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 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
Allie Pecenka, Rick Bartleson PhD & Matt Depaolis- Sanibel-Captiva Conservation Foundation

Subject: Caloosahatchee & Estuary Conditions Report

Reporting Period: **February 11- 17, 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 **2,158 cfs** at **S-79** with a 7-day average of **1,631 cfs (76%)** coming from the lake at **S-77. The 14-day moving average flow at S-79 was 2,096 cfs** and has been in the **optimum flow envelope** (750- 2,100 cfs; RECOVER 2020) for **3 days** after 1 day in the stress flow envelope (2,100- 2,600 cfs). **The 14-day moving average flow at S-77 was 1,648 cfs.**

Recommendation: We ask the USACE to reduce the recovery operations flow target at the S-79 structure to the lower range of the optimum flow envelope to reduce nutrient loading while protecting the salinity gradient of the Caloosahatchee Estuary. Onshore movement of an active red tide bloom has caused intensifying impacts to human and wildlife health in recent weeks, with impacts now being recorded within Lee County and the Caloosahatchee Estuary, in addition to the surrounding barrier islands.

USACE Action: Lake Okeechobee stage is in the middle third of Zone D (Zone D2 of the PA25 simulation) of the LOSOM regulation schedule. The current climate outlook is for La Niña and is expected to persist through February-April 2025. The District will continue to monitor conditions in the estuaries in anticipation of the onset of spawning season. The District recommends the USACE should continue non-harmful Recovery Operations for Lake Okeechobee as described in LOSOM while looking to implement potential reductions in flows starting in March of this year based on estuarine conditions and climate forecasts. The USACE should continue to track Red Tide and Blue Green Algae conditions, and should conditions change during this operational period, the USACE should look to reassess releases as needed.

Lake Flows: In the past 7 days the total outflow from Lake Okeechobee was **59,920 AF** with **22,660 AF** to the Caloosahatchee through **S-77**, **6,312 AF** to the St. Lucie canal through **S-308** and **30,948 AF** to the EAA through **S-351**, **S-352**, and **S-354**. The total net inflow to the Lake was **11,484 AF** from Fisheating Creek, S-71, S-72, S-84s, S-65EX, and S-65EX1. Water conservation areas received flows of **2,452 AF**, **-2,382 AF**, and **8,945 AF** at **WCA1, WCA2, and WCA3**, respectively. Everglades National Park received **5,865 AF.**

***Data missing from S-310 and L-8 from 2/11/25- 2/17/25.**

Lake Level: 14.04 (Zone D2) **Last Week**: **14.18 ft** **Last Year: 16.31**

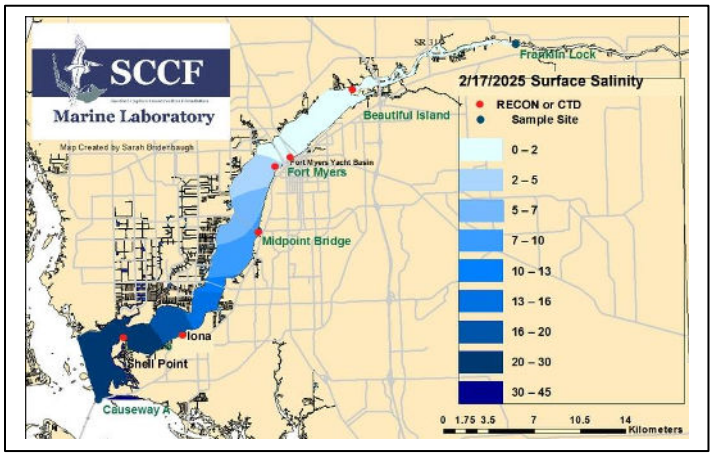
7-Day Lake Recession Rate: -0.14 ft/week

Lake Okeechobee Inflow: 643 cfs **Lake Okeechobee Outflow: 3,885 cfs**

Weekly Rainfall Total: **WP Franklin: 0.00"** **Ortona: 0.10"** **Moore Haven: 0.50"**

Cyanobacteria Status: On 2/17/25, sampling for cyanobacteria by the Lee County Environmental Lab reported no visible cyanobacteria across all sites.

Red Tide: On 2/14/25, the FWC reported that the red tide organism, *Karenia brevis*, was detected in 50 samples collected from Southwest Florida. In Southwest Florida, *K. brevis* was observed at background to very low concentrations in Pinellas County, very low concentrations in Hillsborough County, background to low concentrations in Manatee County, background to medium concentrations in Sarasota County, background to medium concentrations in Charlotte County, **background to high concentrations in Lee County**, very low to medium concentrations in Collier County, and very low concentrations offshore of Monroe County.



Light Penetration

Site	25% Iz	Target Values	Turbidity	Target Values
	meters		NTU	
Beautiful Is	0.8	> 1	4.5	< 18
Shell Point	1.5	>2.2	1.8	< 18
Causeway	3.5	> 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 3.6 psu, in the range for tape grass.

Lower Estuary Conditions: The weekly average salinity at the Shell Point RECON was 26 psu, in the optimal range for oysters and seagrass. Concentrations of *Karenia* spp. dropped while silica dependent species including *Blixaea,* increased from SCCF's inshore and beach samples during the week.

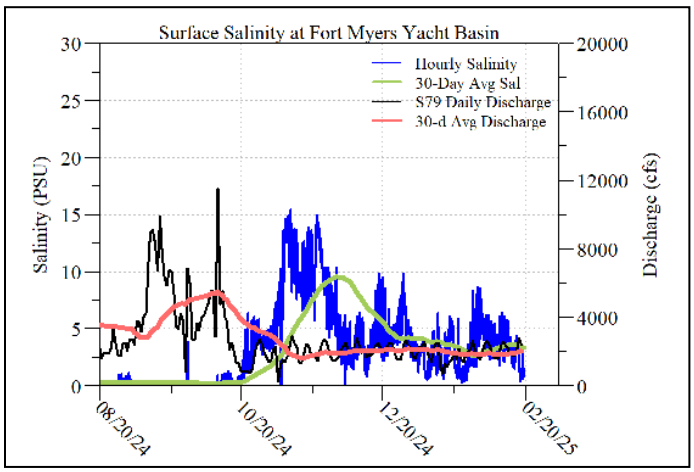
Water Quality Conditions:

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 - 0.3 [0.2 - 0.7]	5.8 – 7.2	140	7.2	74.8 - 82.9
Fort Myers Yacht Basin	0.4- 5.8 [1.9- 6.6]	ND	ND	ND	73.6 – 80.5
Shell Point	[16 - 32]	5.6 – 7.2	55	2.8	73.8– 78.9
McIntyre Creek	28.9 – 33.6 [ND]	2.1 – 8.0	18.4 – 73.8	0.8 – 1.9	74.2 – 80.1
Tarpon Bay	28.7 – 34.4 [27.2 – 30.9]	4.7 – 7.9	12.9 – 69.5	0.6 – 1.8	72.9 – 79.2
Wulfert Flats	29.5 – 32.7 [29.7 – 30.6]	3.3 – 7.9	-------	3.3 – 18.5	74.8 – 80.4

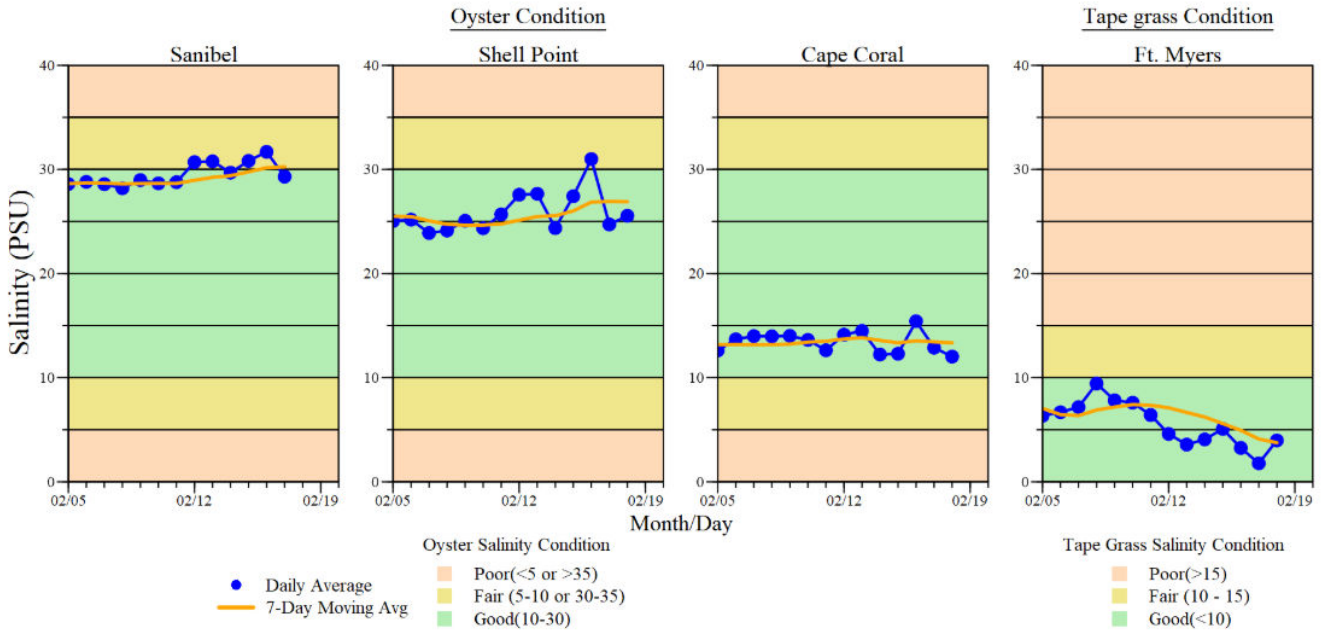
Red values are outside of the preferred range.
[a] Salinity target values: BI < 5, FM < 10, SP = 10 – 30
[b] Dissolved O_2 target values: all sites > 4
[c] FDOM target values: BI < 70, FM < 70, SP < 11
[d] Chlorophyll target values: BI < 11, FM < 11, SP < 11
[f] Temperature target values: < 90
[s] Single 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: 2 adult black scoters (both deceased) and 1 juvenile double-crested cormorant. SCCF documented 5 loggerhead turtle strandings on Sanibel in the past week (4 deceased, 1 transported to rehab). SCCF also documented 1 deceased piping plover (federally endangered population) at Bunche Beach. It is not possible to say whether or not the wildlife impacts noted by SCCF were due to red tide/ toxicosis.

Shellfish Advisory: Shellfish harvest area #6212 (Pine Island Sound Section 1; Aquaculture Lease and Public Reef) is **CLOSED** due to the presence of *Karenia brevis* as of 11/06/24. SHA #6222 (North Matlacha Pass) and SHA #6232 (South Matlacha Pass) are **CLOSED** by the Florida Department of Agriculture and Consumer Services (FDACS) as a precautionary closure due to the presence of *Karenia brevis* as of 1/30/25.



ACOE Daily Reports			
Date	S79 Flow (cfs)	S78 Flow (cfs)	S77 Flow (cfs)
2/11/25	2432	1968	2428
2/12/25	2248	1633	2119
2/13/25	1834	1133	1682
2/14/25	1801	1204	875
2/15/25	1764	1520	1210
2/16/25	2237	1926	1433
2/17/25	2790	1895	1670
7-day avg	**2158**	**1611**	**1631**



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 at 11:48 AM on 2-19-25 on a rising tide (1.4 ft).