

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: **September 15 – 21, 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 **4,864 cfs at S-79, due to west basin runoff, with a 7-day average of 0 cfs coming from the lake at S-77**. Increased watershed runoff from the West Basin in the Caloosahatchee caused a large freshwater plume with high CDOM in San Carlos Bay ([video of freshwater plume](#)). With sustained flows >2,600 cfs we expect low salinities may cause harm to marine organisms in the lower estuary.

Recommendation: 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.** This is consistent with the 2020 RECOVER optimum flow envelope for the Caloosahatchee estuary.

USACE Action: Since 5/8/20 to present, the Corps has been conducting pulse releases to the Caloosahatchee from Lake Okeechobee at a 7-day average of **650 cfs at S-79** and releasing **no water** to the St. Lucie estuary at **S-80**.

Lake Flows: In the past 7 days, **4,501 AF** was discharged from Lake Okeechobee, with **41 AF** to the Caloosahatchee through **S-77**, **26 AF** to the St. Lucie River through **S-308** and **4,434 AF** to the **EAA** through **S-351** and **S-352**. There was an average daily backflow of **306 AF** at **S-310** on 9/15 – 9/19*, and a backflow of **2,375 AF** at the **L-8 canal**. Water conservation areas received flows of **18,681 AF**, **38,004 AF**, and **8,569 AF** at **WCA1**, **WCA2**, and **WCA3**, respectively. Everglades National Park received **22,176 AF**

*missing data on 9/20 – 9/21, daily average reported

Lake Okeechobee Level: 15.18 ft (Low Sub Band)

Last week: 14.95 ft

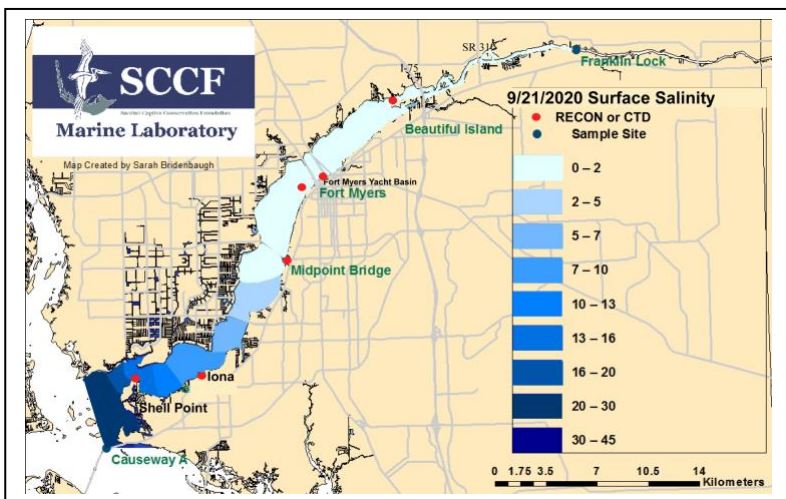
Lake Okeechobee Inflow: 10,279 cfs

Lake Okeechobee Outflow: 300 cfs

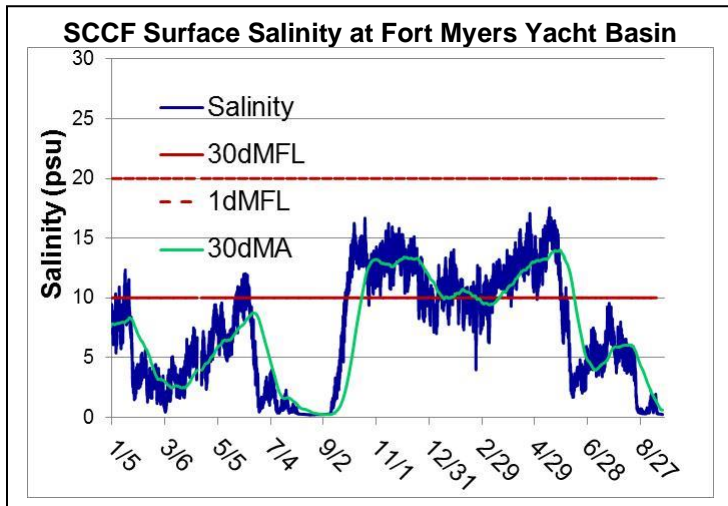
Weekly Rainfall Total: WP Franklin **≥2.20"**

Ortona **≥0.52"**

Moore Haven **0.72"**



ACOE Daily Reports			
Date	S79 Flow (cfs)	S78 Flow (cfs)	S77 Flow (cfs)
9/15/2020	5277	1016	0
9/16/2020	5245	1197	0
9/17/2020	4565	1338	0
9/18/2020	3544	1222	0
9/19/2020	3925	1092	0
9/20/2020	3889	1021	0
9/21/2020	7604	900	0
7 day avg	4864	1112	0



Site	Light Penetration		Turbidity	Target Values
	25% I _z	Target Values		
	meters		NTU	
Fort Myers	0.46	> 1	4.2	< 18
Shell Point	0.68	>2.2	5.2	< 18
Causeway	0.93	> 2.2	24	< 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 9/22/20, sampling by the Lee County Environmental Lab reported no cyanobacteria in the Caloosahatchee.

Upstream of S-79/Franklin Conditions: On 9/15/20 the Olga Water Treatment plant reported chlorides of **40 mg/l**, apparent color **216 CU** and turbidity **1.77 NTU**. No visible algae were reported at the plant intake the past week. The plant is online at **1400 GPM**.

Upper Estuary Conditions: The 30-day average surface salinity at the Fort Myers Yacht Basin was **0.6 psu**, within the suitable range for tape grass.

Lower Estuary Conditions: The weekly average salinity at the Shell Point RECON was **18 psu**, within the optimal range for oysters, but below optimal for seagrasses. Dark water with elevated FDOM extended over 3 miles offshore of Sanibel 9/20/20 after strong west winds. Diatoms were the dominant phytoplankton in samples from Punta Rassa into the Gulf.

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 – 0.3 [0.2 – 0.2]	2.4 – 4.0	-----	5.5
Fort Myers Yacht Basin	0.2 – 0.7 [0.4 – 1.9]	4.8 – 6.8	397	8.7
Shell Point	4.4 – 30 [8.1 – 33]	3.4 – 6.1	240	4.1
McIntyre Creek	24.0 – 29.1	2.2 – 8.5	5.7 – 18.9	3.2 – 15.7
Tarpon Bay	20.9 – 32.6	3.1 – 9.2	5.7 – 35.1	2.8 – 21.3
Wildlife Drive	12.7 – 26.3	1.0 – 20.0	-----	2.2 – 31.0
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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 9/18/20 FWC reported that the red tide organism, *Karenia brevis*, was observed at background concentrations in one sample collected offshore of Pinellas County and one sample collected offshore of Hillsborough County. [Click here for the FWC status of red tide.](#)

Shellfish Advisory: Shellfish harvest area #6212 Pine Island Sound (Section 1 Shellfish Harvest Area) is **OPEN** by the Florida Department of Agriculture and Consumer Services (FDACS) as of 9/18/20. Clams and leases only - No harvest off of public oyster reefs until Oct 1st.

Wildlife Impacts: The past week CROW, the wildlife hospital on Sanibel, received 3 patients with toxicosis symptoms, 1 mottled duck, 1 black crowned night heron, and 1 brown pelican, all 3 died.