

MEMORANDUM

To: USACE Colonel Andrew D. Kelly, LTC Todd F. Polk, Richard McMillen, Kim Taplin, SFWMD Governing Board, Executive Director Drew Bartlett, Jennifer Reynolds, Lawrence Glenn, DEP Secretary Noah Valenstein

From: Periodic Scientists Conference Call Participants
 Kevin Godsea & Jeremy Conrad - 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
 James Evans, Leah Reidenbach, & Rick Bartleson PhD - SCCF (Sanibel-Captiva Conservation Foundation)

Subject: Caloosahatchee & Estuary Conditions Report

Reporting Period: **November 24 – 30, 2020**

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.

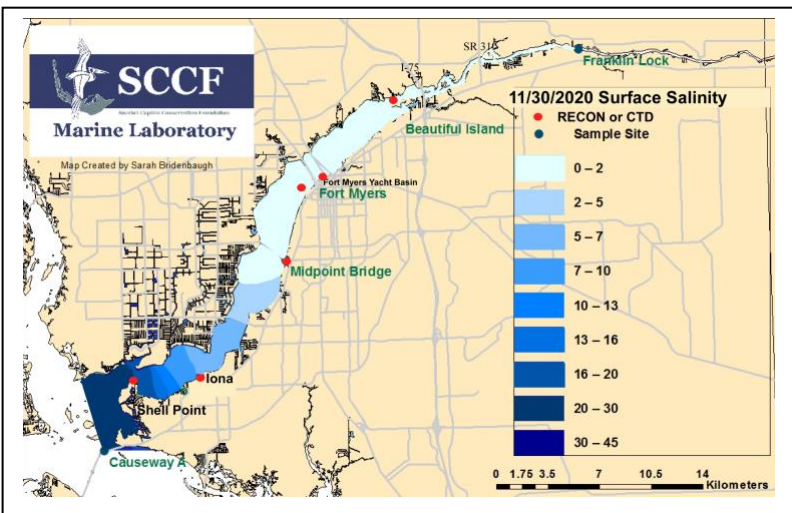
Caloosahatchee Condition Summary: Flows to the Caloosahatchee estuary had a 7-day average of **4,951 cfs at S-79** with a 7-day average of **3,968 cfs** coming from the lake at S-77. The 14-day moving average flow at S-79 is **5,381 cfs** and has been in the **damaging flow envelope (>2,600 cfs; RECOVER 2020)** for the past **80 days**. With sustained flows >2,600 cfs at S-79, we expect low salinities to cause harm to marine organisms in the lower estuary.

Recommendation: We request that flows at S-79 be reduced to **less than 2,600 cfs as soon as possible** to reduce the duration of time spent in the damaging flow envelope. **For optimal ecological conditions** in the Caloosahatchee estuary, we request no freshwater releases from Lake Okeechobee until watershed flows drop below 2,100 cfs. **Once flows drop below 2,100 cfs, we request 7-day average flows be maintained between 750 – 2,100 cfs at S-79.**

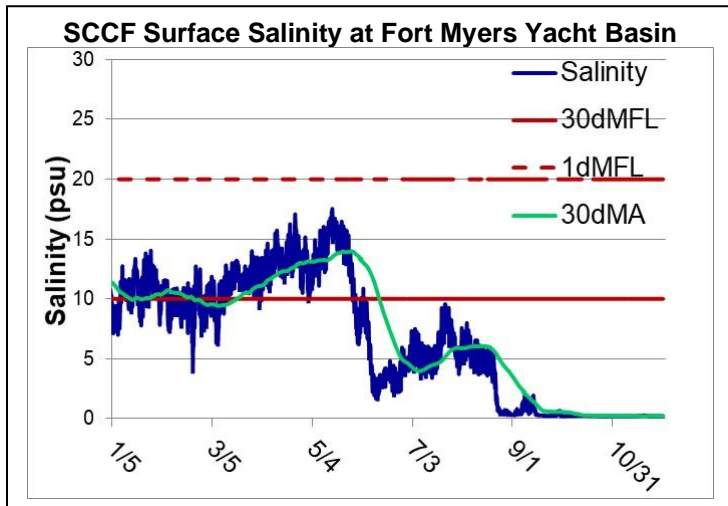
USACE Action: For the past week, flows at S-77 were delivered as a steady release averaging 4,000 cfs at S-77 and flows at S-80 were delivered as a steady release averaging 1,800 cfs. With the lake in the low sub-band LORS08 is guidance allows for up to 450 cfs at S-79 and up to 200 cfs at S-80.

Lake Flows: In the past 7 days, **78,478 AF** were discharged from Lake Okeechobee, with **55,155 AF (70%)** to the Caloosahatchee through **S-77**, **22,479 AF (29%)** to the St. Lucie River through **S-308**, **320 AF (<1 %)** through **S-310**, and **524 AF (1%)** to the **EAA through S-352**. There was a net backflow of **34 AF** at the **L-8 canal**. Water conservation areas received flows of **1,317 AF**, **13,240 AF**, and **5,195 AF** at **WCA1**, **WCA2**, and **WCA3**, respectively. Everglades National Park received **83,023 AF**.

Lake Okeechobee Level: 16.12 ft (Low sub-band) **Last Week:** 16.24 ft
Lake Okeechobee Inflow: 2,574 cfs **Lake Okeechobee Outflow:** 5,714 cfs
Weekly Rainfall Total: WP Franklin 0.00" Ortona 0.00" Moore Haven 0.14"



ACOE Daily Reports			
Date	S79 Flow (cfs)	S78 Flow (cfs)	S77 Flow (cfs)
11/24/2020	4653	3540	4100
11/25/2020	5127	3537	4008
11/26/2020	4752	3650	3964
11/27/2020	5202	3650	3920
11/28/2020	4834	3644	3932
11/29/2020	4966	3645	3920
11/30/2020	5122	3574	3929
7 day avg	4951	3606	3968



Site	Light Penetration		Turbidity NTU	Target Values
	25% I _z meters	Target Values		
Fort Myers	0.73	> 1	4.5	< 18
Shell Point	1.18	>2.2	1.6	< 18
Causeway	1.88	> 2.2	4.3	< 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.

Cyanobacteria Status: On 12/1/20, sampling by the Lee County Environmental Lab reported the presence of sparse specks of *Microcystis*, *Aphanocapsa*, and *Dolichospermum* visible on the surface upstream of the Franklin Locks (S-79) with a slight accumulation along the locks and shore. Sparse specks of *Microcystis* and *Dolichospermum* were present at the Davis Boat Ramp with no accumulation.

Upstream of S-79/Franklin Conditions: Data from the Olga Water Treatment plant is unavailable for the week of 11/25/20.

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. No hypoxia was recorded during the week at the RECON sites.

Lower Estuary Conditions: Light levels were very low near the Causeway in San Carlos Bay due to dissolved organic matter. The average salinity at Shell Point RECON was 20, within the suitable range for oysters.

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 – 0.2 [0.2 – 0.2]	4.2 – 5.2	-----	-----
Fort Myers Yacht Basin	0.2 – 0.2 [0.2 – 0.3]	5.6 – 7.5	430	9.0
Shell Point	5.8 – 30.2 [1.4 – 28]	6.0 – 7.8	221	6.3
McIntyre Creek	20.1 – 26.6	4.6 – 9.2	0.4 – 16.4	1.5 – 4.5
Tarpon Bay	19.7 – 29.8	4.2 – 8.8	-----	0.4 – 8.7
Wildlife Drive	22.3 – 25.2	1.3 – 9.2	-----	0.7 – 6.5
Wulfert Flats	16.5 – 27.5	3.8 – 8.8	-----	3.0 – 48.1

Red values are outside of the preferred range.
^a Salinity target values: BI < 5, FM < 10, SP = 25 – 32
^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

Red Tide: On 11/27/20 FWC reported that the red tide organism, *Karenia brevis*, was observed at background to low concentrations in 3 samples from Sarasota County. On 12/01/20 SCCF observed low concentrations of *K. brevis* at Bowman’s Beach. [Click here for the FWC status of red tide.](#)

Wildlife Impacts: The past week, the CROW wildlife hospital on Sanibel received **9 brevetoxicosis patients:** 6 double-crested cormorants (1 died, 5 still at CROW), 1 royal tern (still at CROW), and 1 lesser scaup (died) and 1 green sea turtle.



Water high in colored dissolved organic matter meeting green, high chlorophyll water south of Blind Pass on 11/27/20. Phytoplankton samples at Sanibel beaches on 11/30/20 were dominated by diatoms (*Rhizosolenia*, *Coscinodiscus*, and *Cylindrotheca*). Photo: SCCF.