

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 9 - 15, 2018**

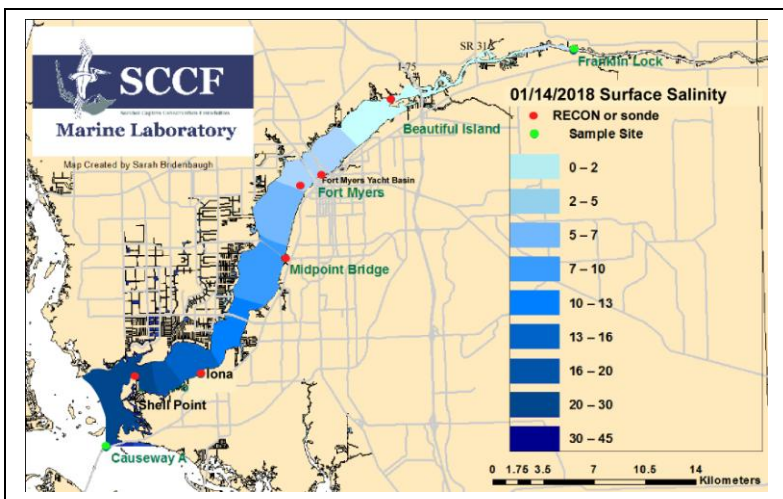
This report provides a scientific assessment of Caloosahatchee River and Estuary conditions and how these conditions affect the health, productivity and function of the system.

Caloosahatchee Condition Summary: The past week freshwater flows from Lake Okeechobee and the watershed decreased by over half to an average of **607 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 along coastal beaches.**

USACE Action: On 1/12/18 the Army Corps continued 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: 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. This will help lower lake levels to prevent high lake levels at the beginning of the wet season.

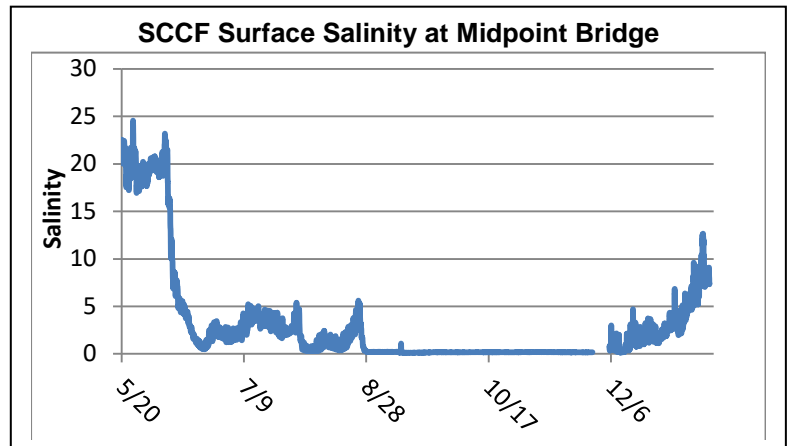
Lake Okeechobee Level:	15.39 ft. (Low Sub-Band)	Last week:	15.35 ft
Lake Okeechobee Inflow:	1,048 cfs	Lake Okeechobee Outflow:	732 cfs
Weekly Rainfall:	WP Franklin 0.1"	Ortona 0.15"	Moore Haven 0.25"
Salinity Beautiful Island:	ND (SCCF RECON Marker 18)	Previous wk	ND
Salinity Fort Myers:	ND (SCCF RECON)	Previous wk	ND
Salinity Shell Point:	13 – 31 psu (SCCF RECON)	Previous wk	8.7 - 30 psu



Salinity (psu)			
	Current Value	Sustainable Range	High/Low
Beautiful Is	ND	< 5 psu	-
Fort Myers	ND	<10 psu	In Range
Shell Point	13 – 31	25 - 32 psu	Low
Light (25% I _z depth meters)			
Fort Myers	0.62	1 meter	Low
Shell Point	1.04	2.2 meters	Low
Causeway	1.36	2.2 meters	Low

Flow & Water Quality: Flows to the Caloosahatchee Estuary at S-79 during the past seven days averaged **607 cfs**. Over the past 14 days **22,865 AF** of water was discharged from Lake O, **69% to S-77** and **3% to S-308**. **Over 20%* of water from Lake O was discharged south to the EAA (*no report for S-351)**. **Approximately 3%** was discharged through each the L8 and S-310.

Date	S79 Flow (cfs)	S78 Flow (cfs)	S77 Flow (cfs)
1/9/2018	329	147	0
1/10/2018	147	146	0
1/11/2018	26	0	0
1/12/2018	732	158	314
1/13/2018	1374	457	281
1/14/2018	1028	502	250
1/15/2018	614	491	702
7 day Avg	607	272	221



Upper Estuary Conditions: On 1/11/18 the Lee County Environmental Lab detected **Aphanizomenon, Microcystis** and **Dolichospermum cyanobacteria** upstream of the Franklin Lock in east Fort Myers. On 1/16/18 the Olga Water Treatment plant reported chlorides of **58 mg/l**, apparent color **148 CU** and turbidity **4.67 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 (**3.8 psu** weekly average).

Lower Estuary Conditions: The average weekly salinity was within the optimal range for oysters at Shell Point (**23 psu**).

J.N. "Ding" Darling NWR:

Monitor Site	Salinity (psu)	Diss O ₂ (mg/L)	FDOM (qsde)	Chlorophyll (µg/L)
McIntyre Creek	-----	4.9 - 12.0	17.4 - 27.2	2.9 - 7.4
Tarpon Bay	25.2 - 32.9	6.4 - 8.7	7.5 - 23.8	2.3 - 7.7

Beach Conditions: Water clarity is increasing along coastal beaches with lower flows and higher salinities.

Red Tide: On 1/12/18 the Florida Fish and Wildlife Conservation Commission reports the Florida red tide organism, **Karenia brevis**, persists from Sarasota to Lee counties in Southwest Florida with medium concentrations in Charlotte County and very low to high concentrations in Lee. SCCF monitoring found medium concentrations at Wulfert Point and the Redfish Pass RECON site on 1/11/18.

Wildlife Impacts: The past week, CROW the wildlife hospital on Sanibel treated **4 new patients with red tide symptoms: 2 Lesser Scaups and 2 Double Crested Cormorants**. **One dead sea turtle was also recovered on Sanibel**.

Manatees: Lee County park staff reported up to **100 manatees** in the warm water discharge of the Orange River and FPL canal the past week when water temperatures warmed to **67 - 80° F** from the week before.

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	7.2	256	7.5	0.62
Shell Point	7.0	131	2.4	1.04
Causeway	5.7	82	2.4	1.36

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