

# 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: **January 18 – 24, 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 **2,019 cfs** at **S-79** with a 7-day average of **1,294 cfs (64%)** coming from the lake at **S-77**. **The 14-day moving average flow at S-79 is 1,978 cfs and has been in the optimal flow envelope (750 - 2100 cfs; RECOVER 2020) for 61 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 **26,730 AF** with **17,960 AF** to the Caloosahatchee through **S-77**, **2,390 AF** to St Lucie through **S-308**, **243 AF** through **S-310** in Clewiston, and **5,712 AF** to the EAA through **S-351**, **S-352**, and **S-354**. The total net inflow to the Lake was **7,666 AF** (7,450 AF from Fisheating Creek, S-71, S-72, S-84s, S-65EX, and S-65EX1) with a total backflow volume of **216 AF** from **S310** and **C10A**. Water conservation areas received flows of **772 AF**, **0 AF**, and **4,800 AF** at **WCA1**, **WCA2**, and **WCA3**, respectively. Everglades National Park received **3,953 AF**.

**Lake Level: 15.09 ft (Low sub-band)**

**Last Week: 15.23 ft**

**Last Year: 15.58 ft**

**Lake Okeechobee Inflow: 856 cfs**

**Lake Okeechobee Outflow: 2059 cfs**

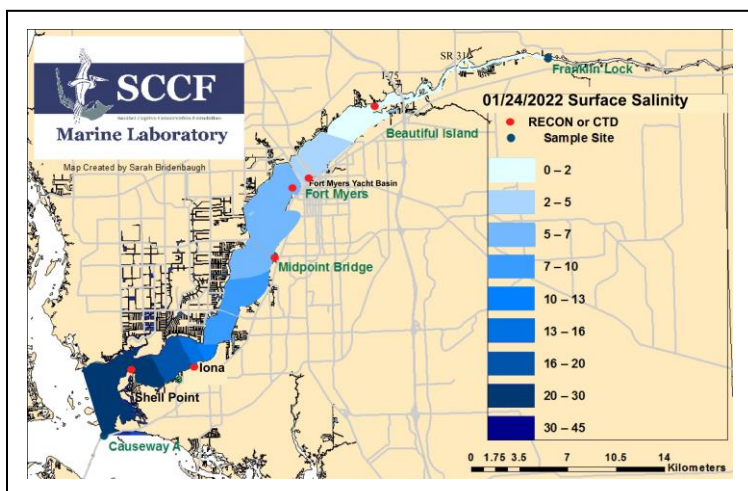
**Weekly Rainfall Total:**

WP Franklin **≥ 0.65"**

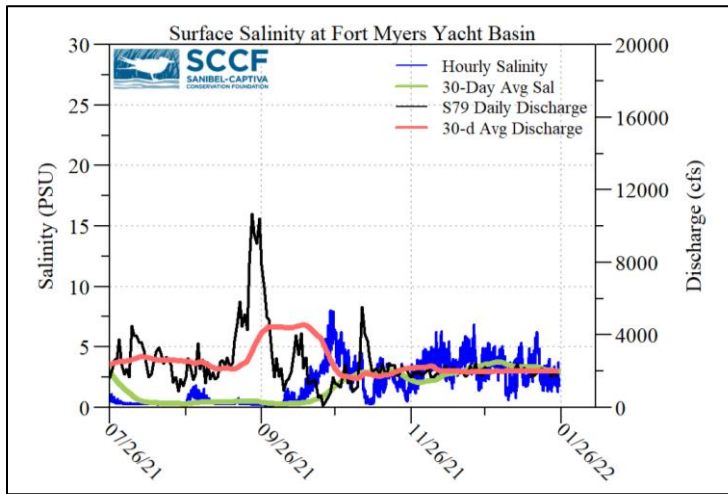
Ortona **≥ 0.16"**

Moore Haven **≥ 0.00"**

**7-Day Lake Recession Rate: -0.12 ft/week**



ACOE Daily Reports			
Date	S79 Flow (cfs)	S78 Flow (cfs)	S77 Flow (cfs)
1/18/22	2144	1658	1289
1/19/22	2066	1713	1248
1/20/22	2112	1479	1392
1/21/22	2060	1410	1258
1/22/22	1711	1584	1167
1/23/22	1983	1625	1330
1/24/22	2057	1545	1371
<b>7-day avg</b>	<b>2019</b>	<b>1573</b>	<b>1294</b>



Light Penetration				
Site	25% I <sub>z</sub>	Target Values	Turbidity	Target Values
	meters		NTU	
Fort Myers	0.69 <sup>c</sup>	> 1	1.7	< 18
Shell Point	-----	>2.2	-----	< 18
Causeway	1.51 <sup>c</sup>	> 2.2	6.5	< 5

*25% I<sub>z</sub> is the depth (z) where irradiance (I) is 25% of surface irradiance. Target values indicate the depth of light penetration needed for healthy seagrass.*  
<sup>m</sup> measured, <sup>c</sup> calculated

**Cyanobacteria Status:** On 1/24/22 sampling for cyanobacteria by the Lee County Environmental Lab reported the presence of *Microcystis* at the Alva Boat Ramp as sparse visible specks. *Microcystis* and *Dolichospermum* were present upstream of the Franklin Locks as visible specks with some wind-driven accumulation along the shore. *Microcystis*, *Dolichospermum*, and *Aphanizomenon* were moderately abundant at the Davis Boat Ramp as streaks with wind driven accumulation on the seawall.

**Upper Estuary Conditions:** The 30-day average surface salinity at the Fort Myers Yacht Basin was 3.3 psu, within the suitable range for tape grass.

**Lower Estuary Conditions:** The average salinity at Shell Point RECON was 23 psu, within the optimal range for oysters.

**Water Quality Conditions**

Monitor Site	Salinity (psu) <sup>a</sup> [previous week]	Diss O <sub>2</sub> (mg/L) <sup>b</sup>	FDOM (qsde) <sup>c</sup>	Chlorophyll (µg/L) <sup>d</sup>
Beautiful Island	0.3 – 0.8 [0.3 – 0.8]	5.1 – 6.3	269	5.7
Fort Myers Yacht Basin	1.5 – 4.3 [2.0 – 6.1]	-----	229	7.5
Shell Point	ND	ND	ND	ND
McIntyre Creek	28.0 – 33.1 [26.9 – 33.2]	6.5 – 14.3	6.2 – 13.0	0.4 – 1.4
Tarpon Bay	----- [-----]	-----	-----	-----
Wulfert Flats	31.3 – 34.4 [29.5 – 33.6]	5.9 – 8.7	-----	3.3 – 15.5

Red values are outside of the preferred range.

<sup>a</sup> Salinity target values: BI < 5, FM < 10, SP = 10 – 30

<sup>b</sup> Dissolved O<sub>2</sub> target values: all sites > 4

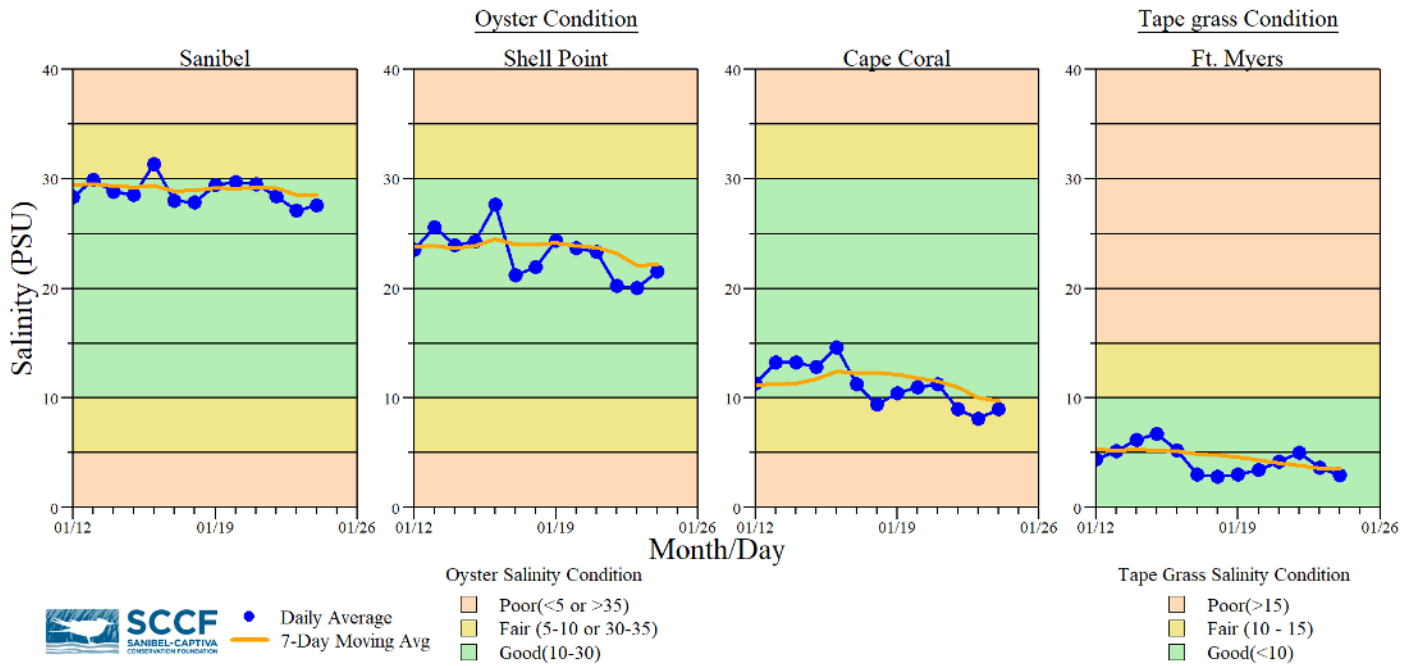
<sup>c</sup> FDOM target values: BI < 70, FM < 70, SP < 11

<sup>d</sup> Chlorophyll target values: BI < 11, FM < 11, SP < 11

<sup>e</sup> Single sonde lower and surface layer or surface grab lab measurement

**Red Tide:** On 1/14/22, the FWC reported that *K. brevis* was not observed in samples collected statewide over the past week.

**Wildlife Impacts:** In the past week (1/18 – 1/24), the CROW wildlife hospital on Sanibel received 19 toxicosis patients: 5 brown pelicans (2 died, 3 still at CROW), 2 common loons (1 died, 1 still at CROW), 1 double crested cormorant (still at CROW), 1 great blue heron (died), 2 herring gulls (1 died, 1 still at CROW), 2 laughing gulls (1 died, 1 still at CROW), 1 ring-billed gull (still at CROW), 2 royal terns (both died), 1 sanderling (died), 1 wood stork (died), and 1 white pelican (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.

