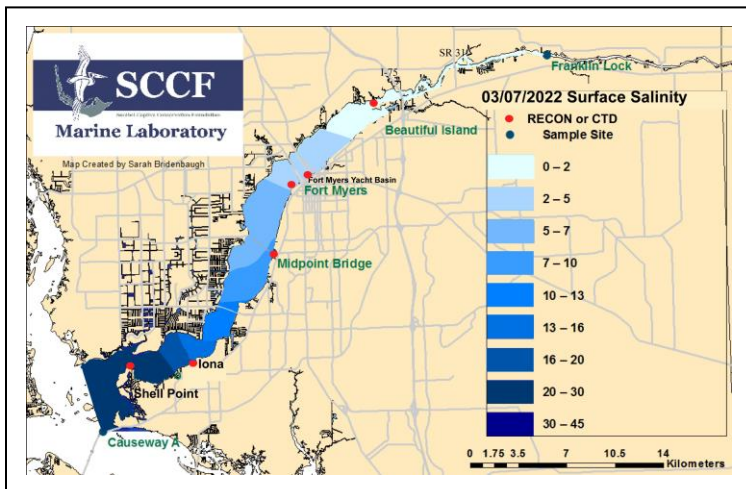
Lake Flows: In the past 7 days the total outflow from Lake Okeechobee was **55,635 AF** with **27,965 AF** to the Caloosahatchee through **S-77**, **4,334 AF** to St Lucie through **S-308**, **1,230 AF** through **S-310** in Clewiston, and **19,250 AF** to the EAA through **S-351**, **S-352**, and **S-354**. The total net inflow to the Lake was **12,069 AF** (15,126 AF from Fisheating Creek, S-71, S-72, S-84s, S-65EX, and S-65EX1). Water conservation areas received flows of **0 AF**, **0 AF**, and **4,604 AF** at **WCA1**, **WCA2**, and **WCA3**, respectively. Everglades National Park received **6,399 AF**.

Lake Level: 14.32 ft (Low sub-band) Last Week: 14.58 ft Last Year: 15.18 ft

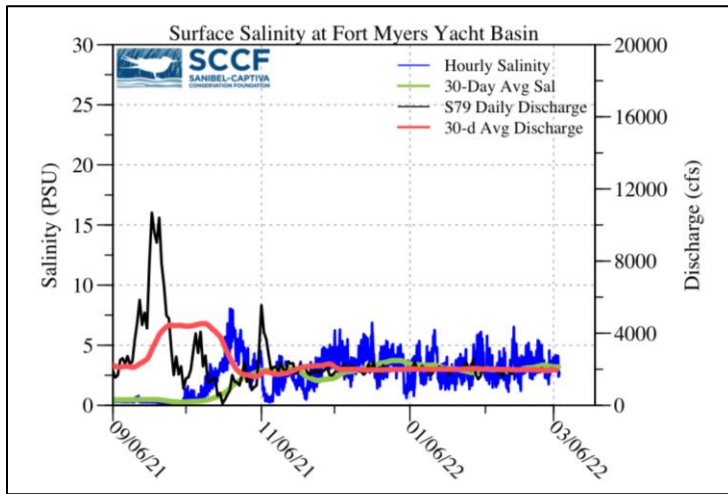
Lake Okeechobee Inflow: 265 cfs Lake Okeechobee Outflow: 3,675 cfs

Weekly Rainfall Total: WP Franklin 0.00" Ortona ≥0.03" Moore Haven 0.00"

7-Day Lake Recession Rate: -0.26 ft/week



ACOE Daily Reports			
Date	S79 Flow (cfs)	S78 Flow (cfs)	S77 Flow (cfs)
3/1/22	2055	1479	1752
3/2/22	2007	659	1935
3/3/22	1874	1592	2130
3/4/22	1878	1526	2129
3/5/22	2047	1613	2061
3/6/22	2020	1701	2049
3/7/22	1952	1685	2043
7-day avg	1976	1465	2014



Light Penetration				
Site	25% I _z	Target Values	Turbidity	Target Values
	meters		NTU	
Fort Myers	---	> 1	---	< 18
Shell Point	1.68 ^c	>2.2	1.8	< 18
Causeway	2.26 ^c	> 2.2	2.7	< 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 3/7/22 sampling for cyanobacteria by the Lee County Environmental Lab reported the presence of *Microcystis* upstream of the Franklin Locks with a light accumulation along the lock.

Upper Estuary Conditions: The 30-day average surface salinity at the Fort Myers Yacht Basin was 3.4 psu, within the suitable range for tape grass.

Lower Estuary Conditions: The average salinity at Shell Point RECON was 25 psu, within the optimal range for oysters and seagrasses. Water column chlorophyll was low at the Causeway.

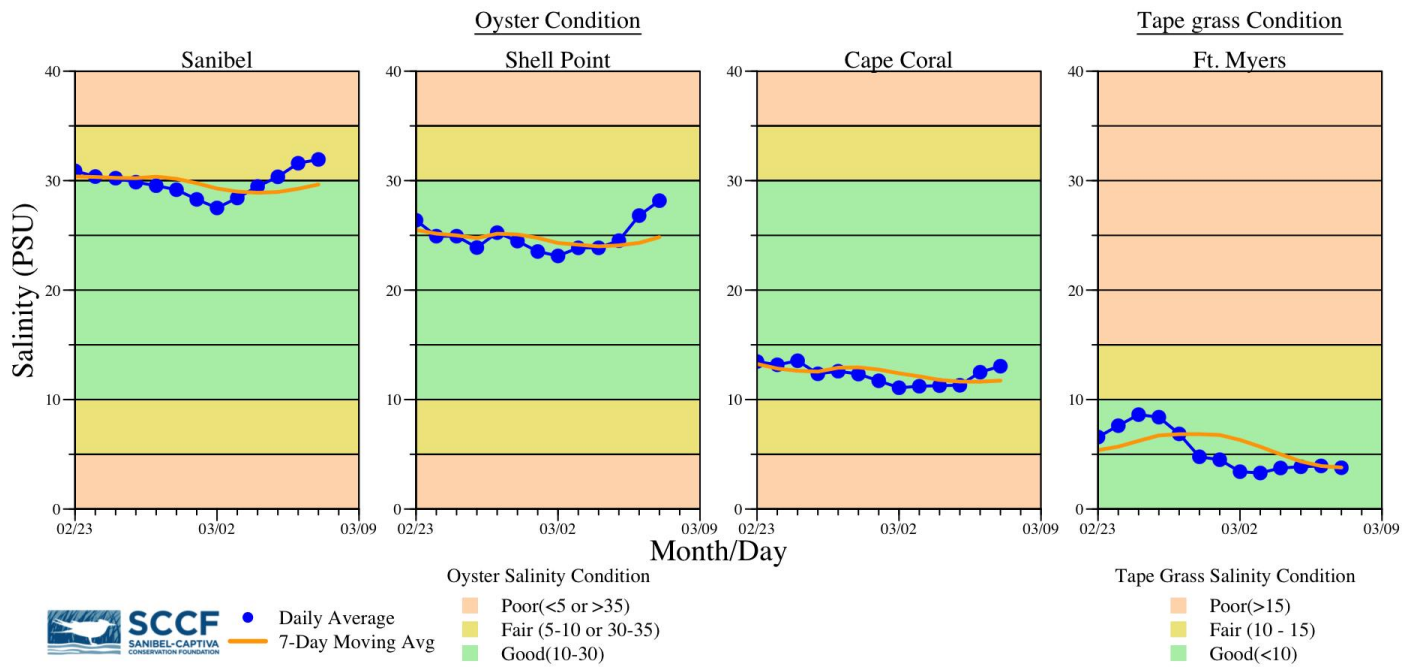
Water Quality Conditions

Monitor Site	Salinity (psu) ^a [previous week]	Diss O ₂ (mg/L) ^b	FDOM (qsde) ^c	Chlorophyll (µg/L) ^d
Beautiful Island	0.3 – 0.8 [0.3 – 1.0]	-----	-----	-----
Fort Myers Yacht Basin	2.1 – 5.0 [3.0 – 5.0]	-----	-----	-----
Shell Point	17 – 32 [15 – 32]	6.1 – 7.7	57.5	1.8
McIntyre Creek	29.6 – 31.4 [29.6 – 30.9]	2.8 – 8.8	-----	-----
Tarpon Bay	28.7 – 33.0 [27.5 – 31.7]	5.4 – 8.5	-----	-----
Wulfert Flats	30.2 – 34.0 [31.2 – 32.0]	4.4 – 8.1	-----	3.4 – 28.9

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 3/4/22, the FWC reported that *K. brevis* was observed in one sample from Northwest Florida. In Southwest Florida, *K. brevis* was not observed.

Wildlife Impacts: In the past week (3/1– 3/8), the CROW wildlife hospital on Sanibel received 6 toxicosis patients: 4 double crested cormorants (1 still at CROW, 3 died), 1 laughing gull (still at crow), and 1 ring-billed gull (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 3/7/22 at 1:32 PM on a rising tide (high tide: 2.42 ft @ 2:24 PM). [Lighthouse Beach Park Virtual Tour](#).