

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: **December 6 – 12, 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 **1,452 cfs** at **S-79** with a 7-day average of **1,080 cfs (74%)** coming from the lake at **S-77**. **The 14-day moving average flow at S-79 is 1,872 cfs and has been in the optimal flow envelope (750 - 2100 cfs; RECOVER 2020) for 47 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.

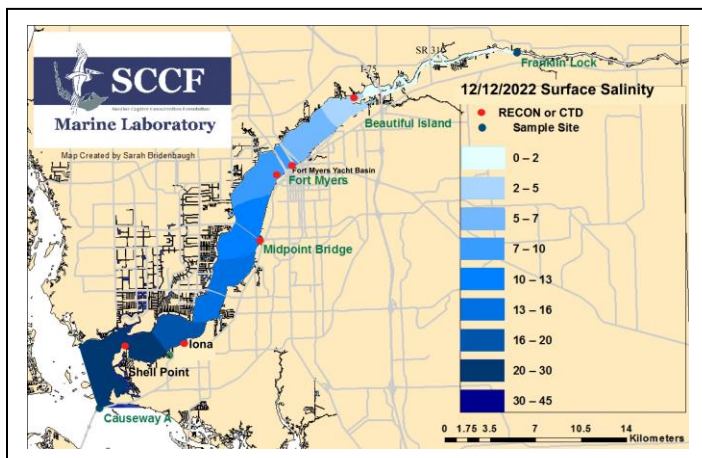
Lake Flows: In the past 7 days the total outflow from Lake Okeechobee was **28,402 AF** with **14,999 AF** to the Caloosahatchee through **S-77**, **56 AF** through **S-310** in Clewiston, and **12,631 AF** to the EAA through **S-351**, **S-352**, and **S-354**. The total net inflow to the Lake was **31,519 AF** (31,519 AF from Fisheating Creek, S-71, S-72, S-84s, S-65EX, and S-65EX1). Water conservation areas received flows of **198 AF**, **0 AF**, and **3,747 AF** at **WCA1**, **WCA2**, and **WCA3**, respectively. Everglades National Park received **24,549 AF**.

Lake Level: 16.40 ft (Intermediate sub-band) Last Week: 16.46 ft Last Year: 15.78 ft

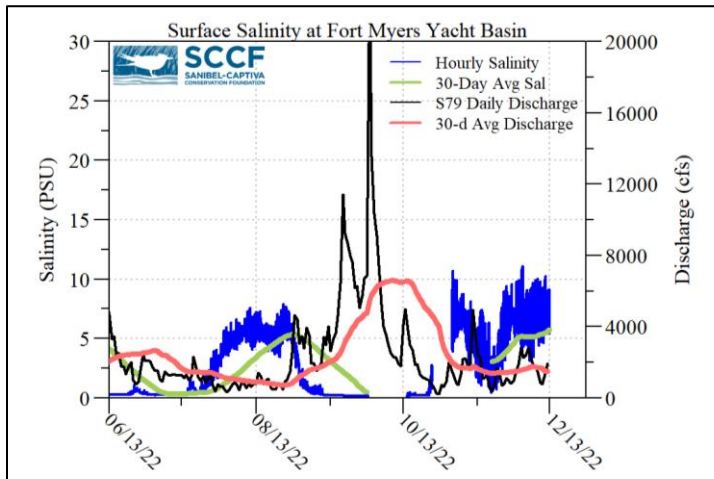
Lake Okeechobee Inflow: 2150 cfs Lake Okeechobee Outflow: 1672 cfs

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

7-Day Lake Recession Rate: -0.06 ft/week



ACOE Daily Reports			
Date	S79 Flow (cfs)	S78 Flow (cfs)	S77 Flow (cfs)
12/6/22	1833	1272	1390
12/7/22	1753	1272	1450
12/8/22	1453	924	1177
12/9/22	869	752	405
12/10/22	795	336	490
12/11/22	1323	821	618
12/12/22	2140	1528	2032
7-day avg	1452	896	1080



Site	Light Penetration		Turbidity	Target Values
	25% I _z	Target Values		
	meters		NTU	
Fort Myers	ND	> 1	ND	< 18
Shell Point	ND	>2.2	ND	< 18
Causeway	ND	> 2.2	ND	< 5

25% I_z is the depth (z) where irradiance (I) is 25% of surface irradiance. Target values indicate the depth of light penetration needed for healthy seagrass.
^m measured, ^c calculated

Cyanobacteria Status: On 12/12/22 sampling for cyanobacteria by the Lee County Environmental Lab reported no cyanobacteria in the Caloosahatchee.

Upper Estuary Conditions: The 30-day average surface salinity at the Fort Myers Yacht Basin was 5.4 psu, within the suitable range for tape grass.

Lower Estuary Conditions: The average salinity at Shell Point RECON was 24 psu, within the optimal range for oysters but below optimal for seagrass.

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 – 2.9 [0.5 – 1.9]	3.9 – 5.6	-----	7.5
Fort Myers Yacht Basin	4.4 – 9.8 [4.0 – 10.4]	-----	-----	-----
Shell Point	16 – 30 [16.1 – 31.7]	5.4 – 6.9	-----	2.3
McIntyre Creek	27.5 – 29.1 [27.8 – 29.4]	1.6 – 7.6	-----	-----
Tarpon Bay	26.5 – 29.0 [27.3 – 31.6]	4.4 – 7.0	-----	-----
Wulfert Flats	29.3 – 31.5 [29.3 – 30.0]	3.3 – 7.8	-----	2.6 – 59.5

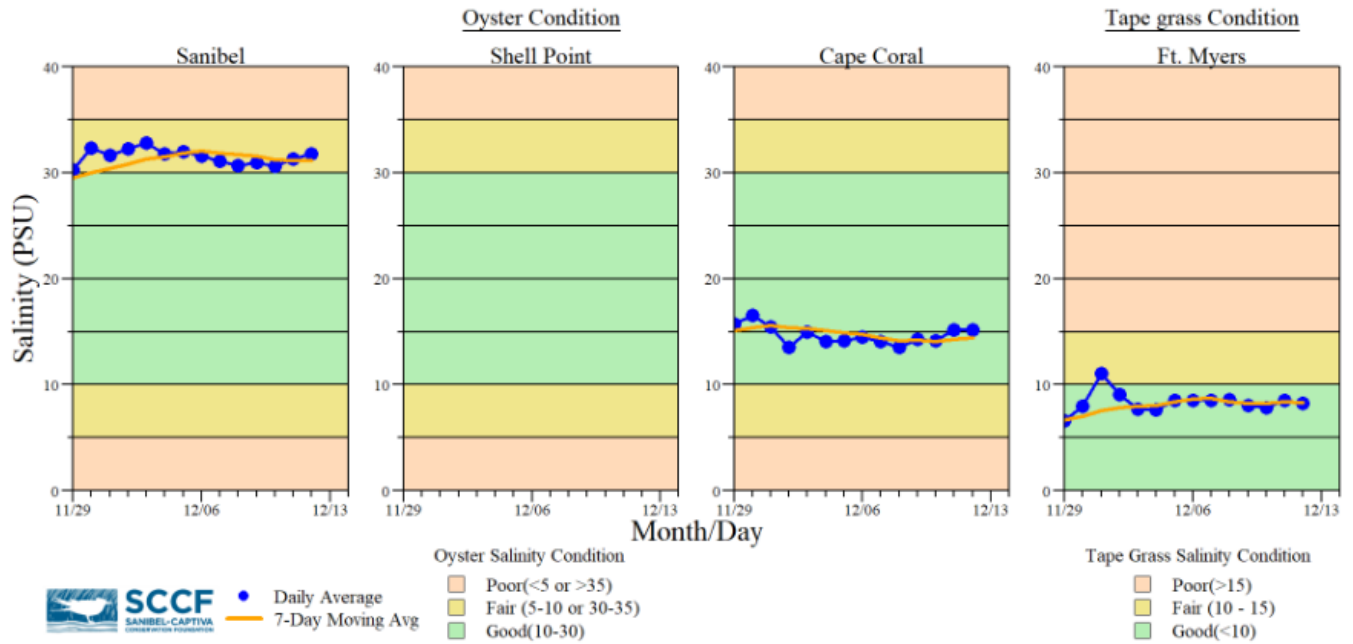
Red values are outside of the preferred range.
^a Salinity target values: BI < 5, FM < 10, SP = 10 – 30
^b Dissolved O₂ target values: all sites > 4
^c FDOM target values: BI < 70, FM < 70, SP < 11
^d Chlorophyll target values: BI < 11, FM < 11, SP < 11
^e Single sonde lower and surface layer or surface grab lab measurement
 ----- no data

Red Tide: On 12/9/22, the FWC reported that over the past week the red tide organism, *Karenia brevis*, was observed in 69 samples. Bloom concentrations (>100,000 cells/liter) were present in 29 samples: four in and offshore of Pinellas County, four offshore of Hillsborough County, two in Manatee County, and 19 in Sarasota County.

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

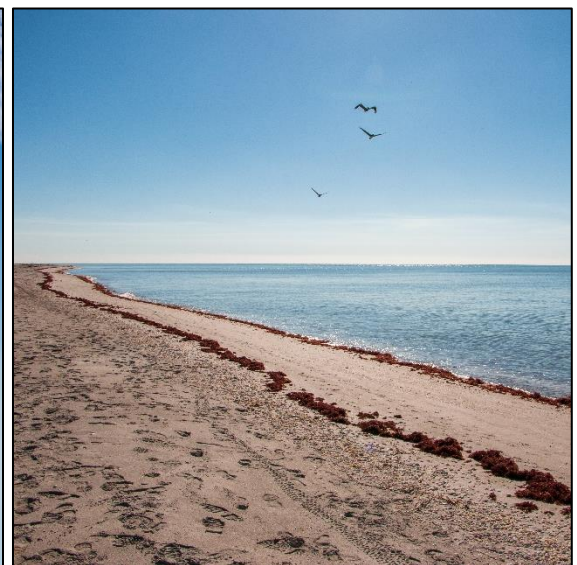
Wildlife Impacts: In the past week, the CROW wildlife hospital on Sanibel received 7 patients with toxicosis symptoms: 2 brown pelicans (still at CROW), 1 double crested cormorant (still at CROW), 1 great blue heron (still at CROW), 1 herring gull (died), 1 osprey (still at CROW), and 1 white pelican (died).

Beach Conditions: The FWC Fishkill hotline continues to receive reports of fish kills and respiratory irritation due to the current red tide bloom at Boca Ciega Bay, Pass-A-Grille Beach, Fort DeSoto Boat Ramp, Grand Canal, North sunshine Skyway Fishing Pier, Shell Key Preserve, Treasure Island Public Beach, Mud Bayou, Outback Key Lagoon, Lemon Bay, Cortez Beach. Affected Species: mullet, pinfish, grunt, black drum, spotted sea trout, snook, sheepshead, needlefish, snapper, grouper, and 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.



Moderate accumulation of red macroalgae near beach access #6 on Sanibel on 12/9/22. SCCF.

Water clarity at Lighthouse Beach Park on 12/12/22 at 12:28 PM on a rising tide (low tide: -0.44 ft @ 9:50 AM). [Lighthouse Beach Park Virtual Tour.](#)