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 5–11, 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 **6,943 cfs** at **S-79** with a 7-day average of **4,970 cfs (72%)** coming from the lake at **S-77**. **The 14-day moving average flow at S-79 is 5,292 cfs and has been in the damaging** flow envelope (>2,600 cfs; RECOVER 2020) for **22 days.** The 14-day average flow at S-77 was **3,849 cfs**.

Recommendation: The Corps has made the decision to increase flows to a 14-day average of 4,000 cfs measured at S-77 in a pulse release schedule resulting in damaging flows (>2,600 cfs) to the CRE. While we acknowledge the need for increased flows to lower the higher than normal lake level, a strategy for achieving this should have been developed and implemented in late 2023 to avoid the high volume, damaging discharges currently being released. We ask that the Corps monitor flows at S-79 given the El Niño forecast and the high likelihood of increased basin runoff that will compound the high volume releases and reduce flows at S-77 if possible. Furthermore, we ask that flow volume be reduced significantly by April 1 to protect oyster and fish spawning in the CRE or if a red tide event initiates off the coast of Lee County.

USACE Action: With Lake Okeechobee stage in the Intermediate Sub-band, the Tributary Hydrologic conditions in the Wet category, Part D of the 2008 LORS suggests up to 4,000 cfs at S-77 and 1,800 cfs at S-80. 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 **115,000 AF*** with **69,090 AF** to the Caloosahatchee through **S-77**, **37,207 AF** to the St. Lucie canal though **S-308**, **1,145 AF** though the **L8 canal**, and **7,558 AF** to the EAA through **S-351**, **S-352**, and **S-354**. The total net inflow to the Lake was **33,226 AF** (**33,226 AF** from Fisheating Creek, S-71, S-72, S-84s, S-65EX, and S-65EX1). Water conservation areas received flows of **3,978 AF**, **17,080 AF**, and **3,798 AF** at **WCA1, WCA2, and WCA3**, respectively. ***Data missing for S-310 and ENP from 3/5/24 - 3/11/24.**

Lake Level: 15.94 (Intermediate Sub-Band) **Last Week**: **16.12 ft** **Last Year: 15.15 ft**

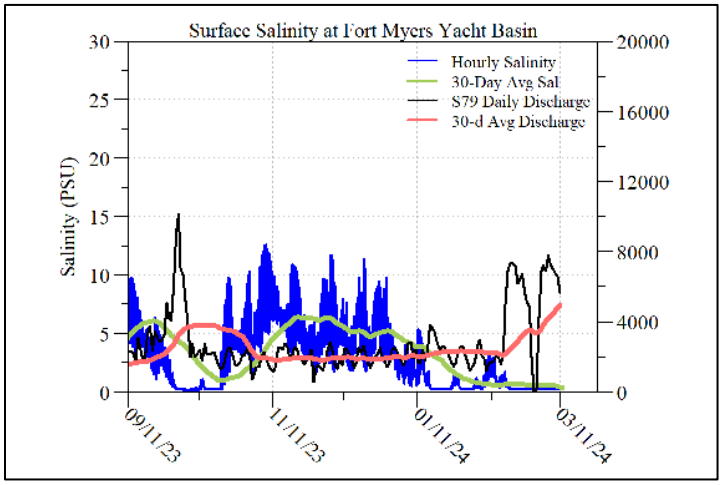
7-Day Lake Recession Rate: -0.18 ft/week

Lake Okeechobee Inflow: 1,714 cfs **Lake Okeechobee Outflow: 7,332 cfs**

Weekly Rainfall Total: **WP Franklin: 0.58"** **Ortona: 0.50"** **Moore Haven: 0.75"**

Cyanobacteria Status: On 3/11/24 sampling for cyanobacteria by the Lee County Environmental Lab reported **abundant** *Microcystis, Dolichospermum* and cyano filaments at the **Alva Boat Ramp** with dense, "flowing" surface cyano and the formation of streaks when the surface was disturbed. *Microcystis, Dolichospermum,* and cyano filaments were **moderately abundant** upstream of the **Franklin Locks** and at the **Davis Boat Ramp** with streaks and accumulation.

Red Tide: On 3/8/24, 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	0.6	> 1	4.9	< 18
Shell Point	0.8	>2.2	19	< 18
Causeway	1.6	> 2.2	8.5	< 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 0.5 psu, within the suitable range for tape grass.

Lower Estuary Conditions: The average salinity at Shell Point RECON was 18 psu, in the optimal range for oysters but below optimal for seagrass. Salinity at Shell Point dropped to 1.4 on 3/11/24.

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]	4.5– 7.2	160 – 183	7.3	73.0 – 81.3
Fort Myers Yacht Basin	0.2 – 0.2 [0.2 – 0.2]	5.9 – 7.5	160 – 190	5.8	72.5 – 80.4
Shell Point	1.3 – 30 [2.9 – 31]	5.7– 7.8	49.6 – 223	3.3	73.8 – 79.6
McIntyre Creek	24.7 – 28.6 [25.6 – 28.9]	2.5 – 8.8	67.2 – 96.5	2.0 – 4.3	68.2 – 81.5
Tarpon Bay	22.5 – 32.6 [23.9 – 32.4]	4.3 – 7.8	22.6 – 87.6	1.4 – 3.0	70.8 – 79.9
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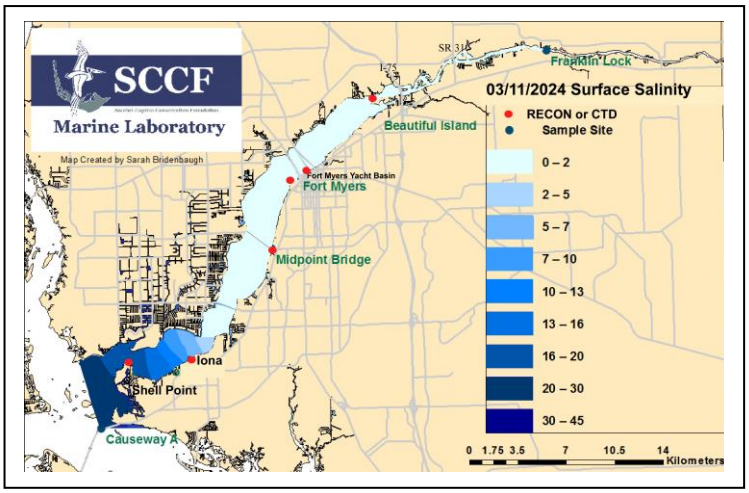
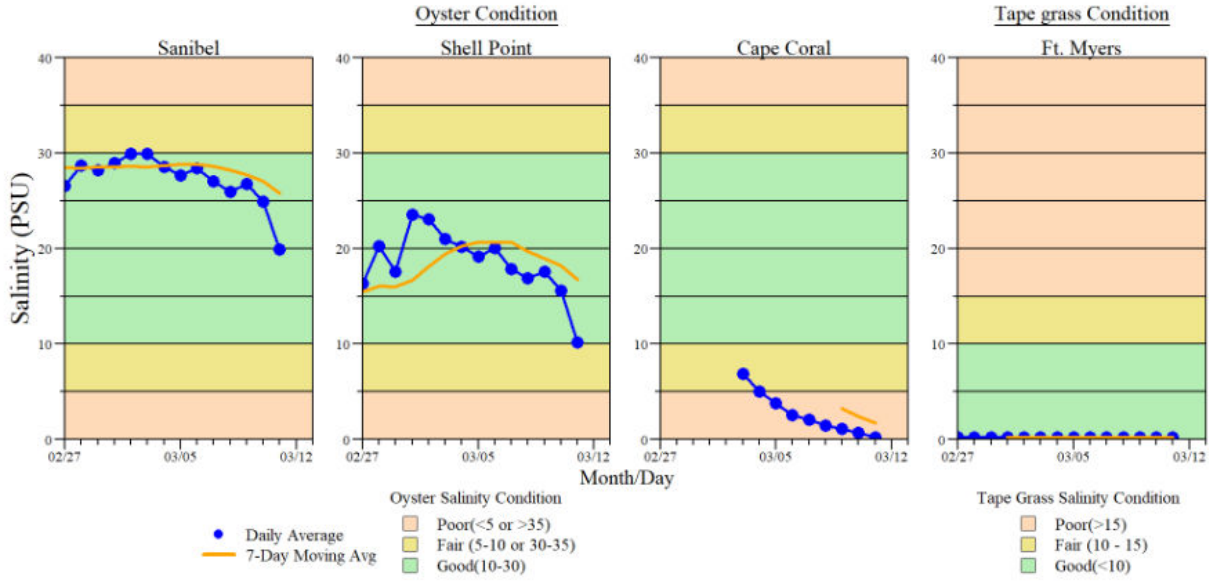
Red values are outside of the preferred range.
[a] Salinity target values: BI < 5, FM < 10, SP = 10 – 30
[b] Dissolved O_2 target values: all sites > 4
[c] FDOM target values: BI < 70, FM < 70, SP < 11
[d] Chlorophyll target values: BI < 11, FM < 11, SP < 11
[s] Single sonde lower and surface layer or surface grab lab measurement
------- no data

Wildlife Impacts: In the past week, the CROW wildlife hospital on Sanibel admitted 5 patients with suspected red tide/toxicosis: 2 adult white ibises (deceased), 1 adult anhinga (deceased), 1 adult great blue heron (deceased), and 1 adult double-crested cormorant (still at CROW).



ACOE Daily Reports			
Date	S79 Flow (cfs)	S78 Flow (cfs)	S77 Flow (cfs)
3/5/24	6905	6149	4848
3/6/24	7797	6275	4820
3/7/24	7209	6380	4984
3/8/24	6996	6118	5076
3/9/24	6740	5888	5044
3/10/24	6596	5738	5008
3/11/24	6358	5788	5008
7-day avg	6943	6048	4970



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

Drift algae (green *Caulerpa fastigiata*, red *Gracilaria mammilaris*) covering the intertidal and oyster reef at Punta Rassa on 3/8/24. *SCCF*