

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: **June 20 – 26, 2023**

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 **2,931 cfs** at **S-79** with a 7-day average of **261 cfs (9%)** coming from the lake at **S-77**. **The 14-day moving average flow at S-79 is 2,508 cfs and has been in the stress flow envelope (2,100 - 2,600 cfs; RECOVER 2020) for 8 days.**

Recommendation: Lake Okeechobee is concerningly high and has developed large cyanobacterial blooms on the lake and at S-77. There is potential risk that the Caloosahatchee could experience damaging high Lake discharge events in addition to watershed runoff, resulting not only in increased nutrient loading and decreased salinity, but the transportation of harmful algae via S-77 to the estuary. We recommend that the Corps seek to utilize all outlets around the Lake to reduce rising Lake levels in an effort to prevent damaging high releases to the Caloosahatchee estuary and to confirm the absence of cyanobacteria at all lock structures before releases resume to avoid risk to environmental and human health.

USACE Action: With Lake Okeechobee in the Low Sub-band, normal tributary hydrologic conditions, the seasonal Lake Okeechobee Net Inflow outlook in the Very Wet category, and the Multi-Seasonal Lake Okeechobee Net Inflow outlook in the Wet Category, Part D of the 2008 LORS suggests "S-79 up to 3,000 cfs and S-80 up to 1,170 cfs". On 6/10/23 the USACE increased releases from Lake Okeechobee to the Caloosahatchee Estuary from the W.P. Franklin Lock and Dam (S-79) to 2,000 cfs. Releases to the St. Lucie Estuary (S-80) remain at 0 cfs.

Lake Flows: In the past 7 days the total outflow from Lake Okeechobee was **3,630 AF** with **3,630 AF** to the Caloosahatchee through **S-77**, **0 AF** through **S-310** in Clewiston, and **0 AF** to the EAA through **S-351**, **S-352**, and **S-354**. The total net inflow to the Lake was **70,768 AF** (68,819 AF from Fisheating Creek, S-71, S-72, S-84s, S-65EX, and S-65EX1) with a total backflow volume of **1,949 AF** from **S310** and **C10A**. Water conservation areas received flows of **13,902 AF**, **24,887 AF**, and **13,386 AF** at **WCA1**, **WCA2**, and **WCA3**, respectively. Everglades National Park received **14,761 AF**.

Lake Level: 14.56 ft (Operational Management Band) Last Week: 14.16 ft Last Year: 12.91 ft

7-Day Lake Recession Rate: +0.40 ft/week

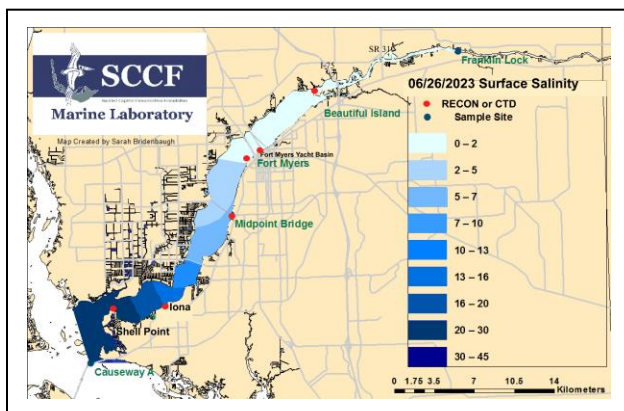
Lake Okeechobee Inflow: 6,055 cfs

Lake Okeechobee Outflow: 0 cfs

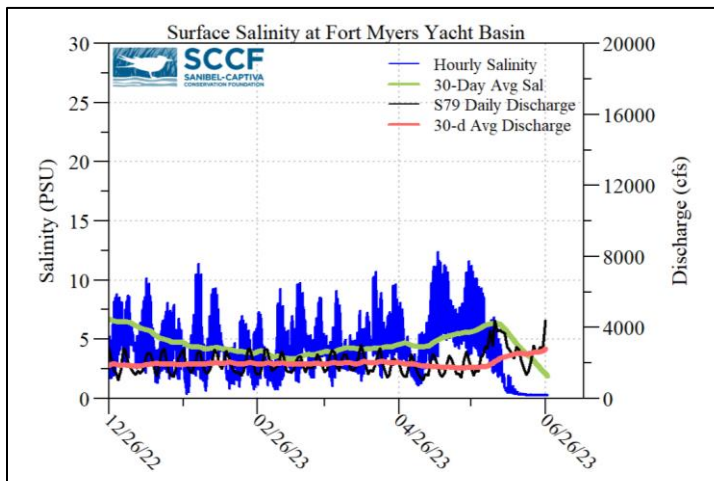
Weekly Rainfall Total: WP Franklin: 1.28"

Ortona: ≥3.72"

Moore Haven: 3.14"



ACOE Daily Reports			
Date	S79 Flow (cfs)	S78 Flow (cfs)	S77 Flow (cfs)
6/20/23	2109	1716	1166
6/21/23	2973	1607	664
6/22/23	2646	1470	0
6/23/23	2657	1597	0
6/24/23	2909	1077	0
6/25/23	2824	1316	0
6/26/23	4398	2209	0
7-day avg	2931	1464	261



Light Penetration

Site	25% I _z	Target Values	Turbidity	Target Values
	meters		NTU	
Fort Myers	ND	> 1	ND	< 18
Shell Point	ND	>2.2	ND	< 18
Causeway	1.96	> 2.2	1.5	< 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 6/26/23 sampling for cyanobacteria by the Lee County Environmental Lab reported the presence of *Microcystis* and *Dolichospermum* at the **Alva Boat Ramp** as visible specks with no accumulation and at **Midpoint Bridge Park** as visible specks with slight accumulation along the shore. *Microcystis* was present upstream of the **Franklin Locks** and at **North Shore Park** as visible specks with no accumulation, and at the **Davis Boat Ramp** as visible specks with a slight accumulation along the seawall.

Upper Estuary Conditions: The 30-day average surface salinity at the Fort Myers Yacht Basin was 2.5 psu, within the suitable range for tape grass.

Lower Estuary Conditions: The average salinity at Shell Point RECON was 21 psu, in the optimal range for oysters, but below optimal for seagrass.

Water Quality Conditions:

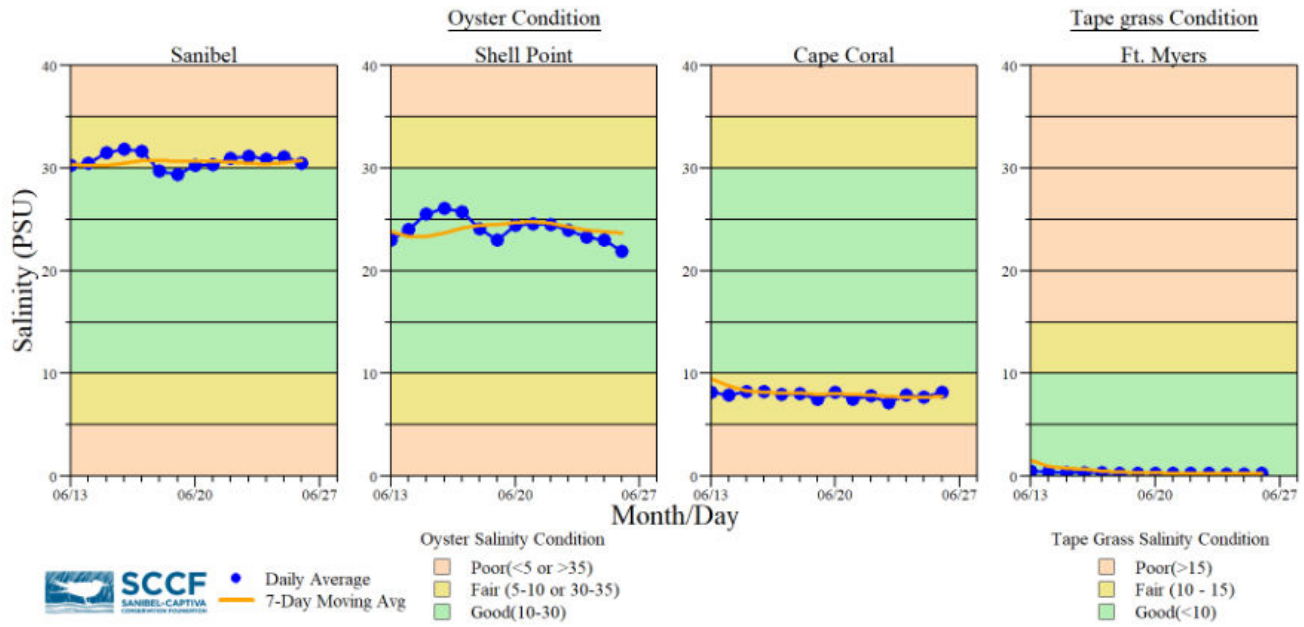
Monitor Site	Salinity (psu) ^a [previous week]	Diss O ₂ (mg/L) ^b	FDOM (qsde) ^c	Chlorophyll (µg/L) ^d
Beautiful Island	0.2 – 0.3 [0.2 – 0.2]	-----	-----	8.2
Fort Myers Yacht Basin	0.3 – 0.3 [0.3 – 1.1]	-----	-----	-----
Shell Point	9.4 – 32 [11 – 34]	-----	-----	-----
McIntyre Creek	29.2 – 32.1 [29.6 – 32.6]	0.8 – 11.3	-----	-----
Tarpon Bay	28.2 – 34.7 [28.8 – 35]	3.1 – 8.1	1.7 – 4.5	1.2 – 1.9
Wulfert Flats	24.2 – 32.1 [31.5 – 32.7]	2.2 – 8.6	-----	2.6 – 26.4

- 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 6/23/23, the FWC reported that over the past week the red tide organism, *Karenia brevis*, detected at background concentrations in two samples from and offshore of Florida’s Gulf Coast. In Southwest Florida over the past week, *K. brevis* was observed at background concentrations in one sample from offshore of Pinellas County.

Wildlife Impacts: In the past week, the CROW wildlife hospital on Sanibel received 2 patients with toxicosis symptoms: 1 adult mottled duck (died) and 1 juvenile brown booby (died).

Shellfish Advisory: Shellfish harvest area #6222/6232 Pine Island Sound Section 2 and 3 (Matlacha Pass North and South) are OPEN by the Florida Department of Agriculture and Consumer Services (FDACS) as of 6/23/23 as fecal coliform results indicate that water quality meets NSSP standards.



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

Data are provisional and subject to change.



Water clarity at Lighthouse Beach Park on 6/26/23 at 11:55 AM on a falling tide (1.4 ft). [Lighthouse Beach Park Virtual Tour.](#)