

MEMORANDUM

To: USACE Colonel Jason A. Kirk, LTC Jennifer A. Reynolds, Richard McMillen, Kim Taplin, SFWMD Governing Board, Executive Director Peter Antonacci, Terrie Bates, Susan Gray, DEP Secretary Noah Valenstein

From: Periodic Scientists Conference Call Participants
 Paul Tritaik - J.N. "Ding" Darling National Wildlife Refuge (NWR) Complex
 James Evans & Holly Milbrandt - City of Sanibel
 Keith Kibbey & Lesli Haynes - Lee County
 Rae Burns – Town of Fort Myers Beach
 Connie Jarvis & Harry Phillips – City of Cape Coral
 Rae Ann Wessel & Rick Bartleson, Ph.D.-Sanibel Captiva Conservation Foundation

Subject: Caloosahatchee & Estuary Condition Report

Reporting Period: **July 18 - 24, 2017**

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: Freshwater flow into the estuary at S-79 over the past week averaged **2,018 cfs**. **Water came entirely from watershed runoff, with no flow from Lake Okeechobee. High Colored Dissolved Organic Matter (CDOM) continues to attenuate light throughout the estuary.**

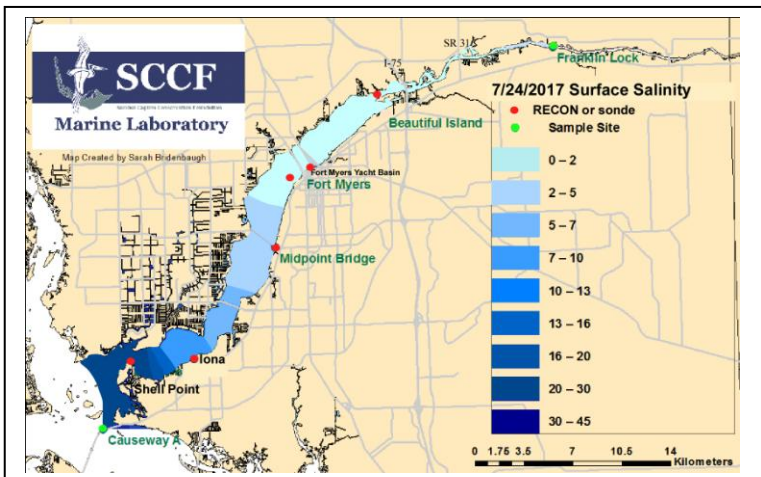
USACE Action: The USACE discontinued flows to the Caloosahatchee on June 3, 2017 due to significant rainfall throughout the region. No discharge from Lake Okeechobee to the St Lucie estuary at S-80.

DEP Emergency Order: On 6/23/17 DEP issued an emergency order to allow temporary operational changes to minimize flooding south of Lake Okeechobee. **The SFWMD stopped back pumping to Lake O from the EAA on 7/5/17.**

Recommendation: We recommend continuing no releases to the Caloosahatchee from Lake Okeechobee while the Lake is relatively low and the Caloosahatchee is receiving adequate freshwater flow from the watershed. We encourage the use of all available watershed storage capacity within distributed storage projects and other lands owned or under contract by the State to avoid drastic changes in estuary salinity.

Lake Okeechobee Level: 12.71 ft. (Base Flow Sub-Band) Last week: 12.58 ft
Lake Okeechobee Inflow: NR cfs **Lake Okeechobee Outflow:** - 469 cfs
Weekly Rainfall: WP Franklin 1.38" Ortona 0.95" Moore Haven 1.03"

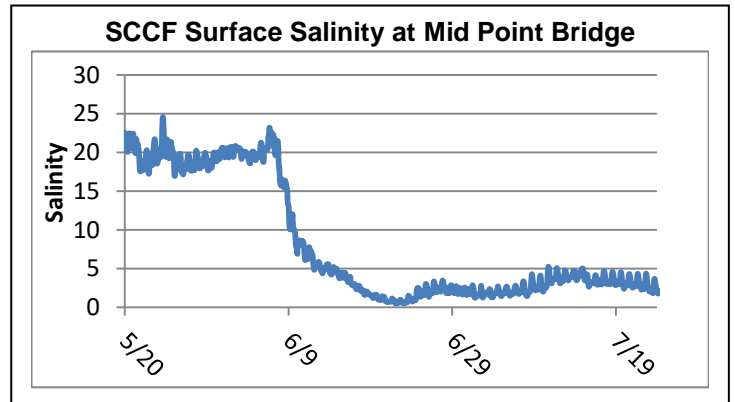
Salinity Beautiful Island: ND (SCCF RECON Marker 18) Previous wk ND
Salinity Fort Myers: 0.3 - 5.1 psu (SCCF RECON) Previous wk 0.3 - 5.1 psu
Salinity Shell Point: 12 - 30 psu (SCCF RECON) Previous wk 11 - 30 psu



Salinity (psu)			
	Current Value	Sustainable Range	High/Low
Beautiful Is	ND	< 5 psu	-
Fort Myers	0.3 - 5.1	<10 psu	In Range
Shell Point	12 - 30	25 - 32 psu	In Range
Light (25% I _z depth meters)			
Fort Myers	0.53	1 meter	Low
Shell Pointe	1.19	2.2 meters	Low
Causeway	1.32	2.2 meters	Low

Flow & Water Quality: Flows to the Caloosahatchee Estuary at S-79 during the past seven days averaged **2,018 cfs**. Over the past 14 days **22,622 acre feet of water was back flowed into Lake Okeechobee**; 52% from S-308, 33% from L8 and 15% from S-310. Only **1,706 AF of water was discharged from the Lake**; 97% to the EAA and 3% to S-77.

Date	S79 Flow (cfs)	S78 Flow (cfs)	S77 Flow (cfs)
7/18/2017	1824	657	0
7/19/2017	1513	666	0
7/20/2017	1766	660	0
7/21/2017	1936	663	0
7/22/2017	2434	769	0
7/23/2017	2333	820	0
7/24/2017	2320	852	0
7 day Avg	2018	727	0



Upstream of S-79/Franklin Conditions: On 7/25/17 the Olga Water Treatment plant chlorides measured **58 mg/L**, apparent color was **118 CU** and turbidity measured **0.91 NTU**. No visible algae in the plant intake the past week. The plant is online running at 2000 GPM.

Upper Estuary Conditions: Salinity at Fort Myers was in the acceptable range for tape grass. **Dissolved oxygen levels at the Fort Myers RECON were below 3 mg/L for the first part of the week.**

Lower Estuary Condition: The average salinity at Shell Point, **20 psu**, was in the optimal range for oysters.

J.N. "Ding" Darling NWR:

Monitor Site	Salinity (psu)	Diss O ₂ (mg/L)	FDOM (qsde)	Chlorophyll (µg/L)
McIntyre Creek	25.8 – 27.6	2.0 – 7.9	16.5 – 21.12	4.3 – 9.5
Tarpon Bay	26.5 – 31.6	3.3 – 7.3	12.8 – 27.1	3.0 – 10.1

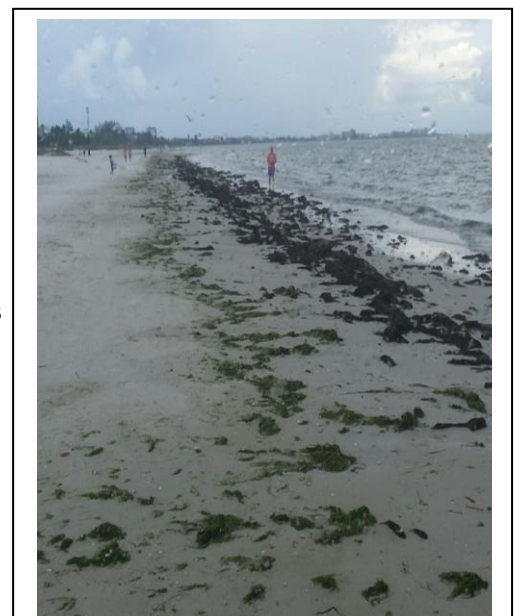
Beach Conditions: Red drift and green filamentous algae were present along Fort Myers Beach the past week. Red drift algae was accumulating along the north end beaches and in the swash zone along Sanibel.

Red Tide: On 7/21/17 the Florida Fish and Wildlife Conservation Commission reported the Florida red tide organism, *Karenia brevis*, in background concentrations in Gulf and Pinellas Counties only the past week.

Shellfish Advisory: On 7/21/17 The Florida Department of Agriculture and Consumer Services **Reopened #6222 Pine Island Sound East Matlacha Pass Shellfish Harvest Area**. **OYSTER HARVEST SEASON IS CLOSED UNTIL OCTOBER 1ST**

Caloosahatchee Stations	Chlorophyll (µg/L)	fDOM (qse)	Turbidity (NTU)	25% lo depth (meters)
Target Values	< 11	CE <70 SCB <11	CE < 18 SCB < 5	CE = 1 m SCB = 2.2m
Fort Myers	12	325	4.4	0.53
Shell Point	7.0	98.3	3.6	1.19
Causeway	6.1	84.7	2.7	1.32

Target light penetration: **CE**- Caloosahatchee Estuary =1 m
SCB-San Carlos Bay = 2.2 meters
 Definition of 25% lz: **z where I is 25% of surface I.**
 I = irradiance, z= depth



Red drift and green filamentous algae accumulating mid island on Fort Myers Beach 7/19/17. Photo Town of Fort Myers Beach



Red drift algae washing up on Blind Pass Beach (above) and in the swash zone (below) along Sanibel on 7/25/2017. Photos City of Sanibel

