

**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 17 – 23, 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 **5,811 cfs at S-79** with a 7-day average of **4,150 cfs** coming from the lake at S-77. The 14-day moving average flow at S-79 is **7,042 cfs** and has been in the **damaging flow envelope (>2,600 cfs; RECOVER 2020)** for the past **73 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, with the lake in the intermediate sub-band, the LORS 2008 guidance allowed for releases up to 4,000 cfs at S-77 and up to 1,800 cfs at S-80. As of 11/24/20, the lake is in the low sub-band, and LORS08 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, **81,252 AF** were discharged from Lake Okeechobee, with **57,735 AF (71%)** to the Caloosahatchee through **S-77**, **21,885 AF (27%)** to the St. Lucie River through **S-308**, **53 AF (<1 %)** through **S-310**, and **1,579 AF (2%)** to the **EAA through S-351 and S-352**. There was a net backflow of **13 AF** at the **L-8 canal**. Water conservation areas received flows of **6,147 AF**, **34,876 AF**, and **18,494 AF** at **WCA1**, **WCA2**, and **WCA3**, respectively. Everglades National Park received **84,487 AF**.

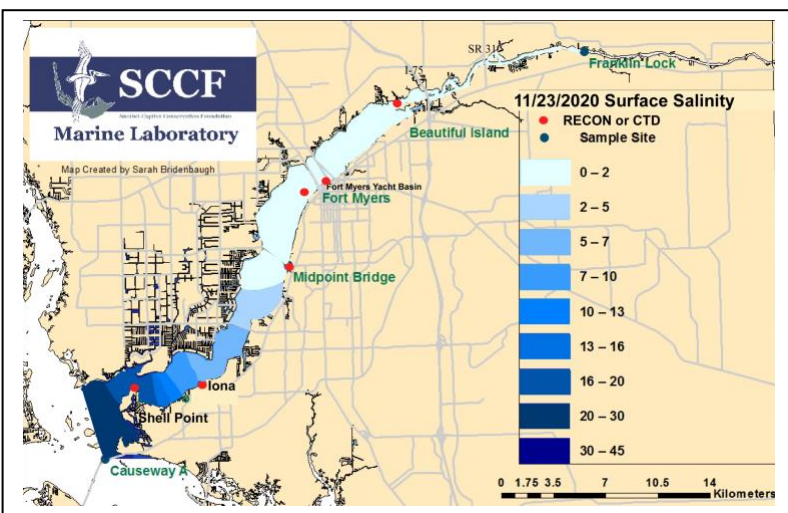
**Lake Okeechobee Level:** 16.24 ft (Low sub-band)

**Last Week:** 16.41 ft

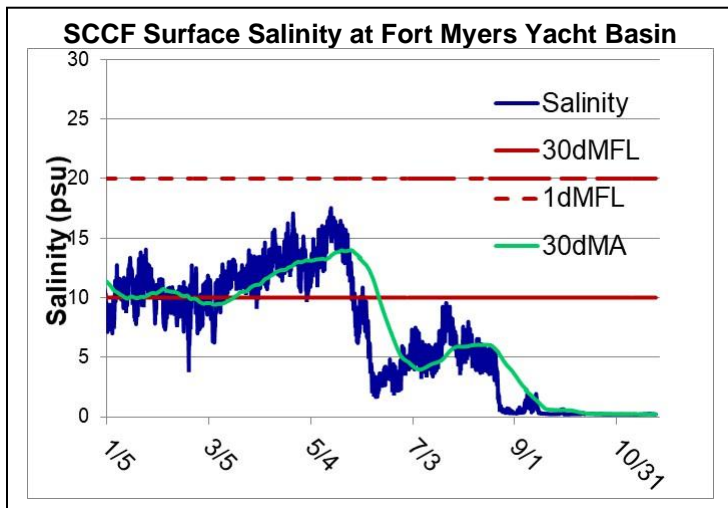
**Lake Okeechobee Inflow:** 3,648 cfs

**Lake Okeechobee Outflow:** 5,896 cfs

**Weekly Rainfall Total:** WP Franklin 0.00" Ortona 0.02" Moore Haven ≥0.00"



ACOE Daily Reports			
Date	S79 Flow (cfs)	S78 Flow (cfs)	S77 Flow (cfs)
11/17/2020	6438	4396	4120
11/18/2020	6481	4374	4184
11/19/2020	6071	4174	4264
11/20/2020	5555	3902	4216
11/21/2020	5240	3736	4112
11/22/2020	5510	3826	4048
11/23/2020	5381	3822	4104
<b>7 day avg</b>	<b>5811</b>	<b>4033</b>	<b>4150</b>



Site	Light Penetration		Turbidity	Target Values
	25% Iz	Target Values		
	meters		NTU	
Fort Myers	0.72	> 1	3.6	< 18
Shell Point	0.9	>2.2	1.3	< 18
Causeway	1.49	> 2.2	6.0	< 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.

**Cyanobacteria Status:** On 11/24/20, sampling by the Lee County Environmental Lab reported the presence of sparse specks of *Microcystis* and *Dolichospermum* visible on the surface at the Alva Boat ramp and upstream of the Franklin Locks (S-79) with a slight accumulation along the locks and shore. *Microcystis* and *Dolichospermum* were moderately abundant at the Davis Boat Ramp with minor wind driven accumulation.

**Upstream of S-79/Franklin Conditions:** On 11/24/20 the Olga Water Treatment plant reported chlorides of **53 mg/L**, apparent color **188 CU** and turbidity **4.39 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]	3.1 – 5.0	-----	-----
Fort Myers Yacht Basin	0.2 – 0.3 [0.2 – 0.2]	3.9 – 7.1	447	8.4
Shell Point	1.4 – 28 [2.7 – 33]	5.1 – 7.7	329	5.6
McIntyre Creek	19.9 – 24.2	4.1 – 10.1	12.6 – 20.3	2.3 – 7.3
Tarpon Bay	17.9 – 24.8	4.8 – 8.8	23.9 – 42.7	4.2 – 14.6
Wildlife Drive	22.6 – 27.0	0.8 – 13.4	-----	1.3 – 15.1
Wulfert Flats	22.2 – 27.4	4.8 – 10.1	-----	4.9 – 44.8

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 11/20/20 FWC reported that the red tide organism, *Karenia brevis*, was observed at background to low concentrations in 11 samples in Sarasota County. [Click here for the FWC status of red tide.](#)

**Wildlife Impacts:** The past week, the CROW wildlife hospital on Sanibel received **15 brevetoxicosis patients:** 13 double-crested cormorants (4 died, 9 still at CROW), 1 black-crowned night heron (died), and 1 sanderling (died). Over the past 3 weeks CROW has had over 30 double-crested cormorants confirmed as brevetoxin positive by the FWC lab.



Lighthouse Beach Park on 11/18/20. Photo: Lee County Division of Natural Resources