

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 27 – November 2, 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 **5,893 cfs at S-79** with a 7-day average of **4,041 cfs** coming from the lake at **S-77**. The **14-day moving average flow at S-79 is 6,374 cfs** and has been in the **damaging flow envelope (>2600 cfs; RECOVER 2020)** for the past **52 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. Flows at S-77 were delivered as a steady release averaging 4,000 cfs at S-77. Flows at S-80 were delivered as a steady release averaging 1,800 cfs. As of 11/3/20 the Lake level dropped into the Low Sub-band of LORS 2008. Part D Guidance is now recommending target flows of up to 450 cfs to the Caloosahatchee at S-79 and up to 200 cfs to the St. Lucie at S-80.

Lake Flows: In the past 7 days, **89,603 AF** were discharged from Lake Okeechobee, with **56,183 AF (63%)** to the Caloosahatchee through **S-77**, **18,840 AF (21%)** to the St. Lucie River through **S-308**, **65 AF (<1 %)** through **S-310**, and **6,401 AF (16%)** to the EAA through **S-352**. There was a backflow of **1,323 AF** at the **L-8 canal**. Water conservation areas received flows of **27,444 AF**, **31,817 AF**, and **20,890 AF** at **WCA1**, **WCA2**, and **WCA3**, respectively. Everglades National Park received **33,664 AF**.

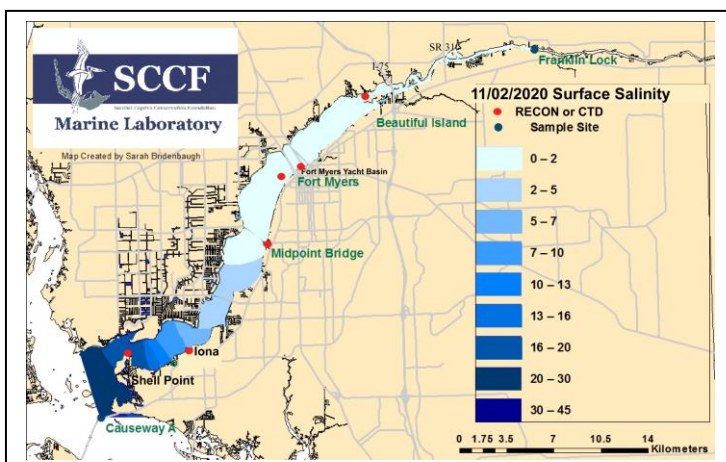
Lake Okeechobee Level: 16.21 ft (Low sub-band)

Last Week: 16.37 ft

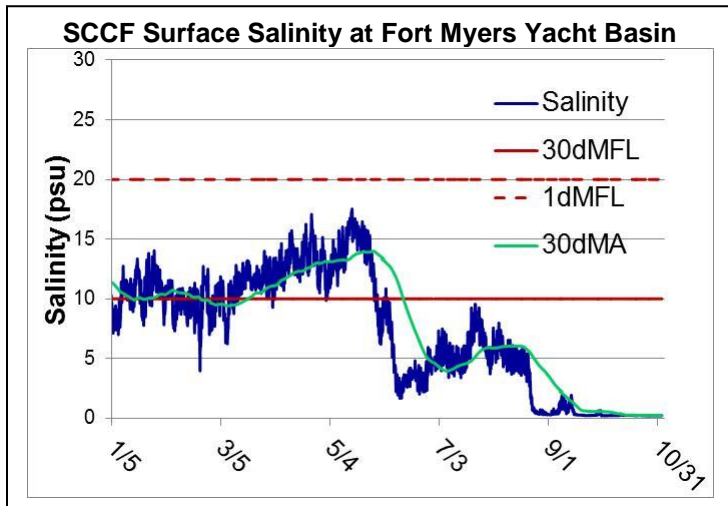
Lake Okeechobee Inflow: 4,623 cfs

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)
10/27/2020	6526	4998	4017
10/28/2020	5732	4683	4078
10/29/2020	5632	4449	4098
10/30/2020	5842	4386	4078
10/31/2020	5144	4056	4151
11/1/2020	5919	4051	3976
11/2/2020	6457	4585	3887
7 day avg	5893	4458	4041



Light Penetration				
Site	25% I _z	Target Values	Turbidity	Target Values
	meters		NTU	
Fort Myers	0.73	> 1	2.4	< 18
Shell Point	1.01	>2.2	4.5	< 18
Causeway	1.15	> 2.2	7.3	< 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 11/3/20, sampling by the Lee County Environmental Lab reported the presence of a slight accumulation and sparse specks visible on the surface at the Davis boat ramp, and sparse specks of *Microcystis* 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 **50 mg/l**, apparent color **235 CU** and turbidity **4.45 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.

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. Diatoms, including *Coscinodiscus* and *Skeletonema*, and dinoflagellates were sampled at the Causeway on 11/02 and 11/03/20.

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 – 0.3]	2.2 – 3.3	-----	-----
Fort Myers Yacht Basin	0.2 – 0.2 [0.2 – 0.3]	4.6– 6.1	449	8.7
Shell Point	4.2 - 30 [7.4 - 30]	5.2 – 7.1	210	5.7
McIntyre Creek	22.1 – 27.8	2.3 – 9.4	18.0 – 32.1	1.8 – 7.9
Tarpon Bay	19.6 – 30.9	3.6 – 6.7	13.6 – 37.7	2.9 – 8.9
Wildlife Drive	24.0 – 27.4	0.7 – 13.6	-----	1.5 – 14.9
Wulfert Flats	21.8 – 28.0	3.4 – 8.9	-----	4.3 – 49.5

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 10/30/20 FWC reported that the red tide organism, *Karenia brevis*, was observed at background concentrations in one sample each from Manatee, Charlotte, and Lee counties. [Click here for the FWC status of red tide.](#)

Wildlife Impacts: The past week CROW, the wildlife hospital on Sanibel, received **8 patients with ataxic symptoms:** (6) Double-Crested Cormorants (all still at CROW), (1) Brown Pelican (died), (1) Muscovy Duck (DOA). SCCF reported 1 dead Kemp Ridley Sea Turtle found on Sanibel with predator injuries and 6 dead very large, possible Pink Meanies (jellyfish) on the beach in the wrack line near Gulfside City Park.



Photo 1: Parchment worms on Sanibel beach near Gulfside City Park following recent cold front, SCCF.



Photo 2: Pink meanie jellyfish (*Drymonema larsoni*) on Sanibel beach following recent cold front, SCCF.