

**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: **October 20 – 26, 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 **6,854 cfs at S-79** with a 7-day average of **4,049 cfs** coming from the lake at S-77. The 14-day moving average flow at S-79 is **5,759 cfs** and has been in the **damaging flow envelope (>2600 cfs; RECOVER 2020)** for the past **45 days**. With sustained flows >2,600 cfs at S-79, we expect low salinities to cause harm to marine organisms in the lower estuary. **Flows to the St. Lucie estuary at S-80 had a 7-day average of 2,893 cfs with a 7-day average of 1,608 cfs coming from the Lake at S-308.**

**Recommendation:** We request that flow to S-79 be reduced to rates of **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. The pulse release schedule to S-77 was implemented as a steady release with an average of 4,000 cfs at S-77, with local basin runoff providing a natural watershed pulse at S-79. The scheduled releases to S-80 were implemented as a pulse release with an average of 1,800 cfs at S-79

**Lake Flows:** In the past 7 days, **67,623 AF** were discharged from Lake Okeechobee, with **56,279 AF (83%)** to the Caloosahatchee through **S-77**, **11,257 AF (16%)** to the St. Lucie River through **S-308**, **82 AF (0.1%)** through **S-310\*** in Clewiston, and **5 AF (0%)** to the **EAA** through **S-352**. There was a backflow of **3,285 AF** at the **L-8 canal**. Water conservation areas received flows of **43,363 AF**, **36,498 AF**, and **31,913 AF** at **WCA1**, **WCA2**, and **WCA3**, respectively. Everglades National Park received **31,913 AF**.

\*missing data on 10/22/20

**Lake Okeechobee Level:** 16.37 ft (intermediate sub-band)

**Last Week:** 16.23 ft

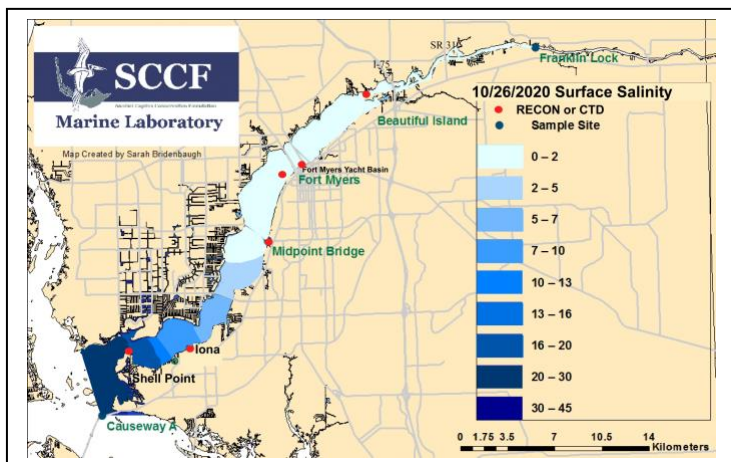
**Lake Okeechobee Inflow:** 4,623 cfs

**Lake Okeechobee Outflow:** 5,412 cfs

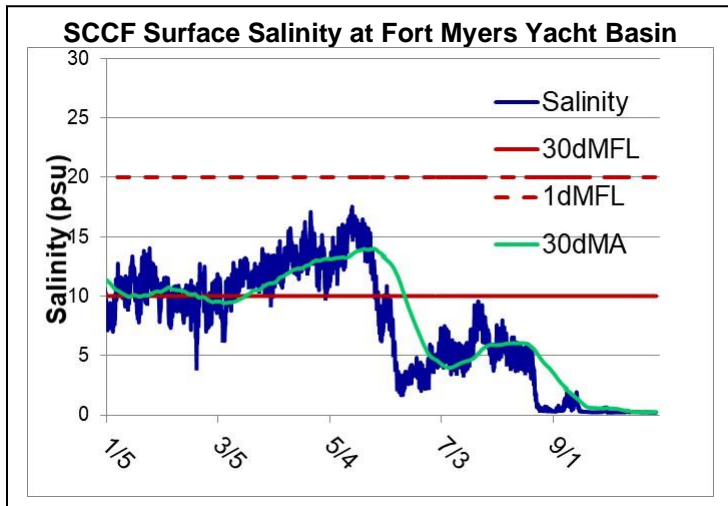
**Weekly Rainfall Total:** WP Franklin 1.15"

Ortona 0.93"

Moore Haven 2.14"



ACOE Daily Reports			
Date	S79 Flow (cfs)	S78 Flow (cfs)	S77 Flow (cfs)
10/20/2020	7655	5523	4034
10/21/2020	7108	5151	4113
10/22/2020	7064	5155	4096
10/23/2020	6585	4911	4154
10/24/2020	6420	4932	4047
10/25/2020	6494	4936	3948
10/26/2020	6652	4969	3948
<b>7 day avg</b>	<b>6854</b>	<b>5082</b>	<b>4049</b>



Light Penetration

Site	25% I <sub>z</sub>	Target Values	Turbidity	Target Values
	meters		NTU	
Fort Myers	0.73	> 1	2.6	< 18
Shell Point	1.21	>2.2	2.2	< 18
Causeway	1.75	> 2.2	1.3	< 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 10/27/20, sampling by the Lee County Environmental Lab reported the presence of a slight accumulation and sparse specks visible on the surface of cyanobacteria species *Microcystis* and *Planktothrix* upstream of the Franklin Locks.

**Upstream of S-79/Franklin Conditions:** On 10/20/20 the Olga Water Treatment plant reported chlorides of **50 mg/l**, apparent color **238 CU** and turbidity **2.97 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 **0.3 psu**, within the suitable range for tape grass.

**Lower Estuary Conditions:** Light levels were very low near the Causeway in San Carlos Bay due to dissolved organic matter. The salinity at Shell Point RECON was 21, within the suitable range for oysters. The diatom *Coscinodiscus* was abundant (80,000 cells/L) at the Causeway on 10/26/20.

Water Quality Conditions:

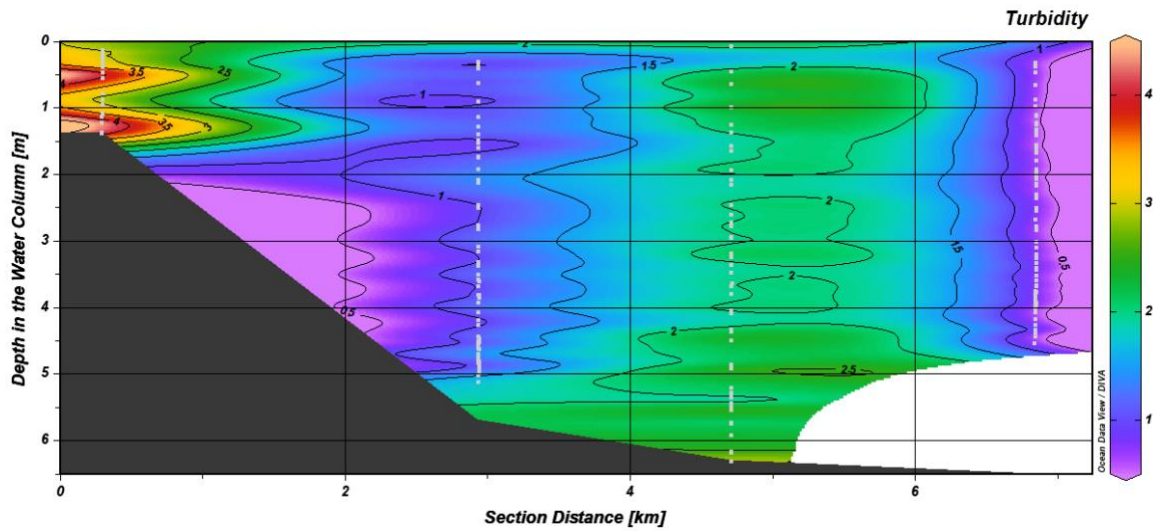
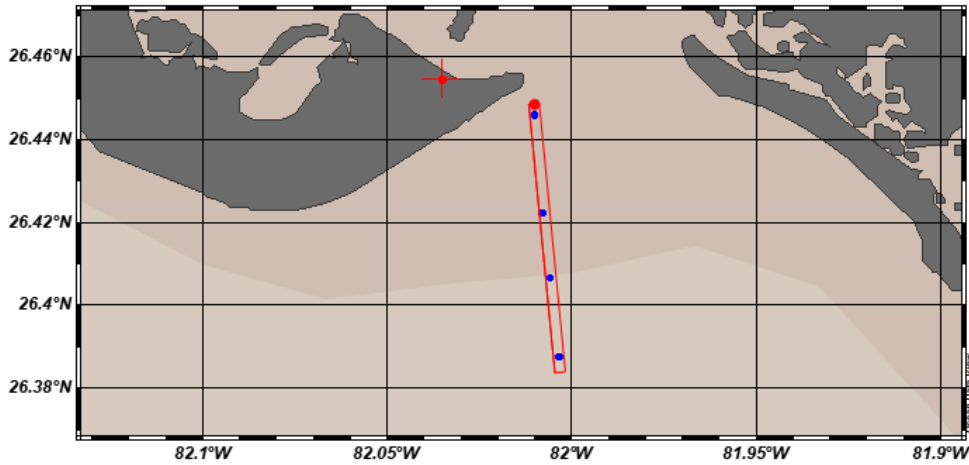
Monitor Site	Salinity (psu) <sup>a</sup> [previous week]	Diss O <sub>2</sub> (mg/L) <sup>b</sup>	FDOM (qsde) <sup>c</sup>	Chlorophyll (µg/L) <sup>d</sup>
Beautiful Island	0.2 – 0.3 [0.2 – 0.3]	2.2 – 3.2	-----	-----
Fort Myers Yacht Basin	0.2 – 0.3 [0.2 – 0.3]	4.6– 6.8	444	9.2
Shell Point	7.4 - 30 [8.0 – 29]	5.2 – 7.1	210	3.4
McIntyre Creek	23.1 – 26.4	2.6 – 9.2	22.3 – 33.5	2.9 – 9.3
Tarpon Bay	22.6 – 29.9	3.6 – 7.5	15.7 – 30.1	2.8 – 7.6
Wildlife Drive	23.7 – 26.8	1.1 – 10.3	-----	1.1 – 5.8
Wulfert Flats	22.4 – 27.0	3.0 – 9.7	-----	4.7 – 73.2

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 10/23/20 FWC reported that the red tide organism, *Karenia brevis*, was not observed in any samples in SW Florida. [Click here for the FWC status of red tide.](#)

**Wildlife Impacts:** The past week CROW, the wildlife hospital on Sanibel, received **1 patient with toxicosis symptoms: 1 snowy egret (died).**

An offshore transect was conducted on 10/27/20. A turbidity peak 5 km offshore was observed. Salinity and FDOM data indicated that this was along the leading edge of the plume from the Caloosahatchee estuary high flows (6,000-7,000 cfs). The turbidity peak was associated with diverse marine diatoms; *Pseudo-nitzschia*, *Rhizosolenia*, *Thalassionema*, and *Skeletonema*.





**Colored water on Gulf side of Blind Pass on outgoing tide 10/24/20. Dark patches in swash zone are drift macroalgae. Photo: SCCF.**