

MEMORANDUM

To: USACE Colonel James L. Booth, 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 & Leah Reidenbach - Sanibel-Captiva Conservation Foundation
In coordination with Lee County

Subject: Caloosahatchee & Estuary Conditions Report

Reporting Period: **March 19–25, 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 **6,438 cfs** at **S-79** with a 7-day average of **4,715 cfs (73%)** coming from the lake at **S-77**. **The 14-day moving average flow at S-79 is 4,408 cfs and has been in the damaging** flow envelope (>2,600 cfs; RECOVER 2020) for **36 days**. The 14-day average flow at S-77 was **3,329 cfs**.

Recommendation: The Corps has made the decision to increase flows to a 14-day average of 4,000 cfs measured at S-77 in a pulse release schedule resulting in damaging flows (>2,600 cfs) to the CRE. While we acknowledge the need for increased flows to lower the higher than normal lake level, a strategy for achieving this should have been developed and implemented in late 2023 to avoid the high volume, damaging discharges currently being released. We ask that the Corps monitor flows at S-79 given the El Niño forecast and the high likelihood of increased basin runoff that will compound the high volume releases and reduce flows at S-77 if possible. Furthermore, we ask that flow volume be reduced significantly by April 1 to protect oyster and fish spawning in the CRE or if a red tide event initiates off the coast of Lee County.

USACE Action: With Lake Okeechobee stage in the Intermediate Sub-band, the Tributary Hydrologic conditions in the Near Normal category, Part D of the 2008 LORS suggests up to 4,000 cfs at S-77 and 1,800 cfs at S-80. On 2/17/24 the USACE increased releases from Lake Okeechobee to the Caloosahatchee Estuary from the Julian Keen Jr. Lock and Dam (S-77) to 4,000 cfs, 1,800 cfs at St. Lucie Lock and Dam (S-80), and up to 500 cfs to the Lake Worth Lagoon through the C-51 canal.

Lake Flows: In the past 7 days the total outflow from Lake Okeechobee was **97,374 AF*** with **65,545 AF** to the Caloosahatchee through **S-77**, **27,590 AF** to the St. Lucie canal through **S-308**, **1,313 AF** through the **L8 canal**, and **2,926 AF** to the EAA through **S-351**, **S-352**, and **S-354**. The total net inflow to the Lake was **15,213 AF (15,213 AF** from Fisheating Creek, S-71, S-72, S-84s, S-65EX, and S-65EX1). Water conservation areas received flows of **3,251 AF**, **12,491 AF**, and **2,351 AF** at **WCA1**, **WCA2**, and **WCA3**, respectively. Everglades National Park received **9,372 AF**.
*Data missing for S-310 from 3/19 -3/25.

Lake Level: 15.47 ft (Intermediate Sub-Band)

Last Week: 15.75 ft

Last Year: 14.73 ft

7-Day Lake Recession Rate: -0.28 ft/week

Lake Okeechobee Inflow: 1,019 cfs

Lake Okeechobee Outflow: 7,408 cfs

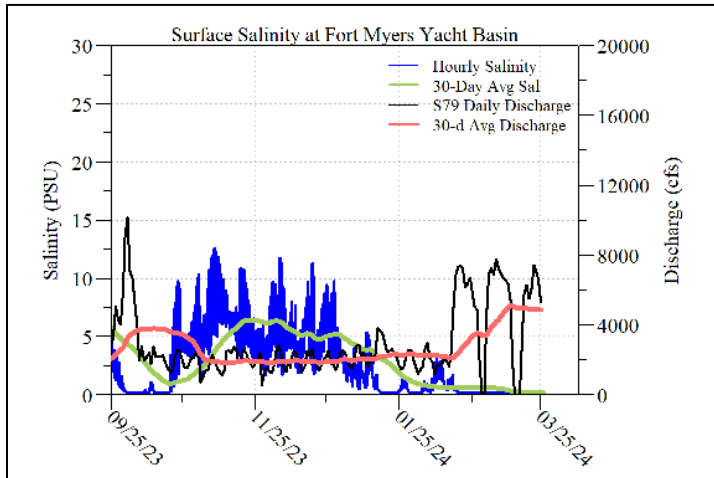
Weekly Rainfall Total: WP Franklin: 1.40"

Ortona: 1.23"

Moore Haven: 1.23"

Cyanobacteria Status: On 3/25/24 sampling for cyanobacteria by the Lee County Environmental Lab reported **moderately abundant** *Microcystis*, *Dolichospermum* and *Raphidiopsis* at **Royal Palm Park** with some accumulation, upstream of the **Franklin Locks** with streaks and some accumulation, and at the **Davis Boat Ramp** with streaks and accumulation. *Dolichospermum* and *Raphidiopsis* were **present** at the **Alva Boat Ramp** with streaks and a pale green tint to the water.

Red Tide: On 3/22/24, the FWC reported that the red tide organism *Karenia brevis* was **observed at background concentrations** in two samples collected from **Southwest Florida** over the past week; from and offshore of Sarasota County. *K. brevis* was **not observed** in samples collected from or offshore of Pinellas, Hillsborough, Manatee, Charlotte, Lee, or Collier counties. No samples from Monroe County were analyzed this week.



Site	Light Penetration			
	25% Iz	Target Values	Turbidity	Target Values
	meters		NTU	
Fort Myers	0.7	> 1	7.0	< 18
Shell Point	0.8	>2.2	2.8	< 18
Causeway	1.9	> 2.2	6.6	< 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 0.2 psu, within the suitable range for tape grass.

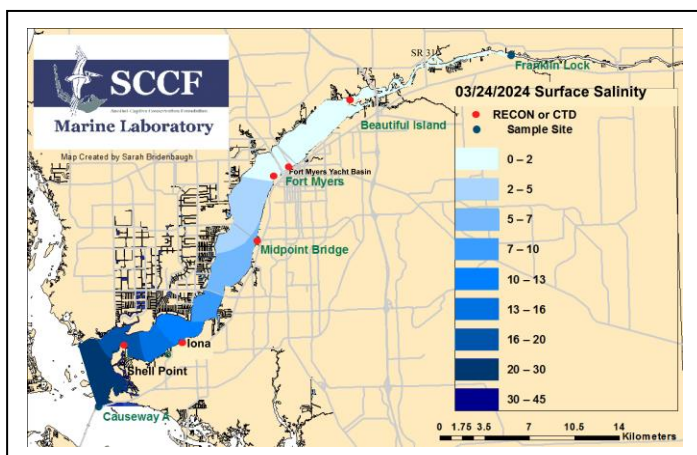
Lower Estuary Conditions: The average salinity at Shell Point RECON was 19 psu, in the optimal range for oysters but below optimal for seagrass. Salinity at Shell Point dropped to 2.2 on 3/12/24.

Water Quality Conditions:

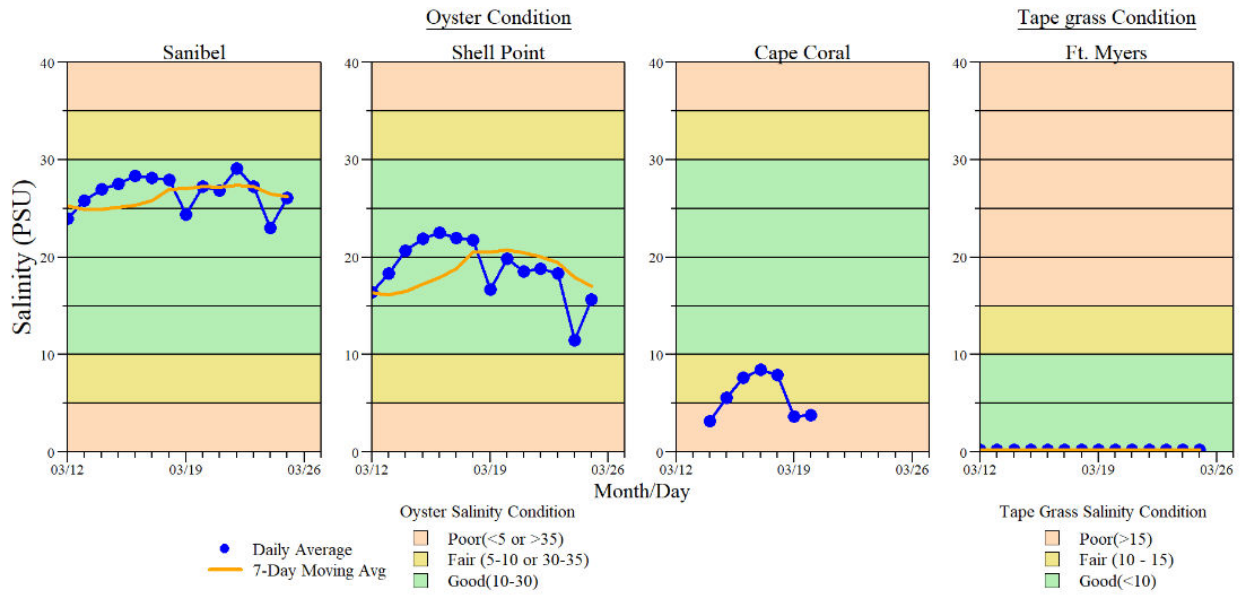
Monitor Site	Salinity (psu) ^a [previous week]	Diss O ₂ (mg/L) ^b	FDOM (qsde) ^c	Chlorophyll (µg/L) ^d	Temperature (°F)
Beautiful Island	0.2 – 0.2 [0.2 – 0.2]	3.6 – 7.4	143 – 171	9.8	74.0 – 86.1
Fort Myers Yacht Basin	0.2 – 0.2 [0.2 – 0.2]	4.6 – 8.7	151 – 178	7.5	72.5 – 79.5
Shell Point	3.5 - 29 [2.2 – 30]	5.2 – 7.5	61.3 – 204	3.8	73.4 – 80.9
McIntyre Creek	23.5 – 28.1 [24.1 – 28.0]	2.9 – 9.5	62.4 – 99.6	1.9 – 6.1	70.9 – 79.8
Tarpon Bay	22.8 – 30.9 [22.9 – 31.1]	5.2 – 9.0	30.6 – 73.3	1.1 – 3.4	71.5 – 79.5
Wulfert Flats	----- [------]	-----	-----	-----	-----

- 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

Wildlife Impacts: In the past week, the CROW wildlife hospital on Sanibel admitted 5 patients with suspected red tide/toxicosis: 1 adult lesser scaup (deceased), 1 adult double-crested cormorant (deceased), 1 juvenile double-crested cormorant (deceased) and 2 adult sanderlings (still in care).



ACOE Daily Reports			
Date	S79 Flow (cfs)	S78 Flow (cfs)	S77 Flow (cfs)
3/19/24	6305	5356	4860
3/20/24	5508	5372	4776
3/21/24	6089	5564	4588
3/22/24	7453	5852	4620
3/23/24	7024	5816	4632
3/24/24	6623	5353	4752
3/25/24	6066	5200	4780
7-day avg	6438	5502	4715



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 3/26/24 at 11:49 AM on a rising tide (2.2 ft).