MEMORANDUM

To: USACE Colonel James L. Booth, Major Cory Bell, Richard McMillen, 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
Harry Phillips & Maya Robert - City of Cape Coral
Allie Pecenka, Rick Bartleson PhD, Matt Depaolis & Leah Reidenbach - Sanibel-Captiva Conservation Foundation
In coordination with Lee County

Subject: Caloosahatchee & Estuary Conditions Report

Reporting Period: **March 26–April 1, 2024**

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: Flow to the Caloosahatchee Estuary had a 7-day average of **2,012 cfs** at **S-79** with a 7-day average of **1,634 cfs (81%)** coming from the lake at **S-77**. **The 14-day moving average flow at S-79 is 4,225 cfs and has been in the damaging** flow envelope (>2,600 cfs; RECOVER 2020) for **43 days.** The 14-day average flow at S-77 was **3,175 cfs**.

Recommendation: The Corps has initiated a 14-day pause in releases spanning 03/30- 04/12 after which a new release schedule will be implemented. We ask that the Corps limit damaging releases to the CRE later in the wet season when higher lake temperatures and blue-green algae threats are more likely and work towards achieving this goal by moving water out of Lake Okeechobee now to all available outlets and below harm thresholds to prevent large-scale, damaging discharges during the wet season. Furthermore, we ask that the Corps remain responsive to changing conditions such as salinity that impact oyster spawning season, which began April 1, or in the event a harmful algal bloom occur.

USACE Action: With Lake Okeechobee stage within the Low Sub-band, the Tributary Hydrologic Conditions in the Normal category, the Seasonal Lake Okeechobee Net Inflow outlook in the Normal category, and the Multi-Seasonal Lake Okeechobee Net Inflow Outlook in the Dry category, Part D of the 2008 LORS suggests "S-79 up to 450 cfs and S-80 up to 200 cfs" On 2/17/24 the USACE increased releases from Lake Okeechobee to the Caloosahatchee Estuary from the Julian Keen Jr. Lock and Dam (S-77) to 4,000 cfs, 1,800 cfs at St. Lucie Lock and Dam (S-80), and up to 500 cfs to the Lake Worth Lagoon through the C-51 canal.

Lake Flows: In the past 7 days the total outflow from Lake Okeechobee was **61,085 AF*** with **22,602 AF** to the Caloosahatchee through **S-77**, **22,176 AF** to the St. Lucie canal though **S-308**, **1,324 AF** though the **L8 canal**, and **14,983 AF** to the EAA through **S-351**, **S-352**, and **S-354**. The total net inflow to the Lake was **11,877 AF** (**11,877 AF** from Fisheating Creek, S-71, S-72, S-84s, S-65EX, and S-65EX1). Water conservation areas received flows of **1,100 AF**, **16,963 AF**, and **8,781 AF** at **WCA1, WCA2, and WCA3**, respectively. Everglades National Park received **10,143 AF.**
***Data missing for S-310 from 3/26 -4/1.**

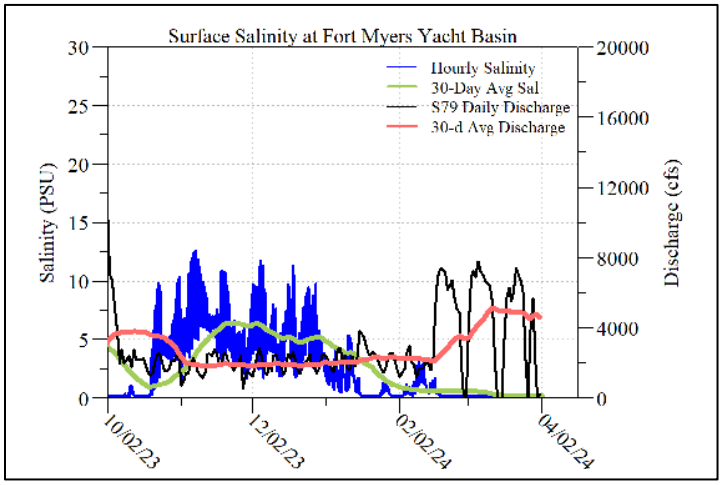
Lake Level: 15.22 ft (Intermediate Sub-Band) **Last Week**: **15.47 ft** **Last Year: 14.52 ft**

7-Day Lake Recession Rate: -0.25 ft/week

Lake Okeechobee Inflow: 846 cfs **Lake Okeechobee Outflow: 1,639 cfs**

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

Cyanobacteria Status: On 4/1/24 sampling for cyanobacteria by the Lee County Environmental Lab reported the **presence** of *Dolichospermum* and miscellaneous cyano-filaments at the **Alva Boat Ramp** with streaks and a pale green tint to the water. *Dolichospermum* and *Microcystis* were **abundant** upstream of the **Franklin Locks** as streaks and small clumps with heavy accumulation along the lock. *Dolichospermum, Microcystis,* and *Raphidiopsis* were **moderately abundant** at the **Davis Boat Ramp** as streaks with some accumulation. *Dolichospermum* and miscellaneous cyano-filaments were **moderately abundant** at **North Shore Park** as specks. *Dolichospermum* was **moderately abundant** at the **Midpoint Bridge Park** with accumulation along the shore.



Light Penetration

Site	25% Iz meters	Target Values	Turbidity NTU	Target Values
Fort Myers	0.7	> 1	5.8	< 18
Shell Point	0.9	>2.2	2.8	< 18
Causeway	2.7	> 2.2	4.0	< 5

***25% Iz** is the depth (z) where irradiance (I) is 25% of surface irradiance. Target values indicate the depth of light penetration needed for healthy seagrass.*

Red Tide: On 3/29/24, the FWC reported that the red tide organism, *Karenia brevis*, was observed at **background concentrations** in one sample collected from Florida's **East Coast** over the past week. In **Southwest Florida** over the past week, *K. brevis* was **not observed**.

Upper Estuary Conditions: The 30-day average surface salinity at the Fort Myers Yacht Basin was 0.2 psu, within the suitable range for tape grass.

Lower Estuary Conditions: The average salinity at Shell Point RECON was 20 psu, in the optimal range for oysters but below optimal for seagrass.

Water Quality Conditions:

Monitor Site	Salinity (psu)[a] [previous week]	Diss O_2 (mg/L)[b]	FDOM (qsde)[c]	Chlorophyll (µg/L)[d]	Temperature (°F)
Beautiful Island	0.2 – 0.2 [0.2 – 0.2]	4.0 – 8.0	142– 161	8.7	73.8 – 79.9
Fort Myers Yacht Basin	0.2 – 0.2 [0.2 – 0.2]	4.8 – 9.1	147 – 166	8.0	72.0 – 78.2
Shell Point	6.3 - 33 [3.5 - 29]	4.7 – 7.3	34.7 – 202	4.5	73.3 – 78.1
McIntyre Creek	24.1 – 32.6 [23.5 – 28.1]	3.6 – 9.2	34.2 – 93.6	1.9 – 5.4	70.3 – 80.3
Tarpon Bay	23.3 – 34.0 [22.8 – 30.9]	4.6 – 7.7	17.4 – 70.2	1.2 – 3.7	70.2 – 79.3
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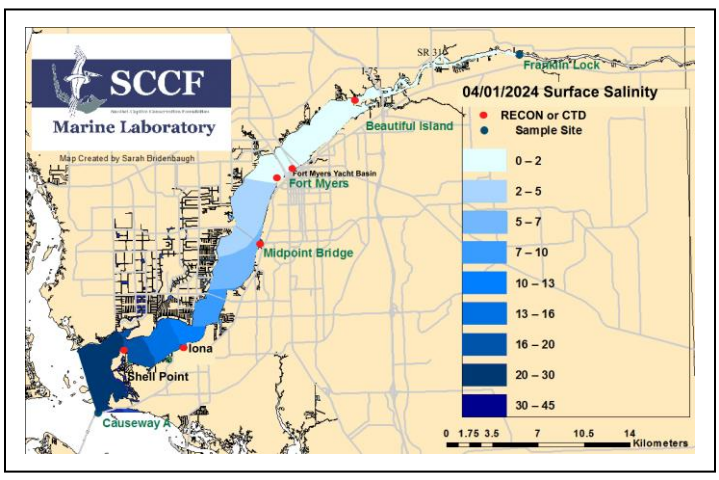
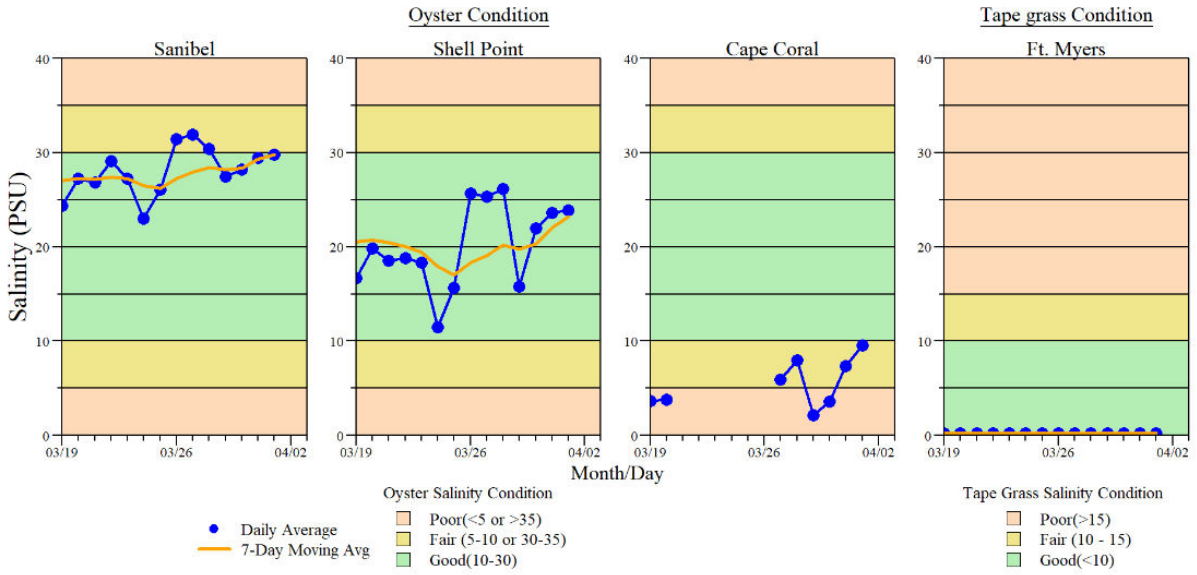
Red values are outside of the preferred range.
[a] Salinity target values: BI < 5, FM < 10, SP = 10 – 30
[b] Dissolved O_2 target values: all sites > 4
[c] FDOM target values: BI < 70, FM < 70, SP < 11
[d] Chlorophyll target values: BI < 11, FM < 11, SP < 11
[s] Single sonde lower and surface layer or surface grab lab measurement
------- no data

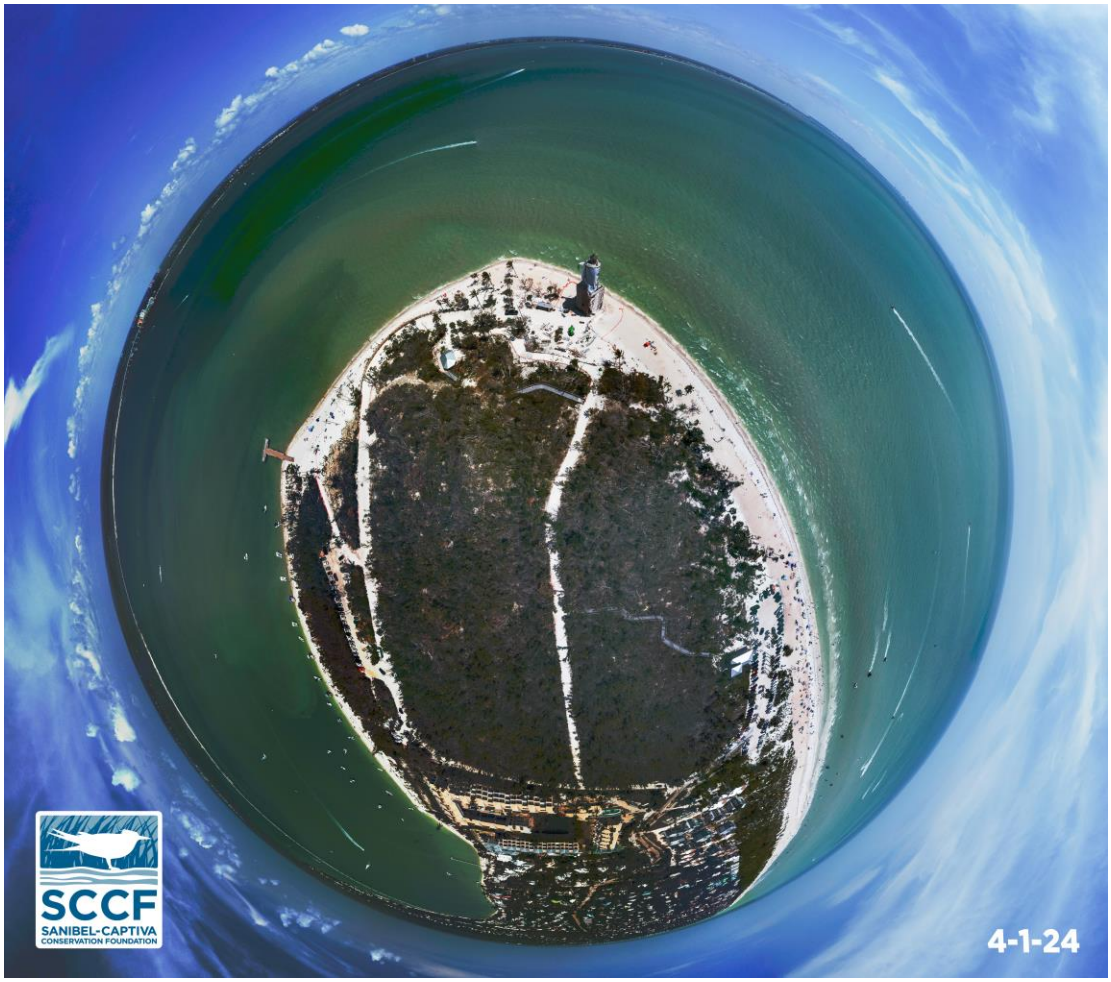
Wildlife Impacts: In the past week, the CROW wildlife hospital on Sanibel admitted 2 patients with suspected red tide/toxicosis: 1 adult double-crested cormorant (still in care) and 1 adult green heron (deceased).



ACOE Daily Reports			
Date	S79 Flow (cfs)	S78 Flow (cfs)	S77 Flow (cfs)
3/26/24	2180	1827	2094
3/27/24	116	0	0
3/28/24	3924	3399	2964
3/29/24	5698	5235	4700
3/30/24	1915	1411	1680
3/31/24	0	0	0
4/1/24	254	0	0
7-day avg	2012	1696	1634



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 4/1/24 at 1:15 PM on a rising tide (2.5 ft).

Heavy accumulation of *Dolichospermum* and *Microcystis* upstream of the Franklin Locks on 4/1/23. *Lee County Natural Resources Environmental Lab.*