

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: **February 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 **1,920 cfs** at **S-79** with a 7-day average of **1,308 cfs (68%)** coming from the lake at **S-77**. **The 14-day moving average flow at S-79 is 1,900 cfs and has been in the optimal flow envelope (750 – 2,100 cfs; RECOVER 2020) for 82 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 **19,263 AF** with **18,159 AF** to the Caloosahatchee through **S-77**, **131 AF** to St Lucie through **S-308**, **107 AF** through **S-310** in Clewiston, and **886 AF** to the EAA through **S-351**, **S-352**, and **S-354**. The total net inflow to the Lake was **16,003 AF** (15,642 AF from Fisheating Creek, S-71, S-72, S-84s, S-65EX, and S-65EX1). Water conservation areas received flows of **159 AF**, **0 AF**, and **4,873 AF** at **WCA1**, **WCA2**, and **WCA3**, respectively. Everglades National Park received **9,195 AF**.

Lake Level: 14.82 ft (Low sub-band)

Last Week: 14.89 ft

Last Year: 15.43 ft

Lake Okeechobee Inflow: 1,156 cfs

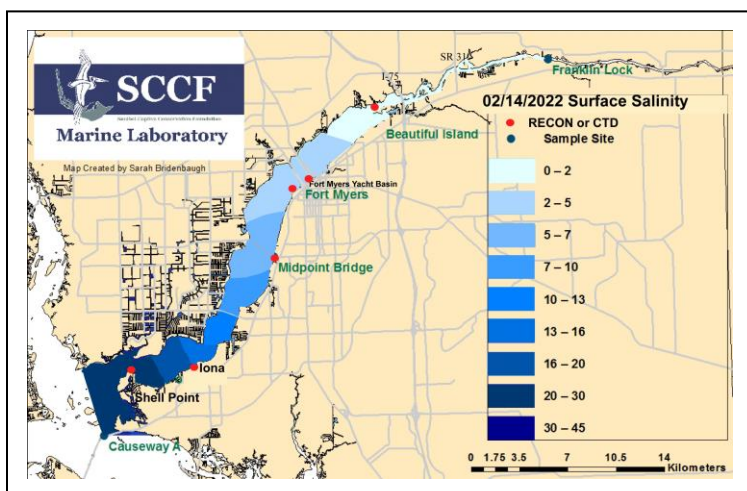
Lake Okeechobee Outflow: 1,022 cfs

Weekly Rainfall Total: WP Franklin ≥ 0.35"

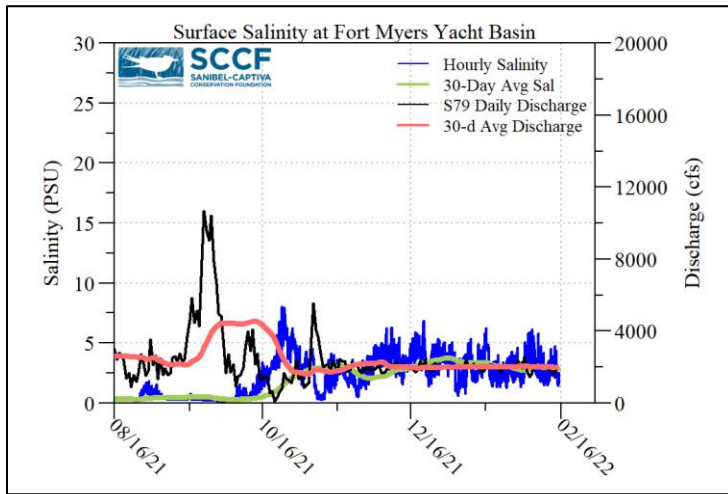
Ortona ≥ 0.63"

Moore Haven ≥ 0.45"

7-Day Lake Recession Rate: -0.07 ft/week



ACOE Daily Reports			
Date	S79 Flow (cfs)	S78 Flow (cfs)	S77 Flow (cfs)
2/8/22	2033	1306	1438
2/9/22	2071	1505	1434
2/10/22	2022	1571	1460
2/11/22	1858	1321	1446
2/12/22	1797	992	733
2/13/22	1623	1158	935
2/14/22	2035	1712	1709
7-day avg	1920	1366	1308



Light Penetration				
Site	25% I _z	Target Values	Turbidity	Target Values
	meters		NTU	
Fort Myers	0.80 ^c	> 1	2.5	< 18
Shell Point	1.39 ^c	>2.2	1.7	< 18
Causeway	1.49 ^c	> 2.2	1.6	< 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 2/14/22 sampling for cyanobacteria by the Lee County Environmental Lab reported the presence of *Dolichospermum* at the **Alva Boat Ramp** as few visible specks. *Microcystis* and *Dolichospermum* were present upstream of the **Franklin Locks** as visible specks with some wind-driven accumulation. *Microcystis* and *Dolichospermum* were present at the **Davis Boat Ramp** as visible specks with some wind-driven accumulation.

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 **22 psu**, within the optimal range for oysters.

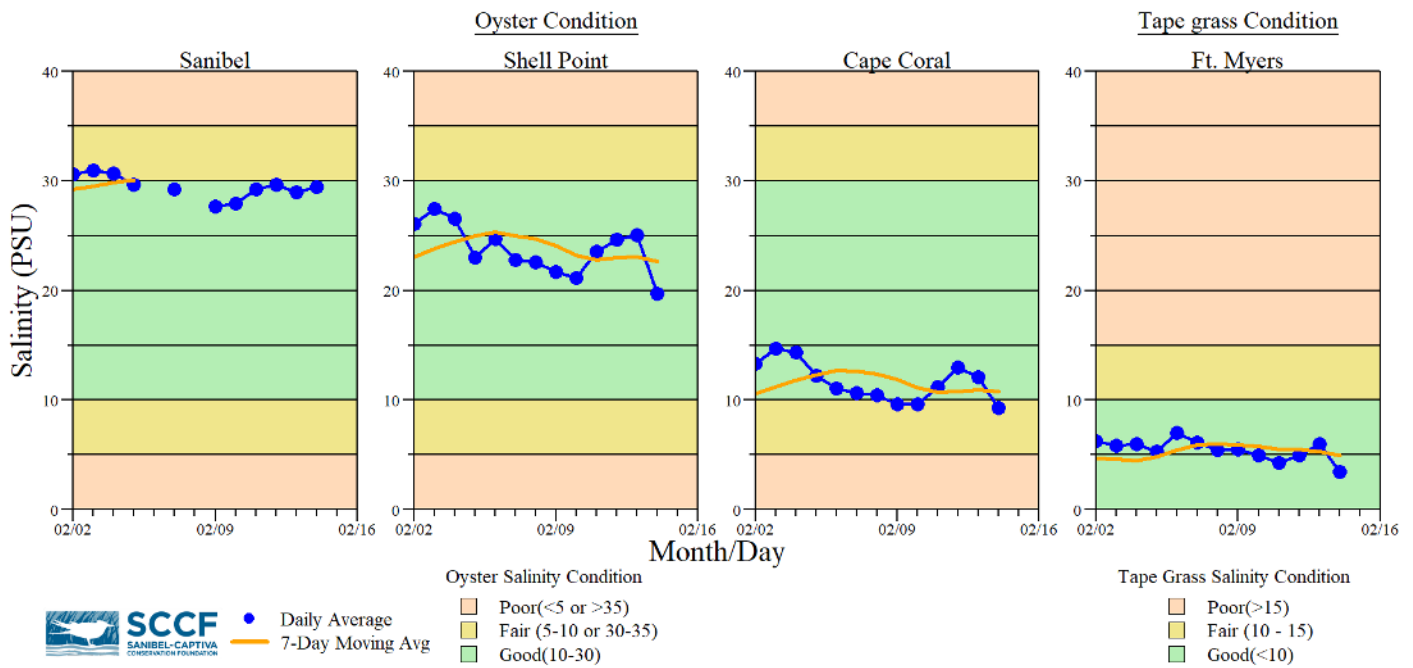
Water Quality Conditions

Monitor Site	Salinity (psu) ^a [previous week]	Diss O ₂ (mg/L) ^b	FDOM (qsde) ^c	Chlorophyll (µg/L) ^d
Beautiful Island	0.3 – 0.7 [0.4 – 0.9]	ND	260	4.2
Fort Myers Yacht Basin	1.8 – 4.3 [1.9 – 5.2]	ND	201	8.3
Shell Point	13 – 30 [16 – 32]	6.6 – 8.3	83.0	5.2
McIntyre Creek	28.7 – 32.1 [28.7 – 31.4]	6.5 – 14.8	6.4 – 12.3	0.5 – 1.6
Tarpon Bay	----- [-----]	6.8 – 8.7	-----	-----
Wulfert Flats	33.0 – 35.0 [32.2 – 35.3]	5.6 – 9.1	-----	3.5 – 20.3

- 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

Red Tide: On 2/11/22, the FWC reported that *K. brevis* was not observed in samples collected statewide over the past week.

Wildlife Impacts: In the past week (2/8– 2/14), the CROW wildlife hospital on Sanibel received 5 toxicosis patients: 1 brown pelicans (still at CROW), 1 great blue heron (died), 1 royal tern (still at CROW), 2 white pelicans (1 died, 1 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 2/14/22 at 2:01 PM on a high tide (high tide: 1.44 ft @ 1:10 PM). [Lighthouse Beach Park Virtual Tour.](#)