

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, Peter Doering, DEP Secretary Ryan Matthews

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 Blake – 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: **March 14 - 20, 2017**

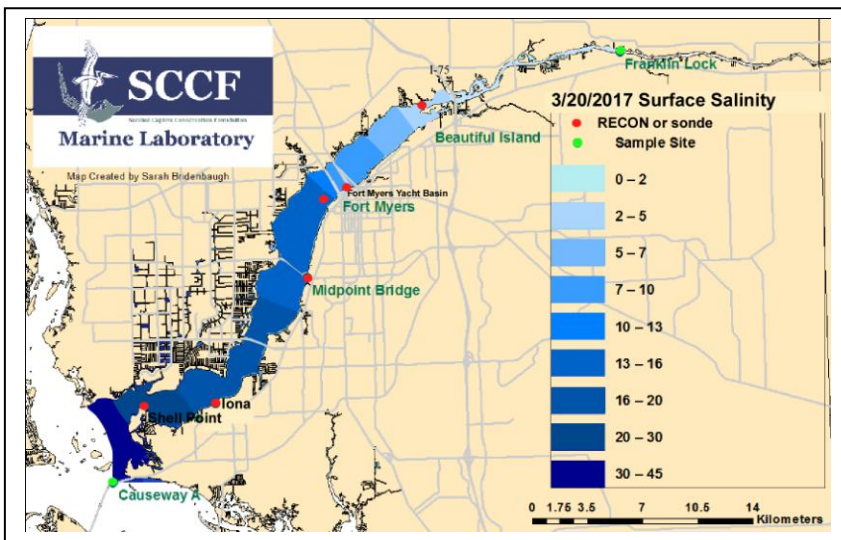
This report provides a scientific assessment of Caloosahatchee River and Estuary conditions and how these conditions affect the health, productivity and function of the system.

Caloosahatchee Condition Summary: Freshwater flow into the estuary at S-79 during the past week decreased to an average of **706 cfs**. The Caloosahatchee is currently meeting its Minimum Flow & Level (MFL).

USACE Action: The USACE continued flows to the Caloosahatchee with a 7-day average target of **650 cfs** measured at S-79 with no discharge from Lake Okeechobee to the St Lucie estuary at S-80.

Recommendation: We request maintaining freshwater pulses to provide adequate freshwater flow to prevent estuary harm.

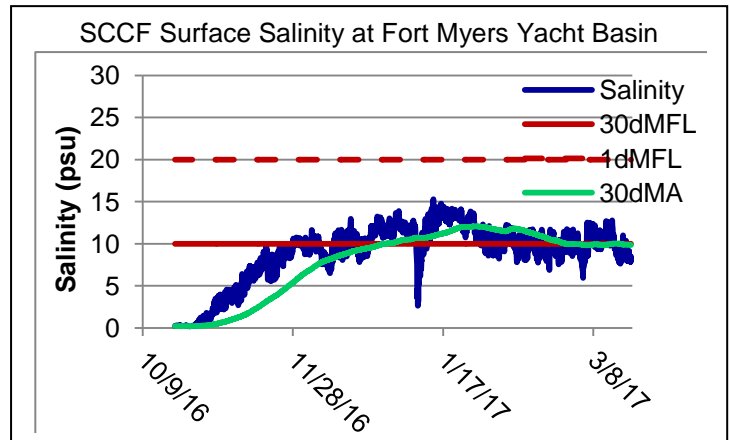
Lake Okeechobee Level:	12.82 ft. (Base Flow Sub-Band)	Last week: 13.06 ft
Lake Okeechobee Inflow:	695 cfs	Lake Okeechobee Outflow: 3,802 cfs
Weekly Rainfall:	WP Franklin 0" Ortona 0"	Moore Haven 0 "
Salinity Beautiful Island:	2.3 – 6.3 psu (SCCF RECON Marker 18)	Previous wk 2.2 – 5.5 psu
Salinity Fort Myers:	7.7 – 13 psu (SCCF Yacht Basin)	Previous wk 9.4 – 13 psu
MFL Status:	In compliance; 30-day moving average \leq10 psu at surface	
Salinity Shell Point:	22 – 34 psu (SCCF RECON)	Previous wk 24 – 34 psu



Salinity (psu)			
	Current Value	Sustainable Range	High/Low
Beautiful Is	2.3 – 6.3	< 5 psu	In Range
Fort Myers	7.7 – 13	<10 psu	In Range
Shell Point	22 – 34	25 - 32 psu	High
Light (25% I _z depth meters)			
Iona	1.18	2.2 meter	Low
Causeway	1.84	2.2 meter	Low
E Sanibel	2.16	2.2 meters	Low

Flow & Water Quality: Flows to the Caloosahatchee Estuary at S-79 during the past seven days averaged **706 cfs**. Over the past 14 days **33%** of Lake Okeechobee outflow was directed to the Caloosahatchee at S-77, **9%** was delivered to the St Lucie at S-308, **54%** was delivered south to the EAA, **3%** was directed to the L8 and **1%** through S310.

ACOE Daily Reports				
Date	Day	S79 Flow (cfs)	S78 Flow (cfs)	S77 Flow (cfs)
3/14/2017	Tues	561	402	796
3/15/2017	Wed	372	NR	882
3/16/2017	Thur	256	346	902
3/17/2017	Fri	836	825	1330
3/18/2017	Sat	1071	1025	1701
3/19/2017	Sun	966	910	1608
3/20/2017	Mon	880	622	1120
7 day Avg		706	-	1191



Upstream of S-79/Franklin Conditions: On 3/21/17 the Olga Water Treatment plant chlorides measured **57 mg/L**, apparent color was **53 CU** and turbidity measured **1.31 NTU**. No visible algae was noted at the plant intake the past week. The plant is online at 2,000 GPM.

Upper Estuary Conditions: The weekly average salinity at Fort Myers was **8.8 psu**, in the suitable range for tape grass.

Lower Estuary Condition: The average salinity at Shell Point was **27 psu**, in the optimal range for seagrass and oysters. Significant accumulations of macro algae continue at the mouth of the river around Fisherman's Key extending into the southern extent of Pine Island Sound and Matlacha Pass Aquatic Preserves.

J.N. "Ding" Darling NWR:

Monitor Site	Salinity (psu)	Diss O ₂ (mg/L)	FDOM (qsde)	Chlorophyll (µg/L)
McIntyre Creek	32.7 – 35.2	4.6 – 11.5	9.21 – 26.6	2.33 - 5.8
Tarpon Bay	32.4 - 34.9	5.9 – 8.7	6.2 – 16.44	1.8 – 6.1

Red Tide: On 3/17/17, FWC reported a patchy bloom of *Karenia brevis*, the Florida red tide organism, persists in Southwest Florida from southern Pinellas to Lee Counties with background to low concentrations in samples collected from Lee County.

Wildlife Impacts: The past week CROW, the wildlife rehabilitation clinic on Sanibel treated **1 Brown Pelican for red tide poisoning**.

Manatees: Lee county park staff reported over **100 manatees** in the warm water of the Orange River and FPL canal the past week. River temperatures ranging from **68 - 84° F** the past week.

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
Iona	11.2	94.5	3.1	1.18
Causeway	2.2	48.4	1.3	1.84
E Sanibel	1.9	30.3	1.4	2.16

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