

MEMORANDUM

To: USACE Colonel Jason A. Kirk, LTC Jennifer A. Reynolds, Richard McMillen, Kim Taplin, SFWMD Governing Board, Executive Director Ernie Marks, 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: **January 2 - 8, 2018**

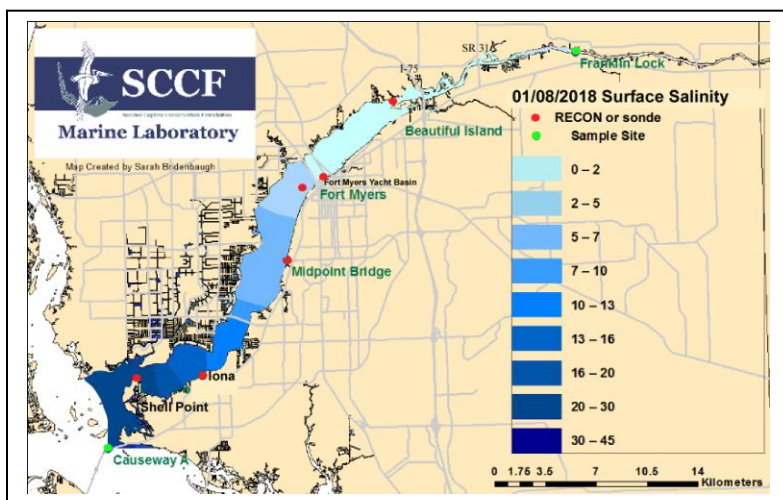
This report provides a scientific assessment of Caloosahatchee River and Estuary conditions and how these conditions affect the health, productivity and function of the system.

Caloosahatchee Condition Summary: The past week freshwater flows from Lake Okeechobee and the watershed decreased to an average of **1,024 cfs** at S-79. Water clarity throughout San Carlos Bay and along Sanibel and Fort Myers beaches continues to improve as a result of the reduced freshwater flows. **Red tide continues to cause fish kills along coastal beaches.**

USACE Action: On 1/5/18 the Army Corps continued the transition to reduce flows from Lake Okeechobee through pulse releases with an average target flow for the Caloosahatchee Estuary of **650 cfs** at S-79 and no releases to the St Lucie at S-80.

Recommendation: In order to continue to reduce Lake Okeechobee water levels and provide healthy salinity conditions throughout the estuary we encourage the Corps to provide pulse releases to the Caloosahatchee of **800 - 1,000 cfs measured at S-79** over the next week. In addition to supporting estuary salinity this will help lower lake levels to prevent high lake levels at the beginning of the wet season.

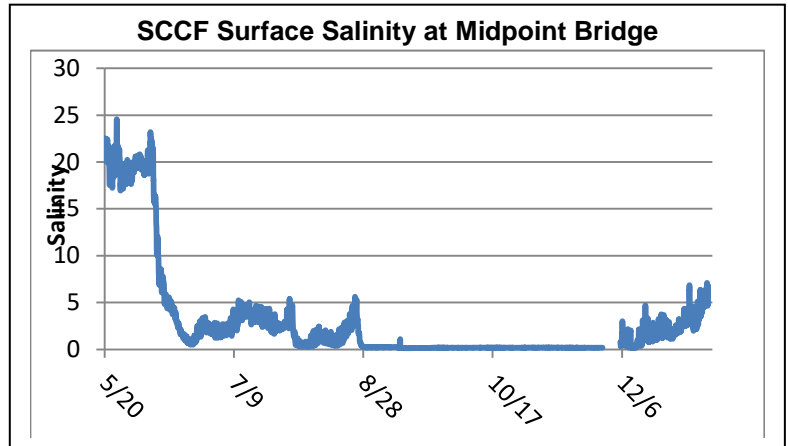
Lake Okeechobee Level:	15.35 ft. (Low Sub-Band)	Last week:	15.48 ft
Lake Okeechobee Inflow:	913 cfs	Lake Okeechobee Outflow:	497 cfs
Weekly Rainfall:	WP Franklin 0.17"	Ortona 0"	Moore Haven 0.38"
Salinity Beautiful Island:	ND (SCCF RECON Marker 18)	Previous wk	ND
Salinity Fort Myers:	ND (SCCF RECON)	Previous wk	ND
Salinity Shell Point:	8.7 - 30 psu (SCCF RECON)	Previous wk	9.1 - 29 psu



Salinity (psu)			
	Current Value	Sustainable Range	High/Low
Beautiful Is	ND	< 5 psu	-
Fort Myers	ND	<10 psu	In Range
Shell Point	8.7 - 30	25 - 32 psu	Low
Light (25% Iz depth meters)			
Fort Myers	0.48	1 meter	Low
Shell Point	1.16	2.2 meters	Low
Causeway	1.59	2.2 meters	Low

Flow & Water Quality: Flows to the Caloosahatchee Estuary at S-79 during the past seven days averaged **1,024 cfs**. Over the past 14 days **47,324 AF** of water was discharged from Lake O, **77% to S-77** and **9% to S-308**. **Over 5,420* AF (11.5%) of water from Lake O was discharged south to the EAA (*no report for S-351)**. **99 AF** was discharged through L8 and **1,387 AF (3%)** through S310.

Date	S79 Flow (cfs)	S78 Flow (cfs)	S77 Flow (cfs)
1/2/2018	1324	991	766
1/3/2018	879	961	937
1/4/2018	554	433	762
1/5/2018	1101	845	702
1/6/2018	1528	1127	922
1/7/2018	1083	671	928
1/8/2018	698	294	220
7 day Avg	1024	760	748



Upper Estuary Conditions: On 1/9/18 The Olga Water Treatment plant reported chlorides **60 mg/l**, apparent color **71 CU** and turbidity **5.22 NTU**. No visible algae was reported at the plant intake the past week. The plant is online running at 2200 GPM.

Salinities in the upper estuary were in the suitable range for tape grass.

Lower Estuary Conditions: The average weekly salinity was within the optimal range for oysters at Shell Point (**22 psu**).

J.N. “Ding” Darling NWR:

Monitor Site	Salinity (psu)	Diss O ₂ (mg/L)	FDOM (qsde)	Chlorophyll (µg/L)
McIntyre Creek	-----	5.0 - 7.5	9.0 – 62.8	2.5 – 9.0
Tarpon Bay	22.8 – 30.9	6.5 – 8.9	14.8 – 29.0	2.9 – 10.1

Beach Conditions: Water clarity is increasing along coastal beaches with lower flows. Accumulations of drift algae washed up on the northern and southern end of Fort Myers Beach along with sponges likely dislodged by high winds and wave action from recent storms. A green algae, **Ulva**, has been accumulating on the Sanibel causeway islands.

Red Tide: On 1/5/18 the Florida Fish and Wildlife Conservation Commission reported the Florida red tide organism, **Karenia brevis**, persists from Sarasota to Lee counties in Southwest Florida with low to medium concentrations in Charlotte and Lee Counties. Numerous fish kills and respiratory irritation were also reported. SCCF found no **Karenia** in water samples from mid Sanibel beaches.

Wildlife Impacts: Over the past two weeks, CROW the wildlife hospital on Sanibel treated **4 new patients with red tide symptoms: 2 Double Crested Cormorants, 1 White Pelican and 1 Ring Billed Gull**.

Manatees: Lee County park staff reported over **100 manatees** in the warm water of the Orange River and FPL canal the past week. A cold front dropped water temperatures from **58.3 - 78° F**.

Caloosahatchee Stations	Chlorophyll (µg/L)	fDOM (qse)	Turbidity (NTU)	25% I ₀ depth (meters)
Target Values	< 11	CE <70 SCB <11	CE < 18 SCB < 5	CE = 1 m SCB = 2.2m
Fort Myers	7.3	315	7.2	0.48
Shell Point	7.5	104	3.4	1.16
Causeway	5.8	55	2.8	1.59

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