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: **April 9 – 15, 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 **983 cfs** at **S-79** with a 7-day average of **1,006 cfs (100%)** coming from the lake at **S-77**. The 14-day moving average flow at **S-79** is **742 cfs and has been in the low stress flow envelope** (<750 cfs) for **3 days** and **1 day** in the **low damaging flow envelope** (< MFL: 457 cfs) following 6 days in the optimum flow envelope (750 – 2,100cfs).

Recommendation: On April 13, The Army Corps began targeting a 7-day average pulse release schedule of 2,000 cfs at W.P. Franklin Lock and Dam (S-79) and 0 cfs St. Lucie Lock and Dam (S-80). While we are supportive of this decision, we remain concerned with the high lake stage, the efficacy of the dry season strategy to reduce lake levels, and the potential for high-volume releases this summer/ fall. We ask the Army Corps to remain reactive to changing conditions in Lake Okeechobee and the Caloosahatchee River and estuary, and adjust flows as needed to support the ecological health of this system. In addition, we recommend the Corps develop and implement a long-term strategy, equitable to all stakeholders, to decrease lake levels.

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 Wet category, and the Multi-Seasonal Lake Okeechobee Net Inflow Outlook in the Normal category, Part D of the 2008 LORS suggests "S-79 up to 450 cfs and S-80 up to 200 cfs". On 4/13/24 the USACE began targeting a 7-day average pulse release schedule of 2,000 cfs at W.P. Franklin Lock and Dam (S-79) and 0 cfs St. Lucie Lock and Dam (S-80).

Lake Flows: In the past 7 days the total outflow from Lake Okeechobee was **45,071 AF*** with **14,155 AF** to the Caloosahatchee through **S-77**, **29 AF** to the St. Lucie canal though **S-308**, **1,253 AF** though the **L8 canal**, and **29,634 AF** to the EAA through **S-351**, **S-352**, and **S-354**. The total net inflow to the Lake was **11,928 AF** (**11,928 AF** from Fisheating Creek, S-71, S-72, S-84s, S-65EX, and S-65EX1). Water conservation areas received flows of **182 AF**, **5,964 AF**, and **2,894 AF** at **WCA1, WCA2, and WCA3**, respectively. Everglades National Park received **5,683 AF.**
***Data missing for S-78 on 4/15, S-310 from 4/9- 4/15 and for S-80 on 4/12 & 4/15.**

Lake Level: 14.87 ft (Low Sub-Band) **Last Week**: **15.05 ft** **Last Year: 14.23 ft**

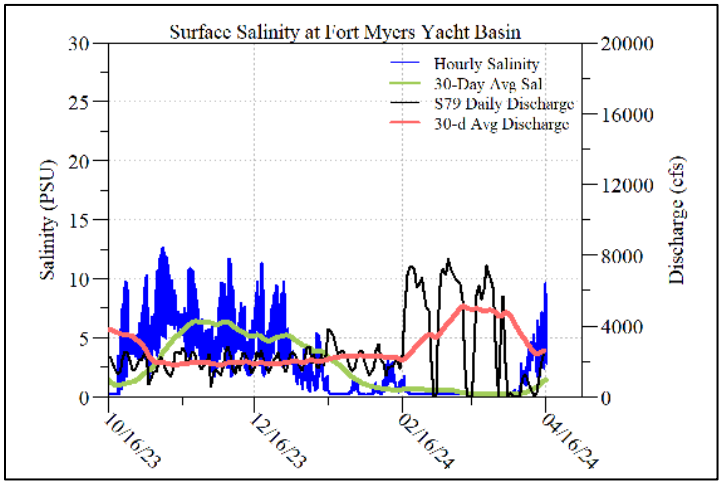
7-Day Lake Recession Rate: -0.18 ft/week

Lake Okeechobee Inflow: 812 cfs **Lake Okeechobee Outflow: 4,054 cfs**

Weekly Rainfall Total: **WP Franklin: 0.10"** **Ortona: 0.00"** **Moore Haven: 0.10"**

Cyanobacteria Status: On 4/15/24 sampling for cyanobacteria by the Lee County Environmental Lab reported the **presence** of *Dolichospermum*, *Microcystis* and cyano-filaments (including *Raphidiopsis*) at the **Alva Boat Ramp** with surface cyano visible as a pale green film and light streaks and upstream of the **Franklin Locks** with surface cyano and light streaks visible. *Dolichospermum, Microcystis,* and cyano-filaments were **present** at the **Davis Boat Ramp** with surface cyano visible and at **Midpoint Bridge Park** with some accumulation along the shore.

Red Tide: On 4/12/24, the FWC reported that the red tide organism, *Karenia brevis*, was not observed in samples collected statewide over the past week.



Light Penetration

Site	25% Iz	Target Values	Turbidity	Target Values
	meters		NTU	
Fort Myers	0.7	> 1	12	< 18
Shell Point	1.1	>2.2	2.7	< 18
Causeway	3.0	> 2.2	2.2	< 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.*

Upper Estuary Conditions: The 30-day average surface salinity at the Fort Myers Yacht Basin was 1.2 psu, within the suitable range for tape grass. Dissolved oxygen dropped below 2.5 mg/L at both RECON stations.

Lower Estuary Conditions: The average salinity at Shell Point RECON was 26 psu, in the optimal range for oysters and 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 – 0.6 [0.2 – 0.2]	2.1 – 6.1	150 – 159	7.2	74.7 – 79.2
Fort Myers Yacht Basin	1.8 – 7.3 [0.2 – 3.5]	1.2 – 9.7	128 – 155	11	73.0 – 78.0
Shell Point	16 – 34 [12 –32]	5.4 – 8.5	37.1 – 152	3.0	72.7 – 77.1
McIntyre Creek	30.2 – 33.8 [28.6 – 33.7]	3.8 – 10.8	26.8 – 72.6	1.4 – 3.3	71.1 – 80.2
Tarpon Bay	30.6 – 34.5 [29.3 – 34.0]	5.3 – 9.1	17.4 – 52.0	1.0 – 2.9	72.1 – 77.6
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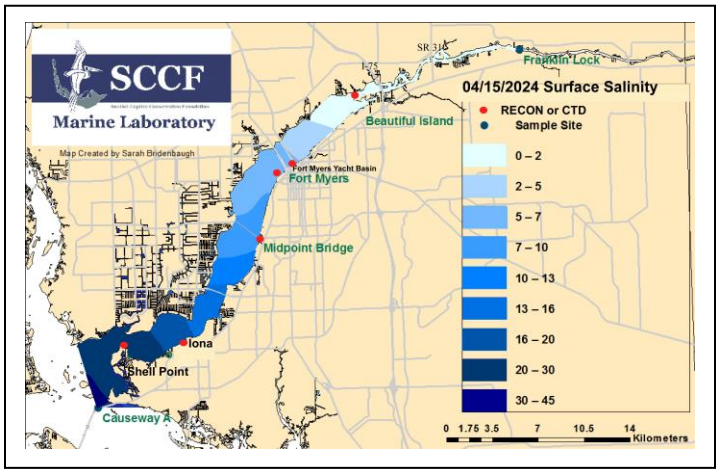
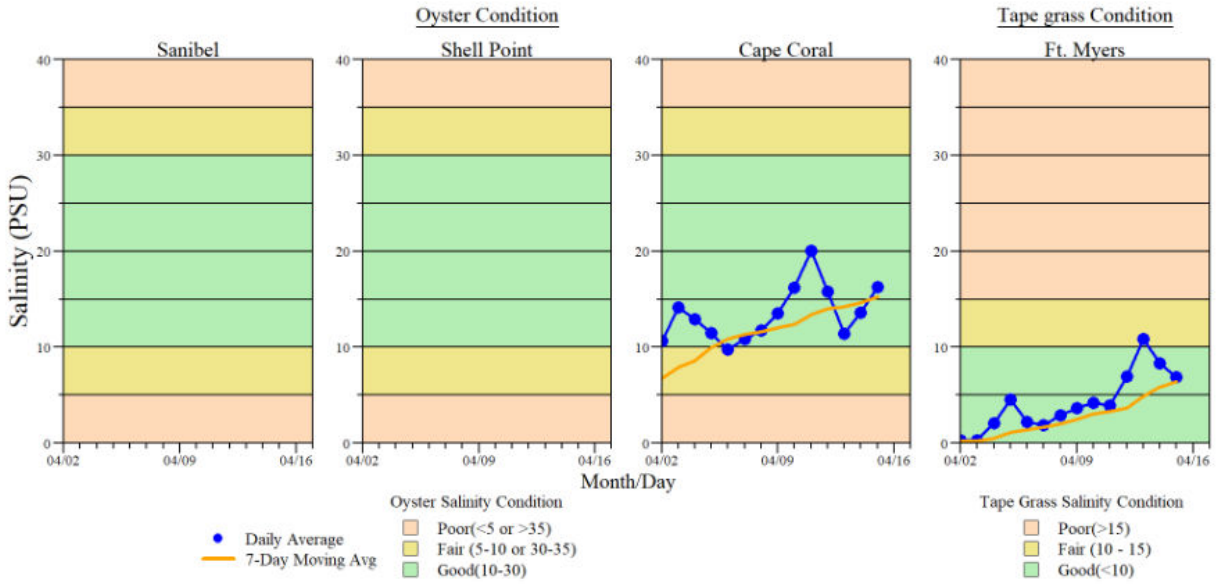
Red values are outside of the preferred range.
[a] Salinity target values: BI < 5, FM < 10, SP = 10 – 30
[b] Dissolved O_2 target values: all sites > 4
[c] FDOM target values: BI < 70, FM < 70, SP < 11
[d] Chlorophyll target values: BI < 11, FM < 11, SP < 11
[s] Single sonde lower and surface layer or surface grab lab measurement
------- no data

Wildlife Impacts: In the past week, the CROW wildlife hospital on Sanibel admitted 4 patients with suspected red tide/toxicosis: 1 adult black-bellied plover (deceased), 1 juvenile double-crested cormorant (deceased), 1 adult double-crested cormorant (deceased) and 1 juvenile brown pelican (deceased).



ACOE Daily Reports			
Date	S79 Flow (cfs)	S78 Flow (cfs)	S77 Flow (cfs)
4/9/24	690	600	803
4/10/24	331	290	635
4/11/24	80	43	435
4/12/24	249	0	240
4/13/24	1168	869	974
4/14/24	1900	1542	1920
4/15/24	2464	1876	2034
7-day avg	**983**	**746**	**1006**



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.

*Ft. Myers sensor is in the lower strata

Water quality at Lighthouse Beach Park on 04/15 at 1:41 P.M. on a rising tide (2.3 ft).