# 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
Harry Phillips & Maya Robert - City of Cape Coral
Allie Pecenka, Rick Bartleson PhD & Matt Depaolis- Sanibel-Captiva Conservation Foundation
In coordination with Lee County

Subject: Caloosahatchee & Estuary Conditions Report

Reporting Period: **December 10- 16, 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 **1,957 cfs** at **S-79** with a 7-day average of **1,352 cfs (69%)** coming from the lake at **S-77. The 14-day moving average flow at S-79 was 2,131 cfs** and has been in the **stress flow envelope** (2,100- 2,600 cfs; RECOVER 2020) for **4 days** after **49 days** in the **optimum flow envelope** (750- 2,100 cfs). **The 14-day moving average flow at S-77 was 1,691 cfs.**

**Recommendation:** We ask the USACE to structure recovery flows to the CRE in a format that will benefit the ecology of the ecosystems and align with RECOVER 2020 optimum flow targets of 750- 2,100 cfs measured at S-79. We also ask that the USACE continue to monitor the proximity of active algal blooms to Southwest Florida in their decision-making processes.

**USACE Action**: Lake Okeechobee stage is in the upper third of Zone D (Zone D1 of the PA25 simulation) of the LOSOM regulation schedule, above the ecological envelope. The current climate outlook is for ENSO-neutral with La Niña favored to develop during October-December (ENSO- increased likelihood of below normal dry season rainfall north of the Lake). 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 system 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 **6,4440 AF** with **18,728 AF** to the Caloosahatchee through **S-77**, **11,834 AF** to the St. Lucie canal through **S-308** and **33,878 AF** to the EAA through **S-351**, **S-352**, and **S-354**. The total net inflow to the Lake was **21,433 AF** (**21,433 AF** from Fisheating Creek, S-71, S-72, S-84s, S-65EX, and S-65EX1). Water conservation areas received flows of **3,756 AF**, **335 AF**, and **543 AF** at **WCA1, WCA2, and WCA3**, respectively. Everglades National Park received **16,289 AF.**
***Data missing from S-78 on 12/16 and from S-310 & L-8 from 12/10- 12/16.**

**Lake Level: 15.41 (Zone D1)** **Last Week**: **15.56 ft** **Last Year: 15.80 ft**

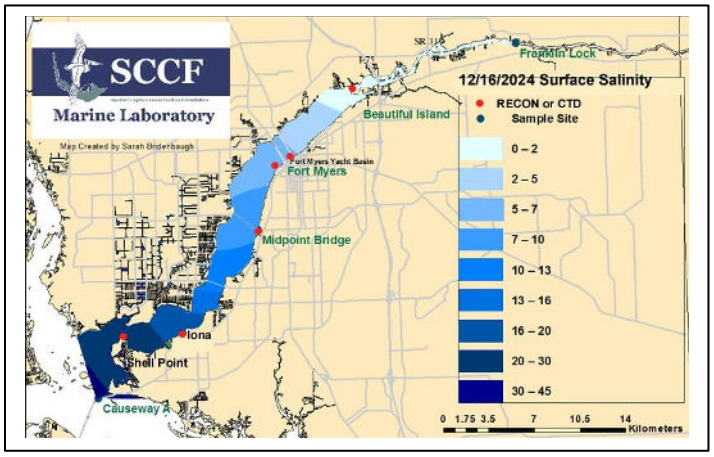
**7-Day Lake Recession Rate: -0.15 ft/week**

**Lake Okeechobee Inflow: 1,349 cfs** **Lake Okeechobee Outflow: 4,924 cfs**

**Weekly Rainfall Total:** **WP Franklin: 0.21"** **Ortona: 0.15"** **Moore Haven: 0.39"**

**Cyanobacteria Status:** On 12/16/24, sampling for cyanobacteria by the Lee County Environmental Lab reported *Microcystis* and *Dolichospermum* as **present** at the **Davis Boat Ramp** with visible specks and slight streaks.

**Red Tide:** On 12/13/24, the FWC reported that the red tide organism, *Karenia brevis*, was detected in 76 samples collected from the Gulf and Atlantic coasts of Florida over the past week. In Southwest Florida, *K. brevis* was observed at background to medium concentrations in Pinellas County, very low and medium concentrations in Hillsborough County, background to low concentrations in Manatee County, very low to medium concentrations in Sarasota County, **low to high concentrations in and offshore of Lee County**, background to medium concentrations in and offshore of Collier County, and low concentrations offshore of Monroe County.




**Light Penetration**

| Site | 25% Iz | Target Values | Turbidity | Target Values |
|---|---|---|---|---|
| | meters | | NTU | |
| Beautiful Is | 0.7 | > 1 | 4.0 | < 18 |
| Shell Point | 1.1 | >2.2 | 2.2 | < 18 |
| Causeway | 2.9 | > 2.2 | 1.8 | < 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 data for the 30-day average surface salinity at the Fort Myers Yacht Basin was not available.

**Lower Estuary Conditions:** The weekly average salinity at the Shell Point RECON was 23 psu, in the optimal range for oysters but below optimal for seagrass. Very low concentrations of *Karenia* were present in an SCCF water sample from Algiers Beach on 12/16/2024.

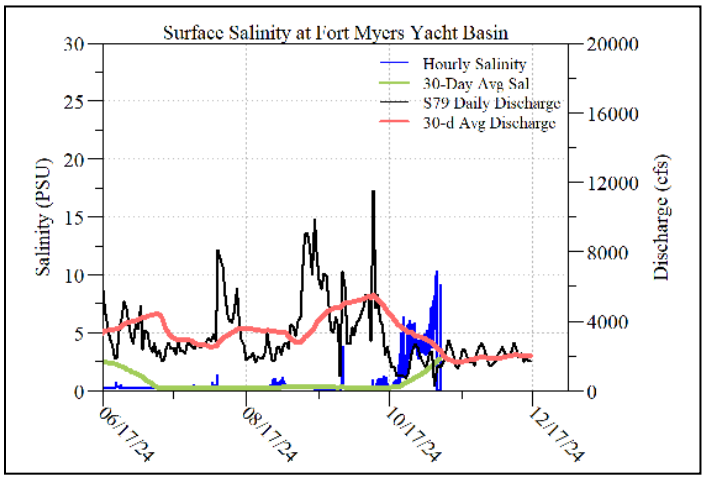
**Water Quality Conditions:**

| Monitor Site | Salinity (psu)[a] [previous week] | Diss $O_2$ (mg/L)[b] | FDOM (qsde)[c] | Chlorophyll (µg/L)[d] | Temperature (°F) |
|---|---|---|---|---|---|
| Beautiful Island | 0.3 - 0.7 [0.3 - 1.7] | 5.6 – 7.5 | 160 | 5.9 | 66.8–74.1 |
| Fort Myers Yacht Basin | [ND] | ND | ND | ND | ND |
| Shell Point | 12 -31 [14 -30] | 6.8– 8.1 | 90 | 2.3 | 62.1 -69.3 |
| McIntyre Creek | 26.3 – 29.9 [ND] | 3.5 – 6.6 | 51.5 – 73.2 | 1.2 – 3.2 | 58.2 – 70.3 |
| Tarpon Bay | 24.1 – 31.7 [26.8 – 30.3] | 5.2 – 7.6 | 25.6 – 67.6 | 1.1 – 2.8 | 60.2 – 69.4 |
| Wulfert Flats | ND [ND] | ND | ND | ND | ND |

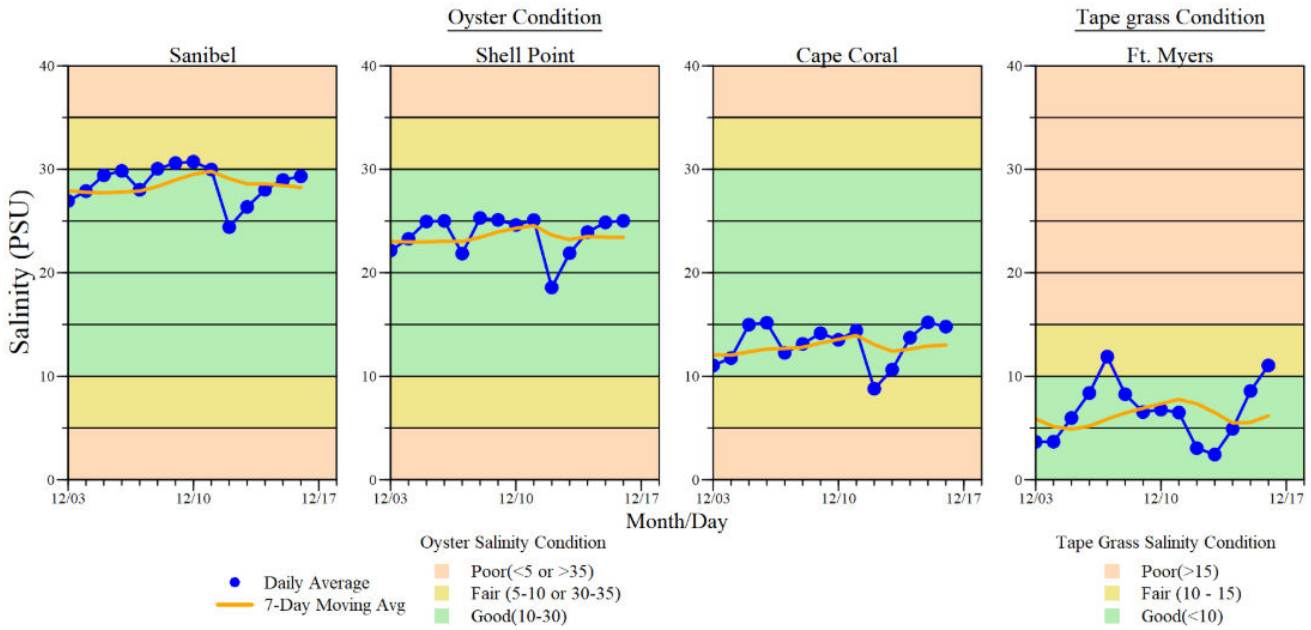
Red values are outside of the preferred range.
[a] Salinity target values: BI < 5, FM < 10, SP = 10 – 30
[b] Dissolved $O_2$ target values: all sites > 4
[c] FDOM target values: BI < 70, FM < 70, SP < 11
[d] Chlorophyll target values: BI < 11, FM < 11, SP < 11
[f] Temperature target values: < 90
[s]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

**Wildlife Impacts:** In the past week, the CROW wildlife hospital on Sanibel admitted **5 patients** with suspected red tide/toxicosis: 1 adult laughing gull (deceased), 1 adult brown pelican (deceased), 1 juvenile brown pelican (deceased), 1 juvenile white ibis (deceased) and 1 adult black scoter (deceased).

**Shellfish Advisory:** Shellfish harvest area #6212 (Pine Island Sound Section 1; Aquaculture Lease and Public Reef) are **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 **OPEN** by the Florida Department of Agriculture and Consumer Services (FDACS) as of 11/01/24.




| ACOE Daily Reports | | | |
|---|---|---|---|
| Date | S79 Flow (cfs) | S78 Flow (cfs) | S77 Flow (cfs) |
| 12/10/24 | 2380 | 1784 | 2019 |
| 12/11/24 | 1907 | 1339 | 1541 |
| 12/12/24 | 2162 | 1174 | 1116 |
| 12/13/24 | 1660 | 1679 | 1355 |
| 12/14/24 | 1865 | 1384 | 1496 |
| 12/15/24 | 1767 | 932 | 1054 |
| 12/16/24 | 1956 | 1217 | 880 |
| **7-day avg** | **1957** | **1358** | **1352** |




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 12-16-24 at 2:17 PM on a rising tide (0.2 ft).