

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 3 – November 9, 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 **6,941 cfs at S-79** with a 7-day average of **4,076 cfs** coming from the lake at S-77. The 14-day moving average flow at S-79 is **6,417 cfs** and has been in the **damaging flow envelope (>2600 cfs; RECOVER 2020)** for the past **59 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: Starting 11/11/20, the lake is expected to be in the Intermediate sub-band. In this case, 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, **77,668 AF** were discharged from Lake Okeechobee, with **56,631 AF (73%)** to the Caloosahatchee through **S-77**, **13,496 AF (17%)** to the St. Lucie River through **S-308**, **114 AF (<1 %)** through **S-310**, and **7,427 AF (10%)** to the **EAA** through **S-351, S-352, and S-354**. There was a backflow of **1,473 AF** at the **L-8 canal**. Water conservation areas received flows of **16,374 AF, 33,857 AF, and 16,374 AF** at **WCA1, WCA2, and WCA3**, respectively. Everglades National Park received **31,601 AF***.

*missing data on 11/9/20

Lake Okeechobee Level: 16.23 ft (Low sub-band)

Last Week: 16.21 ft

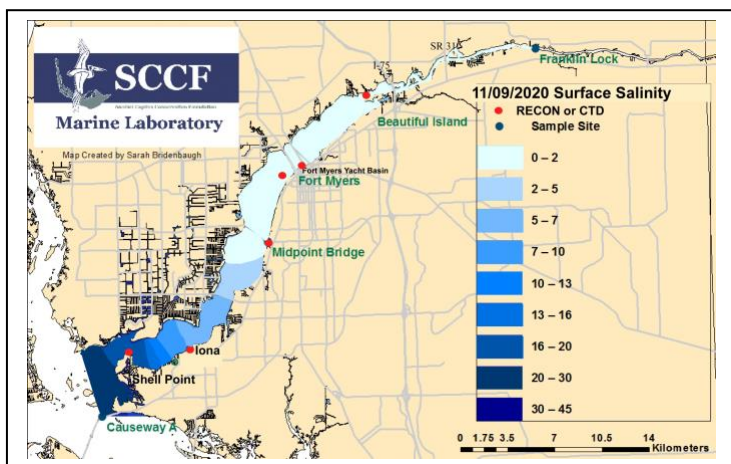
Lake Okeechobee Inflow: 7,808 cfs

Lake Okeechobee Outflow: 3,516 cfs

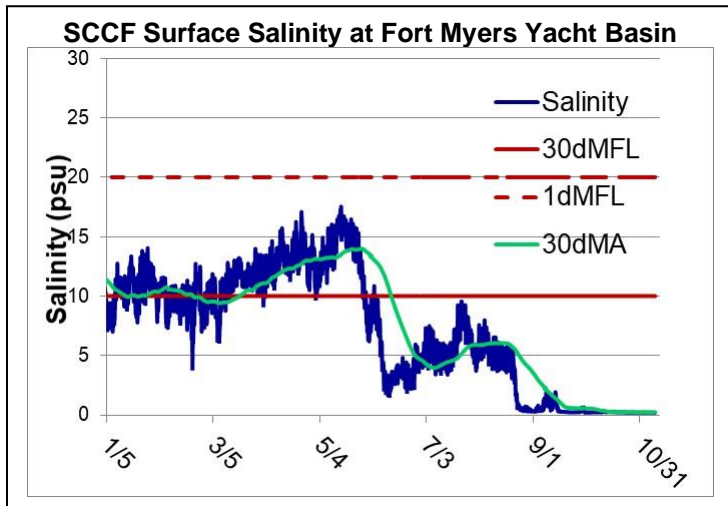
Weekly Rainfall Total: WP Franklin 3.86"

Ortona 2.29"

Moore Haven 0.88"



ACOE Daily Reports			
Date	S79 Flow (cfs)	S78 Flow (cfs)	S77 Flow (cfs)
11/3/2020	6007	4908	3948
11/4/2020	6356	4720	4122
11/5/2020	5866	4566	4103
11/6/2020	6726	4643	4017
11/7/2020	6884	4817	4147
11/8/2020	6917	5017	4167
11/9/2020	9830	6003	4030
7 day avg	6941	4953	4076



Light Penetration				
Site	25% Iz	Target Values	Turbidity	Target Values
	meters		NTU	
Fort Myers	0.75	> 1	8.5	< 18
Shell Point	0.99	>2.2	3.9	< 18
Causeway	1.20	> 2.2	3.4	< 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 11/10/20, sampling by the Lee County Environmental Lab reported the presence of sparse specks of *Microcystis* visible at Royal Palm Park, and the Alva boat ramp, and sparse specks of *Microcystis*, *Dolichospermum*, and *Planktothrix* visible on the surface upstream of the Franklin Lock (S-79).

Upstream of S-79/Franklin Conditions: On 11/3/20 the Olga Water Treatment plant reported chlorides of **46 mg/L**, apparent color **209 CU** and turbidity **1.31 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. Dissolved oxygen levels increased during the week.

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 16, within the suitable range for oysters. The diatom *Coscinodiscus* was present at low concentrations at the Causeway on 11/08 and 11/09/20.

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]	2.6 – 5.0	-----	-----
Fort Myers Yacht Basin	0.2 – 0.2 [0.2 – 0.2]	5.6– 7.5	432	7.8
Shell Point	2.6 – 29 [4.2 – 30]	5.2 – 7.1	267	5.3
McIntyre Creek	20.6 – 25.7	4.5 – 9.4	24.8 – 29.5	3.0 – 7.9
Tarpon Bay	17.1 – 32.7	5.1 – 6.7	9.0 – 40.3	1.7 – 7.3
Wildlife Drive	21.9 – 28.0	1.3 – 14.5	-----	1.8 – 9.6
Wulfert Flats	18.3 – 29.0	4.7 – 9.4	-----	5.3 – 38.4

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: BI < 11, FM < 11, SP < 11

Red Tide: On 11/6/20 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](#). No *Karenia* cells were found in samples taken by SCCF and Lee County at beaches in Lee County.

Wildlife Impacts: The past week CROW, the wildlife hospital on Sanibel, received **8 patients with toxicosis symptoms:** 6 double-crested cormorants (2 died, 4 still at CROW), 1 belted kingfisher (died), (1) mallard/northern pintail hybrid (died).