

MEMORANDUM

To: USACE Colonel Alan M. Dodd, Lt. Colonel Thomas Greco, Richard McMillen, SFWMD Blake Guillory, Dan Delisi, Terrie Bates, Jeff Kivett, Susan Gray, Peter Doering, DEP Herschel Vinyard

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

Subject: Caloosahatchee & Estuary Condition Report

Reporting Period: November 18 - 24, 2014

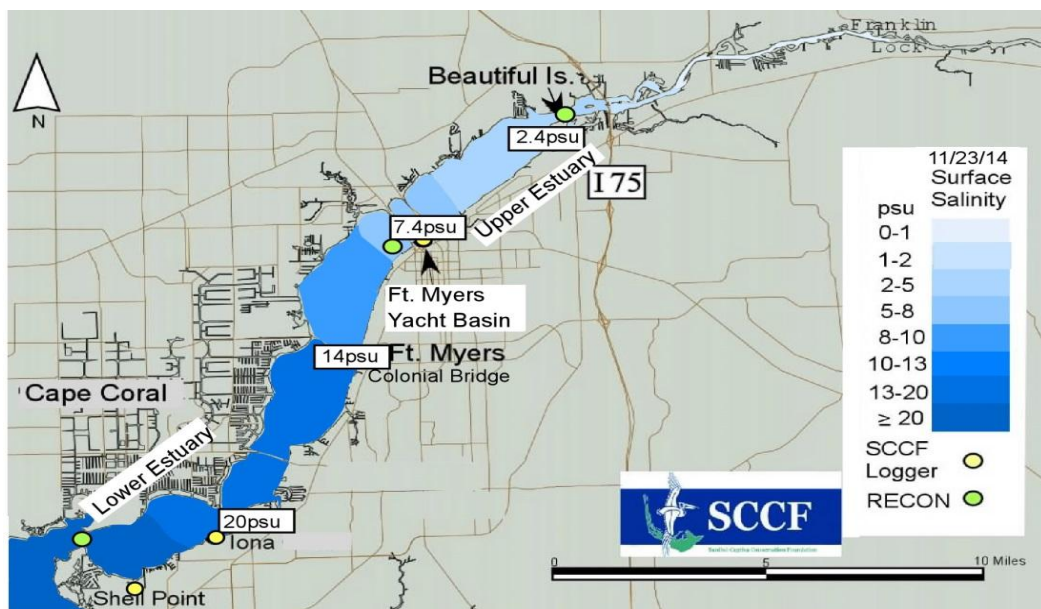
This report provides a scientific assessment of Caloosahatchee River and Estuary conditions and how these conditions affect the health, productivity and function of the system.

Caloosahatchee Condition Summary: The oligohaline zone extends to Fort Myers. Over the past week flows to the estuary at S79 averaged **1,247 cfs**. Flows are currently in the suitable range for tape grass in the upper estuary and oysters in the lower estuary.

USACE Action: On 11/14/14 the USACE initiated a 7-day pulse releases targeting average flows to the Caloosahatchee at S79 of **1,200 cfs**.

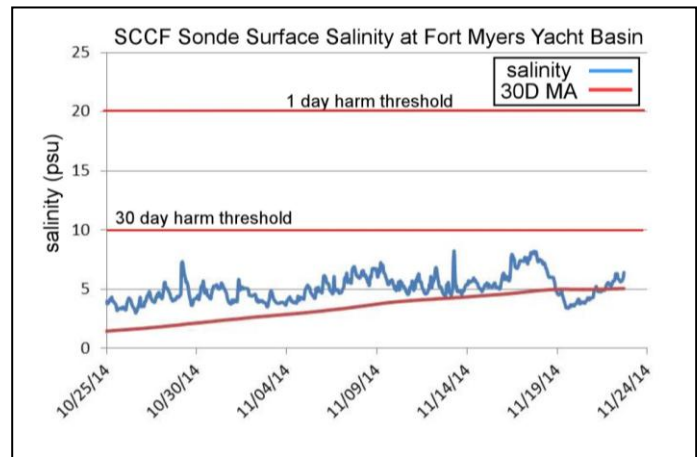
Recommendation: We recommend maintaining flows between **800 to 1,000 cfs** to meet the established ecological targets for the estuary. To address recent dry-season rainfall, we recommend that storage in the Kissimmee Chain of Lakes and floodplain be maximized to moderate inflows to Lake Okeechobee.

Lake Okeechobee Level:	15.53 ft. (Low Sub-Band)	Last wk: 15.62 ft.
Lake Okeechobee Inflow:	923 cfs	Lake Okeechobee Outflow: 1,474 cfs
Weekly Rainfall:	WP Franklin 0.33" Ortona 0.14"	Moore Haven 0.28"
Salinity Fort Myers:	4.9 - 12 psu (SCCF RECON Marker 52)	Previous wk 9.2 - 13.7 psu
Salinity Beautiful Island:	1.9 - 3.3 psu (SCCF RECON Marker 18)	Previous wk 1.3 – 4.3 psu
Salinity Shell Point:	ND (SCCF RECON)	Previous wk: ND



Flow & Water Quality: Flows into the Caloosahatchee Estuary at S79 during the pulse release ending on 11/20/14 averaged **1,288 cfs** and over the past 7 days flows averaged **1,247 cfs**. Over the past 14 days, approximately **57%** of total Lake Okeechobee outflows were delivered to the Caloosahatchee at S77.

ACOE November 14, 2014 Pulse Release					
Date	Day	Pulse Target	S79 Flow (cfs)	S78 Flow (cfs)	S77 Flow (cfs)
11/14/2014	1	1700	1236	472	855
11/15/2014	2	2100	1890	1258	1309
11/16/2014	3	1800	1727	1426	1370
11/17/2014	4	1100	1647	1037	872
11/18/2014	5	900	1392	660	723
11/19/2014	6	600	826	631	711
11/20/2014	7	200	295	353	410
7 day avg		1200	1288	834	855



Upstream of S79/Franklin Conditions: On 11/25/14 at the Olga Water Treatment plant, chlorides measured **56 mg/L**, apparent color was **178 CU** and turbidity measured **1.15 NTU**.

Upper Estuary Conditions: Surface salinities at the Fort Myers Yacht Basin are in the suitable range for tape grass. The oligohaline zone extends to Fort Myers.

Lower Estuary Condition: The salinity at Iona (**20 psu**) was in the optimal range for oysters on 11/22/14.

McIntyre Creek & Tarpon Bay in J.N. "Ding" Darling NWR: Salinity at McIntyre Creek ranged from **30.5 to 32.5 psu** over the last week and CDOM ranged from **16 to 28 qse**. Salinity at Tarpon Bay ranged from **30 to 33 psu** and CDOM ranged from **16 to 35 qse**. **Salinity at both locations is in the lower end of the preferred range for shoal grass and turtle grass (30 to 40 psu).**

Coastal Conditions:

Red Tide: On 11/21/14 FWRI reported *Karenia brevis* concentrations range from background to medium alongshore and offshore of Lee and Collier counties. Background concentrations were detected in samples collected in the Pine Island Sound system from Lee and Charlotte counties.

Wildlife Impacts: CROW the wildlife rehabilitation clinic on Sanibel has received and is treating 14 new cases of birds suffering from brevetoxicosis; 10 double-crested cormorants, 1 white pelican, 1 osprey, 1 laughing gull, and 1 royal tern.

Manatees: Over the past week Lee County Manatee Park staff report 60 - 70 manatees congregating in the warm water of the Orange River by the FPL power plant. On 11/21/14, three mating herds were spotted. Manatee season boat speed limits began on 11/15.

Caloosahatchee Stations	Chlorophyll (µg/L)	CDOM (qse)	Turbidity (NTU)	25% lo depth (meters)
Target Values	< 11	CE <70 SCB <11	CE < 18 SCB < 5	CE = 1 m SCB = 2.2m
Ft. Myers	6.2	206	2.2	0.76
Colonial	3.3	155	2.0	0.94
Causeway	3.1	55	1.5	1.63

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

ACOE Daily Reports				
Date	Day	S79 Flow (cfs)	S78 Flow (cfs)	S77 Flow (cfs)
11/18/2014	Tues	1392	660	723
11/19/2014	Wed	826	631	711
11/20/2014	Thur	295	353	410
11/21/2014	Fri	1159	530	695
11/22/2014	Sat	1865	1296	1302
11/23/2014	Sun	1663	1615	1491
11/24/2014	Mon	1531	935	869
7 Day	Avg	1247	860	886