

MEMORANDUM

To: USACE Colonel James L. Booth, LTC Todd F. Polk, Richard McMillen, Kim Taplin, 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
 Lesli Haynes & Lisa Kreiger - Lee County
 Harry Phillips & Maya Robert - City of Cape Coral
 Leah Reidenbach, Rick Bartleson PhD, & Matt Depaolis - SCCF (Sanibel-Captiva Conservation Foundation)

Subject: Caloosahatchee & Estuary Conditions Report

Reporting Period: **November 29 – December 5, 2022**

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 **2,293 cfs** at **S-79** with a 7-day average of **1,721 cfs (75%)** coming from the lake at **S-77**. **The 14-day moving average flow at S-79 is 1,649 cfs and has been in the optimal flow envelope (750 - 2100 cfs; RECOVER 2020) for 40 days.**

Recommendation: To keep the Caloosahatchee River and Estuary in the optimal salinity envelope and to avoid unnecessary stress, we encourage the Corps to maintain flows within the RECOVER 2020 optimal flow envelope of 750 – 2,100 cfs at S-79 for the Caloosahatchee Estuary.

USACE Action: With Lake Okeechobee in the intermediate sub band and normal to wet tributary hydrologic conditions and weather forecast, LORS08 Part D currently suggests up to 4,000 cfs at S-77. On 12/3/22 the USACE increased releases from Lake Okeechobee to the Caloosahatchee Estuary from the W.P. Franklin Lock and Dam (S-79) to a seven-day average pulse release of 2,000 cubic feet per second. No lake releases are planned for the St. Lucie Estuary. The USACE is utilizing a make-up release tool which allows them to make releases at levels lower than suggested in LORS08 and bank the volume not released for beneficial use throughout the dry season.

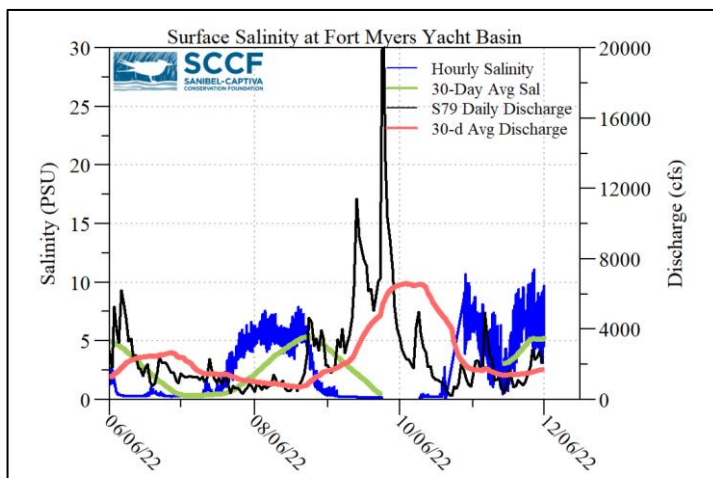
Lake Flows: In the past 7 days the total outflow from Lake Okeechobee was **26,982 AF** with **23,891 AF** to the Caloosahatchee through **S-77**, **52 AF** through **S-310** in Clewiston, and **1,976 AF** to the EAA through **S-351**, **S-352**, and **S-354**. The total net inflow to the Lake was **47,812 AF** (47,800 AF from Fisheating Creek, S-71, S-72, S-84s, S-65EX, and S-65EX1) with a total backflow volume of **12 AF** from **C10A**. Water conservation areas received flows of **1,055 AF**, **837 AF**, and **2,658 AF** at **WCA1**, **WCA2**, and **WCA3**, respectively. Everglades National Park received **24,127 AF**.

Lake Level: 16.46 ft (Intermediate sub-band) Last Week: 16.50 ft Last Year: 15.87 ft

Lake Okeechobee Inflow: 2657 cfs Lake Okeechobee Outflow: 2350 cfs

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

7-Day Lake Recession Rate: -0.04 ft/week



ACOE Daily Reports			
Date	S79 Flow (cfs)	S78 Flow (cfs)	S77 Flow (cfs)
11/29/22	1461	540	486
11/30/22	1911	1745	2161
12/1/22	2831	1661	2095
12/2/22	2273	1538	1841
12/3/22	2375	1682	1964
12/4/22	2811	1808	1738
12/5/22	2386	1602	1760
7-day avg	2293	1496	1721

Cyanobacteria Status: On 12/5/22 sampling for cyanobacteria by the Lee County Environmental Lab reported the presence of *Microcystis* at the **Alva Boat Ramp** as visible specks with no accumulation and at the **Davis Boat Ramp** as wind driven tan/green scum along the seawall.

Water Quality Conditions:

Monitor Site	Salinity (psu) ^a [previous week]	Diss O ₂ (mg/L) ^b	FDOM (qsde) ^c	Chlorophyll (µg/L) ^d
Beautiful Island	0.5 – 1.9 [0.3 – 2.5]	4.1 – 6.1	-----	4.8
Fort Myers Yacht Basin	4.0 – 10.4 [3.4 – 9.8]	-----	-----	-----
Shell Point	16.1 – 31.7 [14.59 – 31.66]	5.1 – 7.1	-----	1.9
McIntyre Creek	27.8 – 29.4 [27.4 – 30.0]	1.5 – 7.4	-----	-----
Tarpon Bay	27.3 – 31.6 [26.5 – 33.0]	3.5 – 7.8	-----	-----
Wulfert Flats	29.3 – 30.0 [28.6 – 32.4]	3.5 – 8.1	-----	1.3 – 20.7

Red values are outside of the preferred range.

^a Salinity target values: BI < 5, FM < 10, SP = 10 – 30

^b Dissolved O₂ 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

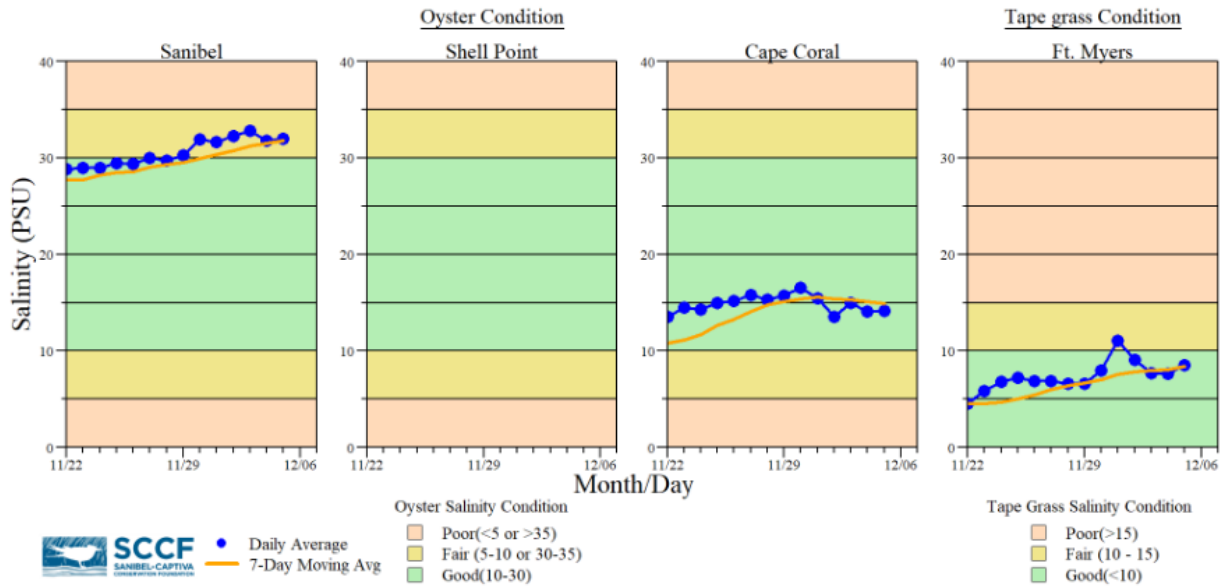
----- no data

Red Tide: On 12/2/22, the FWC reported that over the past week the red tide organism, *Karenia brevis*, was observed in 72 samples. Bloom concentrations (>100,000 cells/liter) were present in 40 samples: one in Manatee County, 31 in Sarasota County, one in Charlotte County, **five in and offshore of Lee County**, and two in and offshore of Collier County.

K. brevis was observed at background to low concentrations in Pinellas County, very low to medium concentrations in Manatee County, low to high concentrations in Sarasota County, very low to medium concentrations in and offshore of Charlotte County, **background to medium concentrations in and offshore of Lee County**, and background to high concentrations in and offshore of Collier County

Wildlife Impacts: In the past week, the CROW wildlife hospital on Sanibel received 5 patients with toxicosis symptoms: 1 laughing gull (still at CROW), 3 double crested cormorants (3 still at CROW), and 1 sanderling (released).

Beach Conditions: The City of Sanibel reported that there were no new deposits of dead fish during beach inspections but did find a dead double crested cormorant at Bowman's Beach on 12/5/22 with no obvious signs of trauma, so it may have been impacted by red tide. SCCF staff reported a dead large tarpon (>4ft long) at Tarpon Bay Beach on 12/2/22. The town of Fort Myers Beach reported that water quality was improving, and birds are coming back, but there were still a few new fish kills. The FWC Fish Kill Hotline continued to receive reports of multi-taxa kills and respiratory irritation at South Creek, Naples Beach, Naples Pier, Ainger Creek, Kite Cove, Moorings Bay, Pine Island Sound, and offshore. Affected species: snook, red drum, gag grouper, goliath grouper, jack crevalle, pinfish, spotted seatrout, grunt, scaled sardine, sand perch, bluefish, permit, bonnethead shark, mullet, catfish, pufferfish, eel, horseshoe crab, unidentified crab, other unidentified fish.



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.

Data are provisional and subject to change.



Water clarity at Lighthouse Beach Park on 12/6/22 at 11:53 AM on a rising tide (high tide: 1.7 ft @ 12:41 PM). [Lighthouse Beach Park Virtual Tour](#).