

**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 10 – November 16, 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 **8,274 cfs at S-79** with a 7-day average of **3,059 cfs coming from the lake at S-77**. The 14-day moving average flow at S-79 is **7,607cfs** and has been in the **damaging flow envelope (>2,600 cfs; RECOVER 2020)** for the past **66 days**. With sustained flows >2,600 cfs at S-79, we expect low salinities to cause harm to marine organisms in the lower estuary.

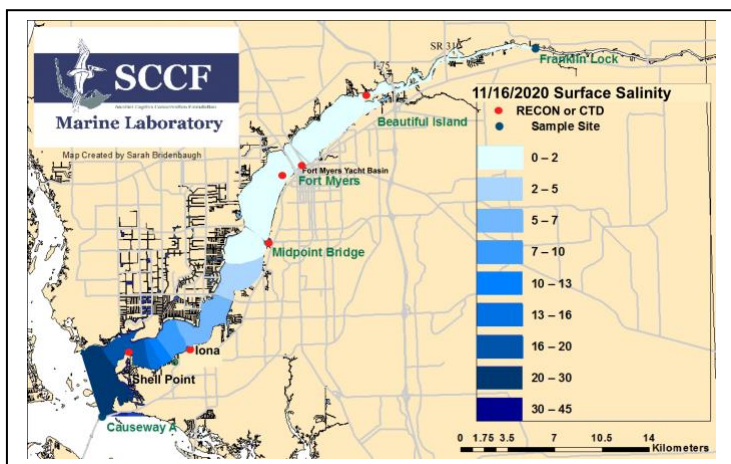
**Recommendation:** We request that flows at S-79 be reduced to **less than 2,600 cfs as soon as possible** to reduce the duration of time spent in the damaging flow envelope. **For optimal ecological conditions** in the Caloosahatchee estuary, we request no freshwater releases from Lake Okeechobee until 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:** The LORS 2008 guidance allows for releases up to 4,000 cfs at S-77 and up to 1,800 cfs at S-80. During the past 7 days, 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.

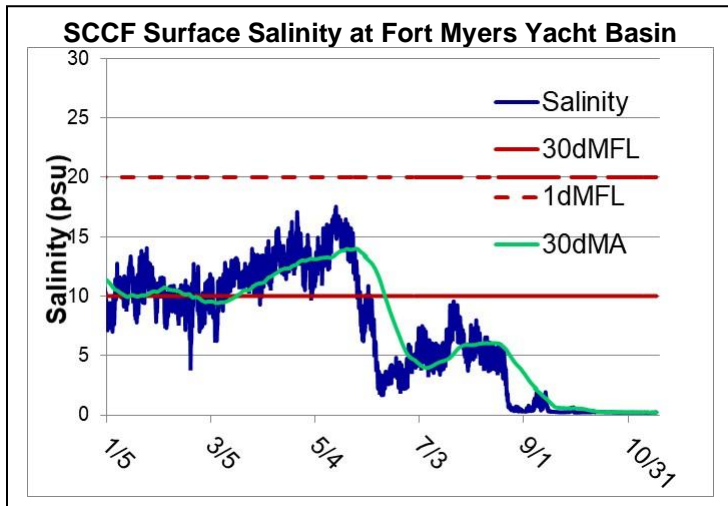
**Lake Flows:** In the past 7 days, **56,614 AF** were discharged from Lake Okeechobee, with **42,753 AF (76%)** to the Caloosahatchee through **S-77**, **13,784 AF (24%)** to the St. Lucie River through **S-308**, **77 AF (<1 %)** through **S-310**, and **0 AF (0%)** to the **EAA**. There was a backflow of **5,566 AF** at the **L-8 canal**. Water conservation areas received flows of **33,113 AF\***, **52,596 AF\***, and **26,541 AF\*** at **WCA1, WCA2, and WCA3**, respectively. Everglades National Park received **55,058 AF\***.

\*Missing data for WCAs on 11/10/20 and missing data for ENP on 11/10-11/11/20

**Lake Okeechobee Level:** 16.41 ft (Intermediate sub-band) **Last Week:** 16.23 ft  
**Lake Okeechobee Inflow:** 4384 cfs **Lake Okeechobee Outflow:** 5660 cfs  
**Weekly Rainfall Total:** WP Franklin 1.03" Ortona 0.35" Moore Haven ≥2.04"



ACOE Daily Reports			
Date	S79 Flow (cfs)	S78 Flow (cfs)	S77 Flow (cfs)
11/10/2020	13136	6466	4022
11/11/2020	8767	4168	2453
11/12/2020	6910	1932	0
11/13/2020	7200	4087	2720
11/14/2020	8058	5054	4008
11/15/2020	7432	4565	4116
11/16/2020	6412	4418	4096
<b>7 day avg</b>	<b>8274</b>	<b>4384</b>	<b>3059</b>



Light Penetration

Site	25% I <sub>z</sub>	Target Values	Turbidity	Target Values
	meters		NTU	
Fort Myers	0.73	> 1	3.6	< 18
Shell Point	1.06	>2.2	3.0	< 18
Causeway	1.82	> 2.2	2.5	< 5

25% I<sub>z</sub> 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 11/17/20, sampling by the Lee County Environmental Lab reported the presence of sparse specks of *Microcystis* and *Planktothrix* visible on the surface upstream of the Franklin Lock (S-79) and sparse specks and some streaks of *Microcystis* and *Dolichospermum* visible on the surface at the Davis Boat Ramp.

**Upstream of S-79/Franklin Conditions:** On 11/3/20 the Olga Water Treatment plant reported chlorides of **54 mg/L**, apparent color **256 CU** and turbidity **7.6 NTU**. No visible algae were reported at the plant intake the past week. The plant is online at **1800 GPM**.

**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 17, within the suitable range for oysters.

Water Quality Conditions:

Monitor Site	Salinity (psu) <sup>a</sup> [previous week]	Diss O <sub>2</sub> (mg/L) <sup>b</sup>	FDOM (qsde) <sup>c</sup>	Chlorophyll (µg/L) <sup>d</sup>
Beautiful Island	0.2 – 0.2 [0.2 – 0.2]	3.2 – 5.7	-----	-----
Fort Myers Yacht Basin	0.2 – 0.2 [0.2 – 0.2]	4.1- 7.3	432	8.4
Shell Point	2.7- 33 [2.6 – 29]	5.3 – 7.8	256	5.3
McIntyre Creek	21.6 – 29.9	3.2 – 9.6	8.5 – 19.9	1.4 – 4.6
Tarpon Bay	19.9 – 33.2	4.2 – 6.6	6.9 – 34.7	1.7 – 12.6
Wildlife Drive	19.9 – 26.6	0.7 – 8.8	-----	1.3 – 9.0
Wulfert Flats	18.4 – 32.8	3.3 – 7.6	-----	1.9 – 85.2

Red values are outside of the preferred range.

<sup>a</sup> Salinity target values: BI < 5, FM < 10, SP = 25 – 32

<sup>b</sup> Dissolved O<sub>2</sub> target values: all sites > 4

<sup>c</sup> FDOM target values: BI < 70, FM < 70, SP < 11

<sup>d</sup> Chlorophyll: BI < 11, FM < 11, SP < 11

**Red Tide:** On 11/13/20 FWC reported that the red tide organism, *Karenia brevis*, was not observed in samples collected statewide over the past week. [Click here for the FWC status of red tide](#)

**Wildlife Impacts:** The past week CROW, the wildlife hospital on Sanibel, received **10 patients with toxicosis symptoms:** 9 double-crested cormorants (4 died, 5 still at CROW), 1 sanderling (died).



The Caloosahatchee/tide boundary at Lighthouse Beach Park on 11/13/20. Photo: The City of Sanibel