

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 8 – 14, 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 **1,945 cfs** at **S-79** with a 7-day average of **1,708 cfs (88%)** 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 111 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.

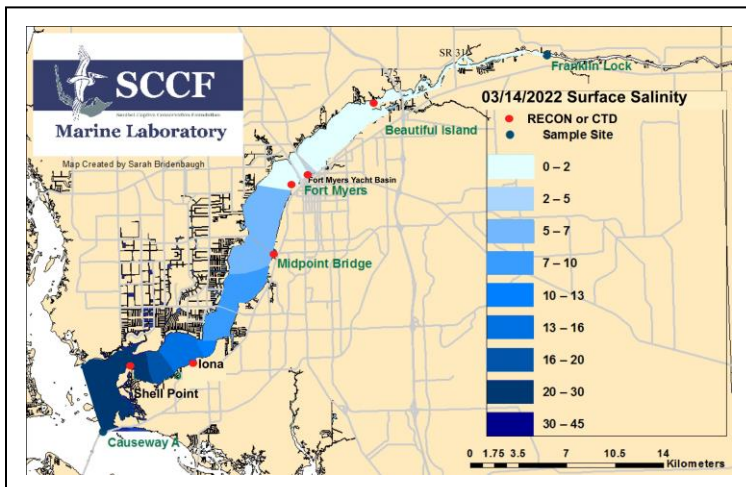
Lake Flows: In the past 7 days the total outflow from Lake Okeechobee was **44,963 AF** with **23,720 AF** to the Caloosahatchee through **S-77**, **3,610 AF** to St Lucie through **S-308**, **753 AF** through **S-310** in Clewiston, and **14,110 AF** to the EAA through **S-351**, **S-352**, and **S-354**. The total net inflow to the Lake was **4,340 AF** (4,340 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 **4,534 AF** at **WCA1**, **WCA2**, and **WCA3**, respectively. Everglades National Park received **6,117 AF**.

Lake Level: 14.14 ft (Low sub-band) Last Week: 14.33 ft Last Year: 15.02 ft

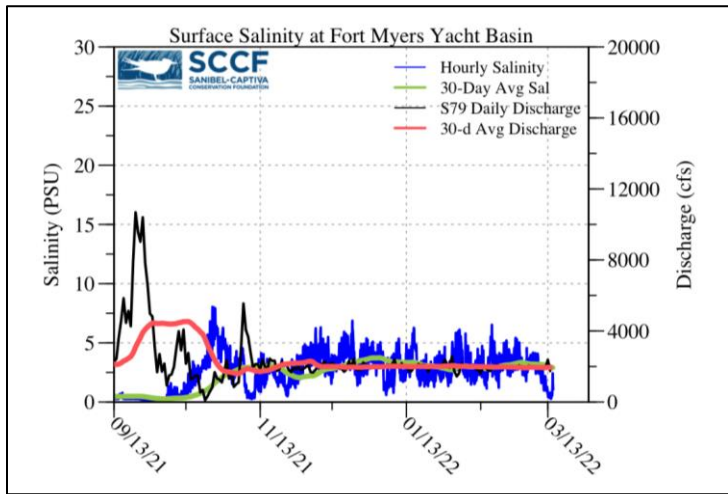
Lake Okeechobee Inflow: 362 cfs Lake Okeechobee Outflow: 1,855 cfs

Weekly Rainfall Total: WP Franklin 0.37" Ortona 0.26" Moore Haven 0.08"

7-Day Lake Recession Rate: -0.19 ft/week



ACOE Daily Reports			
Date	S79 Flow (cfs)	S78 Flow (cfs)	S77 Flow (cfs)
3/8/22	1933	1607	1995
3/9/22	1874	1372	1674
3/10/22	1809	1369	1661
3/11/22	1976	1497	1917
3/12/22	1897	1271	1774
3/13/22	2377	1308	1704
3/14/22	1750	1371	1234
7-day avg	1945	1399	1708



Light Penetration				
Site	25% I _z	Target Values	Turbidity	Target Values
	meters		NTU	
Fort Myers	0.80 ^c	> 1	1.5	< 18
Shell Point	1.78 ^c	>2.2	1.8	< 18
Causeway	1.96 ^c	> 2.2	0.5	< 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 3/14/22 sampling for cyanobacteria by the Lee County Environmental Lab reported the presence of *Dolichospermum* and *Microcystis* at the Alva Boat Ramp as visible specks, upstream of the Franklin Locks with some accumulation and streaks along the lock, and at the Davis Boat Ramp with some streaks visible.

Upper Estuary Conditions: The 30-day average surface salinity at the Fort Myers Yacht Basin was **3.2 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.

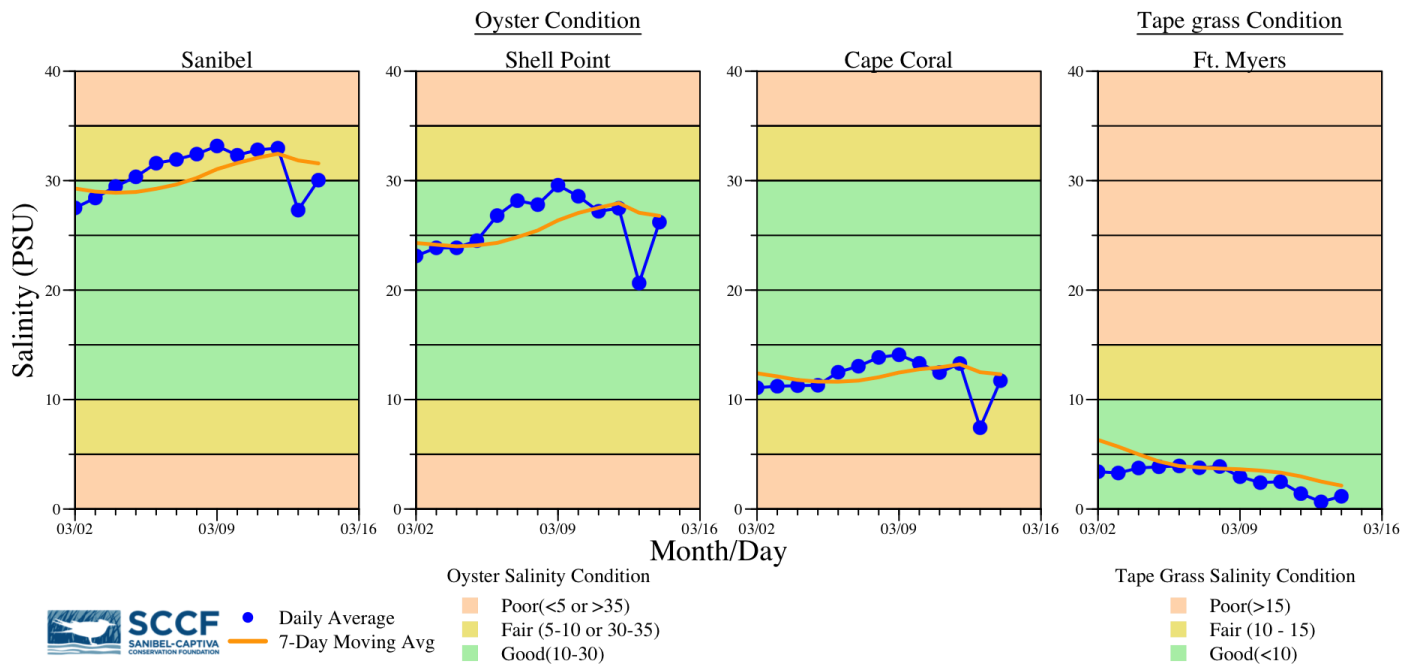
Water Quality Conditions

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 [0.3 – 0.8]	-----	205	----
Fort Myers Yacht Basin	0.4 – 4.0 [2.1 – 5.0]	-----	201	7.2
Shell Point	12 – 34 [17 – 32]	5.5 – 7.2	62.0	3.6
McIntyre Creek	29.6 – 33.9 [29.6 – 31.4]	2.8 – 9.9	-----	-----
Tarpon Bay	26.5 – 34.5 [28.7 – 33.0]	4.7 – 8.3	-----	-----
Wulfert Flats	30.9 – 33.8 [30.2 – 34.0]	3.4 – 8.9	-----	2.4 – 54.9

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 3/11/22, the FWC reported that *K. brevis* was not observed in samples collected statewide over the past week.

Wildlife Impacts: In the past week (3/8– 3/14), the CROW wildlife hospital on Sanibel received 5 toxicosis patients: 1 common gallinule (released), 1 double crested cormorant (still at CROW), 1 herring gull (still at crow), and 1 royal tern (still at CROW) and 1 sanderling (died).



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.



Weather related strandings caused by windy conditions associated with the cold front on 3/12/22. Top: Macroalgae standing on Bunche Beach on 3/12/22. Bottom: Marine fauna including cockles, conchs, crabs, clams, pen shells, and urchins stranded on Sanibel Access beaches on 3/14/22. SCCF

Water clarity at Lighthouse Beach Park on 3/14/22 at 1:16 PM on a high tide (high tide: 1.66 ft @ 12:58 PM). [Lighthouse Beach Park Virtual Tour.](#)