MEMORANDUM

To: USACE Colonel Brandon L. Bowman, Major Cory Bell, Richard McMillen, SFWMD Governing Board, Executive Director Drew Bartlett, Jennifer Reynolds, Lawrence Glenn, DEP Secretary Alexis Lambert

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
Allie Pecenka, Rick Bartleson PhD & Matt Depaolis- Sanibel-Captiva Conservation Foundation
With contributions from Harry Phillips & Maya Robert PhD- City of Cape Coral

Subject: Caloosahatchee & Estuary Conditions Report

Reporting Period: **April 22- 28, 2025**

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 **550 cfs** at **S-79** with a 7-day average of **1,110 cfs** (100%) coming from the lake at **S-77. The 14-day moving average flow at S-79 was 684 cfs** and has been **below the optimum flow envelope** (<750 cfs) for **1 day** after being in the optimum flow envelope (750- 2,100 cfs; RECOVER 2020) for **47 days**. **The 14-day moving average flow at S-77 was 1,176 cfs.**

Recommendation: The current flow target of 650 cfs at S-79 is below the RECOVER 2020 optimum flow envelope (750-2,100 cfs) and salinities are beginning to increase past the optimum salinity range for oysters (10-25 PSU) in the Caloosahatchee estuary. Given the most recent CPC precipitation outlook for the 3-month window of May 2025- July 2025 shows increased chances of above normal rainfall throughout the District, we ask that target flows be returned to 1,000 cfs at S-79. This will ensure salinities are in the correct range for a successful oyster spawning season while furthering the goals outlined in lake recovery operations.

USACE Action: Lake Okeechobee stage is in the lower portion of Zone D (Zone D3 of the PA25 simulation) of the LOSOM regulation schedule. The current climate outlook is for La Niña and ENSO-neutral is favored to develop in April. The District has been monitoring conditions in the estuaries given the initiation of the spawning season. As such, the District recommends that USACE should continue non-harmful Recovery Operations for Lake Okeechobee as described in LOSOM recognizing that there is a higher chance to achieve Recovery targets. To maintain favorable salinity levels in the estuaries and begin to conserve water, it is recommended that flow targets for the Caloosahatchee Estuary should be 650 cfs, flow targets for the St. Lucie Estuary should remain at 0 cfs, and the flow target for the Lake Worth Lagoon should remain at 0 cfs. The District will continue to monitor salinity conditions in the estuaries and water supply conditions throughout the system as the dry season progresses to assess future operational recommendations.

Lake Flows: In the past 7 days the total outflow from Lake Okeechobee was **59,439 AF** with **13,562 AF** to the Caloosahatchee through **S-77**, **2,388 AF** to the St. Lucie canal through **S-308** and **43,489 AF** to the EAA through **S-351**, **S-352**, and **S-354**. The total net inflow to the Lake was **3,318 AF** from Fisheating Creek, S-71, S-72, S-84s, S-65EX, and S-65EX1. Water conservation areas received flows of **105 AF**, **1,940 AF**, and **151 AF** at **WCA1, WCA2, and WCA3**, respectively. Everglades National Park received **69 AF.**
***Data missing from S-310 and L-8 from 4/22/25- 4/28/25 and from S-77 and S-79 on 4/28/25.**

Lake Level: 11.44 (Zone D3) **Last Week**: **11.75 ft** **Last Year: 14.28 ft**

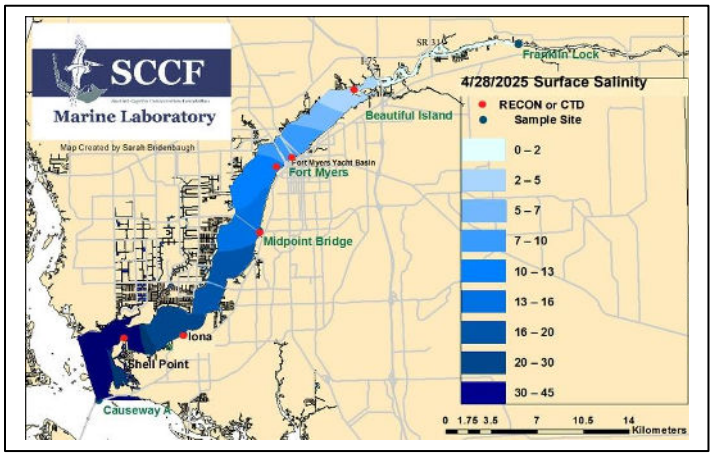
7-Day Lake Recession Rate: -0.31 ft/week

Lake Okeechobee Inflow: 238 cfs **Lake Okeechobee Outflow: 3,971 cfs**

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

Cyanobacteria Status: On 4/28/25, sampling for cyanobacteria by the Lee County Environmental Lab reported moderately abundant *Microcystis, Dolichospermum* and *Aphanizomenon* **upstream of the Franklin locks**, appearing as some streaks with light accumulation along the lock.

Red Tide: On 4/25/25, the FWC reported that the red tide organism, *Karenia brevis*, was detected at **background concentrations** in one sample from **Northwest Florida.**



Light Penetration

Site	25% Iz	Target Values	Turbidity	Target Values
	meters		NTU	
Beautiful Is	0.9	> 1	3.5	< 18
Shell Point	1.7	>2.2	2.5	< 18
Causeway	4.5	> 2.2	1.4	< 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 3.8 psu, in the range for tape grass. Elevated chlorophyll levels were detected at Beautiful Island and a sample on 4/25/25 contained 2.5 million *Aulacoseira* filaments/ L. There were accumulations of green filamentous macroalgae in the swash zone at North Shore Park on 4/27/25.

Lower Estuary Conditions: The weekly average salinity at the Shell Point RECON was **31 psu**, in the optimal range for seagrass, but **above optimal for oysters**. A causeway sample on 4/25/25 contained 240,000 *Pseudo-nitzschia* cells/L.

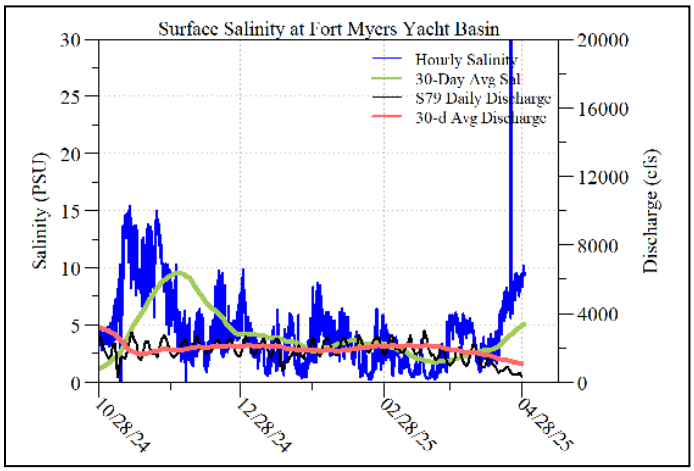
Water Quality Conditions:

Monitor Site	Salinity (psu)[a] [previous week]	Diss O_2 (mg/L)[b]	FDOM (qsde)[c]	Chlorophyll (µg/L)[d]	Temperature (°F)
Beautiful Island	0.8 – 4.7 [0.3 – 1.5]	4.0– 9.6	118	8.7	78.8 – 86.7
Fort Myers Yacht Basin	1.6 - 9.8 [1.6 - 8.4]	ND	ND	ND	75.9 – 85.6
Shell Point	22 - 36 [19 - 35]	5.2 – 7.6	38	1.8	75.8 – 82.8
McIntyre Creek	33.3 – 34.9 [32.9 – 36.0]	2.3 – 6.7	21.3 – 37.9	0.7 – 1.8	75.8 – 85.2
Tarpon Bay	33.9 – 36.0 [32.5 – 35.6]	4.5 – 8.7	10.6 – 22.6	0.7 – 1.8	76.7 – 84.0
Wulfert Flats	34.1 – 35.0 [33.8 – 36.5]	4.2 – 9.6	-------	1.6 – 11.4	76.8 – 84.7

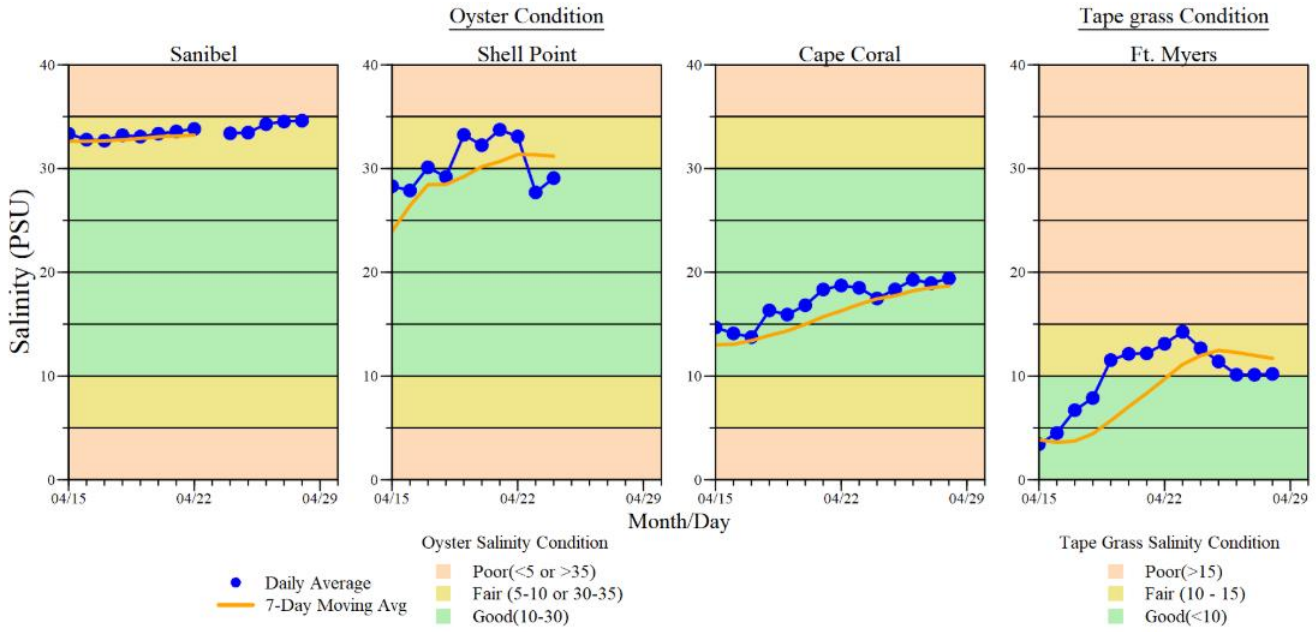
Red values are outside of the preferred range.
[a] Salinity target values: BI < 5, FM < 10, SP = 10 – 30
[b] Dissolved O_2 target values: all sites > 4
[c] FDOM target values: BI < 70, FM < 70, SP < 11
[d] Chlorophyll target values: BI < 11, FM < 11, SP < 11
[f] Temperature target values: < 90
[s] Single sonde lower and surface layer or surface grab lab measurement
ND: no data

Wildlife Impacts: In the past week, the CROW wildlife hospital on Sanibel admitted **3 patients** with suspected red tide/toxicosis: 1 adult ruddy turnstone (deceased), 1 adult royal tern (deceased) and 1 adult double-crested cormorant (deceased).

Shellfish Advisory: Shellfish harvest area #6212 (Pine Island Sound Section 1; Aquaculture Lease and Public Reef) is **OPEN** by the Florida Department of Agriculture and Consumer Services (FDACS) as of 4/3/25. SHA #6222 (North Matlacha Pass) is **OPEN** as of 4/15/25. SHA #6232 (South Matlacha Pass) is **OPEN** as of 3/21/25.



ACOE Daily Reports			
Date	S79 Flow (cfs)	S78 Flow (cfs)	S77 Flow (cfs)
4/22/25	878	733	1426
4/23/25	628	514	1300
4/24/25	466	404	1236
4/25/25	434	350	1052
4/26/25	457	349	936
4/27/25	583	351	882
4/28/25	402	354	936
7-day avg	**550**	**436**	**1110**



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 clarity at Lighthouse Beach Park on 4-30-25 at 2:02 PM on a falling tide (3.4 ft)