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
In coordination with Lee County

Subject: Caloosahatchee & Estuary Conditions Report

Reporting Period: **January 28- February 3, 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 **2,116 cfs** at **S-79** with a 7-day average of **1,679 cfs (79%)** coming from the lake at **S-77. The 14-day moving average flow at S-79 was 1,972 cfs** and has been in the **optimum flow envelope** (750- 2,100 cfs; RECOVER 2020) for **21 days**. **The 14-day moving average flow at S-77 was 1,351 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 upper third of Zone D (Zone D1 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 recommends the USACE continue non-harmful Recovery Operations for Lake Okeechobee as described in LOSOM to increase the likelihood of success this dry season. The District will continue to monitor conditions throughout the system and coordinate with USACE as needed. 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 **69,417 AF** with **23,316 AF** to the Caloosahatchee through **S-77**, **12,873 AF** to the St. Lucie canal through **S-308** and **33,228 AF** to the EAA through **S-351**, **S-352**, and **S-354**. The total net inflow to the Lake was **11,375 AF** from Fisheating Creek, S-71, S-72, S-84s, S-65EX, and S-65EX1. Water conservation areas received flows of **3,550 AF**, **4,424 AF**, and **6,024 AF** at **WCA1, WCA2, and WCA3**, respectively. Everglades National Park received **10,121 AF.**
***Data missing from S-310 and L-8 from 1/28/25- 2/3/25.**

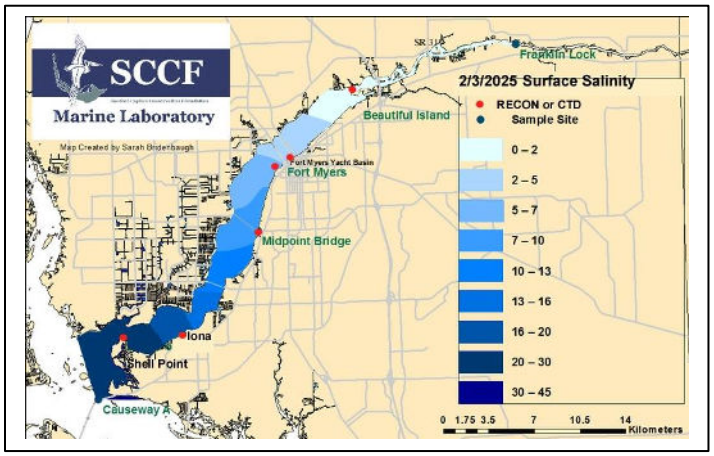
Lake Level: 14.36 (Zone D1) **Last Week**: **14.53 ft** **Last Year: 16.32**

7-Day Lake Recession Rate: -0.17 ft/week

Lake Okeechobee Inflow: 1,048 cfs **Lake Okeechobee Outflow: 5,343 cfs**

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

Cyanobacteria Status: On 2/3/25, sampling for cyanobacteria by the Lee County Environmental Lab reported no visible cyanobacteria across all sites.
Red Tide: On 1/31/25, the FWC reported that the red tide organism, *Karenia brevis*, was detected in 75 samples collected from Florida's Gulf Coast. In Southwest Florida, *K. brevis* was observed at *K. brevis* was observed at background to low concentrations in Pinellas County, background to low concentrations in and offshore of Hillsborough County, background to low concentrations in Manatee County, background to low concentrations in and offshore of Sarasota County, background to low concentrations in and offshore of Charlotte County, **background to high concentrations in and offshore of Lee and Collier counties**, and low to medium concentrations offshore of Monroe County.



Light Penetration

Site	25% Iz	Target Values	Turbidity	Target Values
	meters		NTU	
Beautiful Is	0.7	> 1	5.2	< 18
Shell Point	1.3	>2.2	1.3	< 18
Causeway	2.2	> 2.2	3.5	< 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 average surface salinity at the Fort Myers Yacht Basin was 3.0 psu, in the range for tape grass.

Lower Estuary Conditions: The weekly average salinity at the Shell Point RECON was 25 psu, in the optimal range for oysters and seagrass. Very high concentrations of *Karenia* spp. were present in SCCF water samples from the causeway on 2/3/25 and concentrations at south beach samples ranged from low to high during the week.

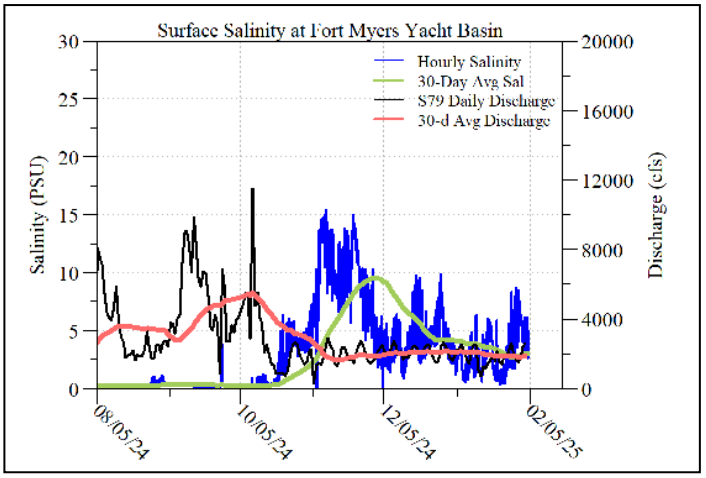
Water Quality Conditions:

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 - 1.2 [0.2 - 0.5]	6.6 – 8.4	160	6.8	63.9 – 78.0
Fort Myers Yacht Basin	1.7- 8.7 [0.3 - 6.9]	ND	ND	ND	62.5 - 77.9
Shell Point	16 - 33 [13 - 32]	6.9– 9.3	70	3.7	58.3 - 72.7
McIntyre Creek	ND [ND]	ND	31.3 – 43.8	1.3 – 3.3	ND
Tarpon Bay	29.7 – 33.3 [27.9 – 33.2]	5.5 – 9.5	18.6 – 54.5	1.2 – 3.8	59.1 – 74.0
Wulfert Flats	29.7 – 31.3 [27.9 – 29.8]	5.6 – 10.3	-------	1.2 – 20.8	60.4 – 74.3

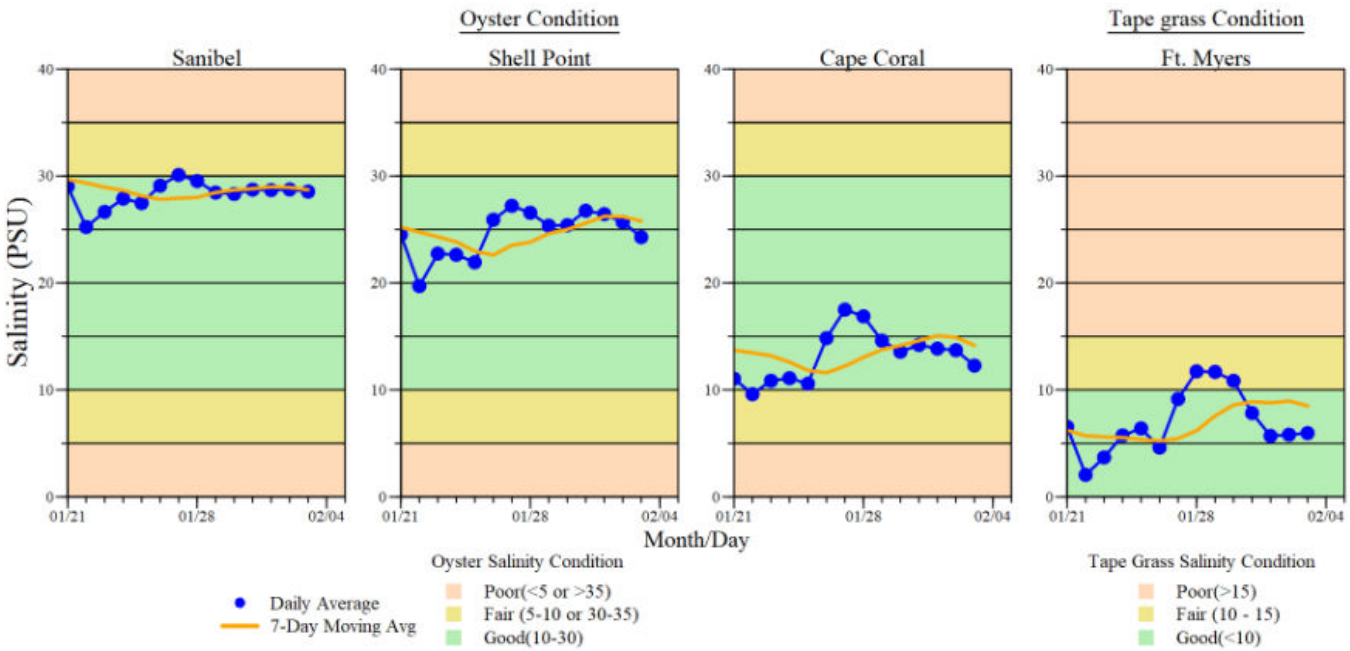
Red values are outside of the preferred range.
[a] Salinity target values: BI < 5, FM < 10, SP = 10 – 30
[b] Dissolved O_2 target values: all sites > 4
[c] FDOM target values: BI < 70, FM < 70, SP < 11
[d] Chlorophyll target values: BI < 11, FM < 11, SP < 11
[f] Temperature target values: < 90
[s] Single 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 **1 patient** with suspected red tide/toxicosis: 1 adult cattle egret. Multiple fish kill events with counts of 100+ have been reported over the past week on Sanibel and Captiva islands and within Lee County, likely due to the presence of *Karenia brevis*, along with deceased birds and coastal wildlife found on beaches.

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)
1/28/25	2628	1949	1930
1/29/25	2013	1359	1588
1/30/25	1712	1275	1490
1/31/25	1523	1254	1400
2/1/25	1902	1461	1627
2/2/25	2406	1790	1846
2/3/25	2631	1679	1874
7-day avg	**2116**	**1538**	**1679**



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.

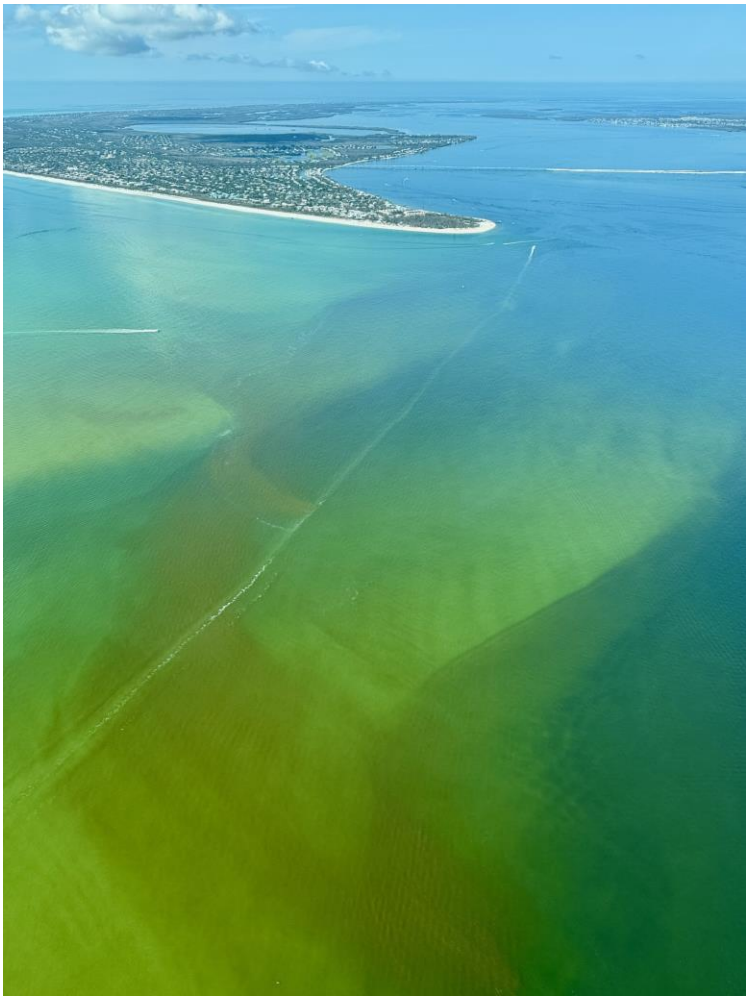
*Ft. Myers sensor is in the lower strata

Water clarity at Lighthouse Beach Park on 2-4-25 at 2:14 PM on a rising tide (2.1 ft).

Deceased fish on Sanibel Island in the Ding Darling Refuge wilderness area on 1/31/2025: hundreds of mullet and some redfish, at least one ladyfish, hardhead catfish, and striped mojarra.

Multiple deceased bonnethead sharks and multiple black scoters on Fort Myers Beach on 1/31/25 and 2/4/2025.

Hundreds of deceased fish on Sanibel Island on 2/6/2025: species include mullet, catfish, sheepshead, whiting, and red fish.



Aerial imagery above Sanibel Island on 2/4/2025. Credit: Ralph Arwood / Calusa Waterkeeper.