

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
 Harry Phillips – City of Cape Coral
 Rae Ann Wessel & Rick Bartleson, Ph.D.-Sanibel Captiva Conservation Foundation

Subject: Caloosahatchee & Estuary Condition Report

Reporting Period: **May 22 - 28, 2018**

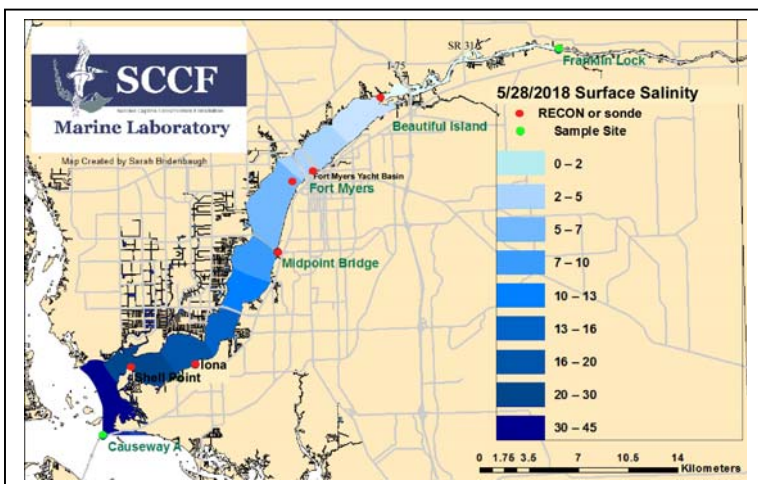
This report provides a scientific assessment of Caloosahatchee River and Estuary conditions and how these conditions affect the health, productivity and function of the system.

Caloosahatchee Condition Summary: Average flow at S79 was 3,307 cfs during the past week. The 30-day moving average salinity at the Fort Myers Yacht Basin had exceeded the MFL for 89 days, but is now below 10 psu.

USACE Action: No releases were made from Lake Okeechobee due to significant rainfall throughout the region.

Recommendation: With the lake rising to within 1-foot of the intermediate sub-band at the start of hurricane season, we understand the need to move water out of the lake. However, with watershed flows already exceeding 3000 cfs at S-79, we urge the Corps to equitably discharge water in all directions to limit harm to the estuaries.

Lake Okeechobee Level:	14.02 ft. (Low Flow Sub-Band)	Last week:	13.57 ft.
Lake Okeechobee Inflow:	6,995 cfs	Lake Okeechobee Outflow:	0 cfs
Weekly Rainfall:	WP Franklin 1.86" Ortona 2.00"	Moore Haven	NR
Salinity Beautiful Island:	0.6-3.1 psu (SCCF RECON Marker 18)	Previous week	0.7-7.7 psu
Salinity Fort Myers:	5.0-14 psu (SCCF RECON)	Previous week	9.5-17 psu
MFL Status:	In compliance: 30 day moving average: 9.3 psu	Previous week:	10.7 psu
Salinity Shell Point:	16-34 psu (SCCF RECON)	Previous week	20-35 psu

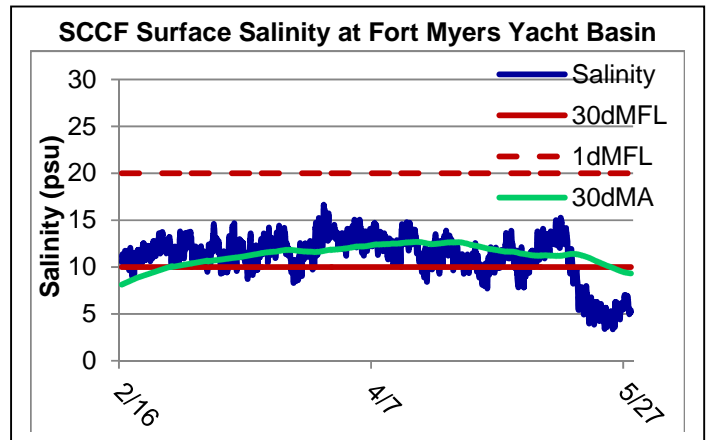


(*NR - not reported)

Salinity (psu)			
	Current Value	Sustainable Range	High/Low
Beautiful Is	0.6-3.1	< 5 psu	In Range
Fort Myers	5.0-14	<10 psu	In Range
Shell Point	16-34	25 - 32 psu	In Range
Light (25% I_z depth meters)			
Fort Myers	0.77	1 meter	Low
Shell Point	1.31	2.2 meters	Low
Causeway	1.81	2.2 meters	Low

Flow & Water Quality: Flows to the Caloosahatchee Estuary at S-79 during the past seven days averaged **3,307 cfs**. Over the past 14 days **0 AF** of water were discharged from Lake O. There was 6,701 AF of discharge below **S-77** and **0 AF of water discharged south to the EAA**. Back flow of **26,056 AF** occurred at **L8**, Back flow of **450 AF** occurred at **S-308** and back flow of **4,301 AF** occurred at S-310.

ACOE Daily Reports			
Date	S79 Flow (cfs)	S78 Flow (cfs)	S77 Flow (cfs)
5/15/2018	3636	2243	0
5/16/2018	2854	1623	0
5/17/2018	2096	1260	0
5/18/2018	2865	1513	0
5/19/2018	2960	1437	0
5/20/2018	3338	1504	0
5/21/2018	3303	1632	0
7 day Avg	3307	1602	0



Upstream of S-79/Franklin Conditions: On 5/29/18 the Olga Water Treatment plant reported chlorides of **72 mg/l**, apparent color 97 **CU** and turbidity 4.05 **NTU**. No visible algae reported at the plant intake the past week. The plant remains off line for maintenance.

Upper Estuary Conditions: The weekly average salinity at Fort Myers Yacht Basin (5.2) is in the suitable range for **tape grass**, which is growing between the Caloosahatchee Bridge and Beautiful Island. The lower layer of the water column at Fort Myers RECON went hypoxic on 5 days this week. Water column chlorophyll was elevated at Fort Myers and Beautiful Island RECON stations.

Lower Estuary Conditions: The average salinity at Shell Point, **27 psu**, was in the suitable range for **oysters**.

J.N. "Ding" Darling NWR:

Monitor Site	Salinity (psu)	Diss O ₂ (mg/L)	FDOM (qsde)	Chlorophyll (µg/L)
McIntyre Creek	30.7 – 35.0	4.5 – 13.3	5.3 – 17.3	1.4 – 24.9
Wulfert Flats	29.3 – 34.9	3.1 – 9.0	-----	5.2 – 32.2
Wildlife Drive	29.8 – 36.0	0.7 – 10.0	-----	0.5 – 4.5

Beach Conditions: No major drift algae were strandings were reported along Sanibel beaches.

Red Tide: On 5/25/18 the Florida Fish and Wildlife Conservation Commission reports that the Florida red tide organism, *Karenia brevis* persists in Charlotte, Lee and Collier Counties **with background to medium concentrations** in 19 samples collected from Lee County.

Wildlife Impacts: The past week, CROW, the wildlife hospital on Sanibel, treated **7 new patients with red tide symptoms**; **6 double crested cormorants** and **1 sandwich tern**. SCCF reported **one stranding on 5/24**, an adult female loggerhead with no obvious wounds or injuries.

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	10	187	5.2	0.77
Shell Point	2.6	48.0	6.0	1.31
Causeway	4.3	5.2	11.4	1.81

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