

MEMORANDUM

To: USACE Colonel Andrew D. Kelly, LTC Todd F. Polk, Richard McMillen, Kim Taplin, SFWMD Governing Board, Executive Director Drew Bartlett, Jennifer Reynolds, Lawrence Glenn, DEP Secretary Noah Valenstein

From: Periodic Scientists Conference Call Participants
 Kevin Godsea & Jeremy Conrad - J.N. "Ding" Darling National Wildlife Refuge (NWR) Complex
 James Evans & Holly Milbrandt - City of Sanibel
 Lesli Haynes & Lisa Kreiger - Lee County
 Harry Phillips & Maya Robert - City of Cape Coral
 Leah Reidenbach & Rick Bartleson, PhD - Sanibel Captiva Conservation Foundation

Subject: Caloosahatchee & Estuary Condition Report

Reporting Period: **Jul 21 – July 27, 2020**

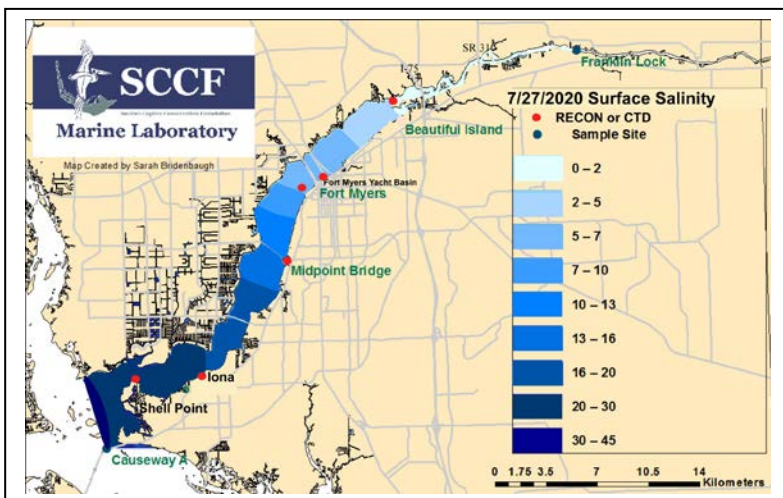
This report provides a scientific assessment of Caloosahatchee River and Estuary conditions and how these conditions affect the health, productivity, and function of the system.

Caloosahatchee Condition Summary: Flows to the Caloosahatchee estuary had a 7-day average of **1,580 cfs at S-79, within the optimum flow envelope of 750 – 2,100 cfs for the maintenance of healthy salinity levels throughout the estuary.** Water clarity around Sanibel and Cape Coral remains good with flows at S-79 in the optimal range.

USACE Action: On 5/8/20 the Corps announced it will continue pulse releases to the Caloosahatchee from Lake Okeechobee at a 7-day average of **650 cfs at S-79.** Releases to the St. Lucie estuary at **S-80** will remain at **zero cfs.**

Recommendation: In order to maintain optimum salinities in the estuary and avoid damaging high flows during the wet season, we request **7 day average flows be maintained between 750 – 2,100 cfs at S-79.** This is consistent with the 2020 RECOVER optimum flow envelopes for the Caloosahatchee estuary.

| | | |
|-----------------------------------|---|--|
| Lake Okeechobee Level: | 13.01 ft (Base Flow Sub Band) | Last week: 12.53 ft |
| Lake Okeechobee Inflow: | 7,626 cfs | Lake Okeechobee Outflow: -288 cfs |
| Weekly Rainfall Total: | WP Franklin 3.39" Ortona 4.76" | Moore Haven 1.00" |
| Salinity Beautiful Island: | 0.4 – 2.0 psu (SCCF RECON 3 days) | Previous week 0.4 – 2.0 |
| Salinity Fort Myers: | 3.4 - 9.2 psu (SCCF Surface Yacht Basin) | Previous week 3.4 - 6.3 psu |
| Salinity Shell Point: | 20 – 33 psu (SCCF RECON) | Previous week 18 – 33 psu |

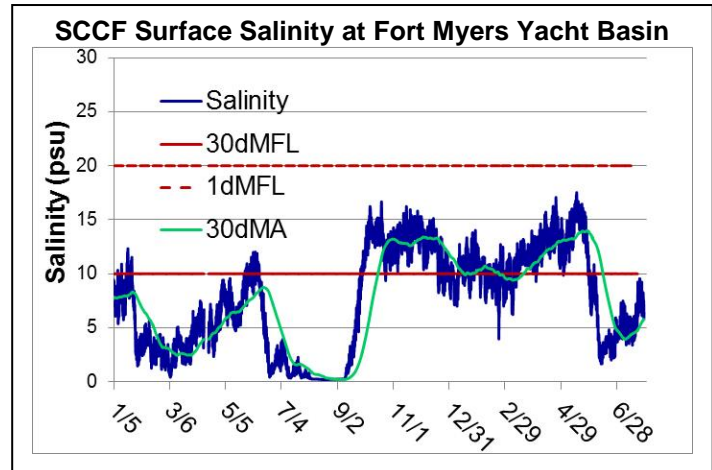


| Salinity (psu) | | | |
|---|----------------|---------------|----------|
| | Current Values | Target Values | High/Low |
| Beautiful Is | 0.4 – 2.0 | | In range |
| Fort Myers | 3.4 - 9.2 | <10 psu | ND |
| Shell Point | 18 – 33 | 25 - 32 psu | In range |
| Light (25% I _z depth meters) | | | |
| Fort Myers | 0.56 | 1 meter | Low |
| Shell Point | 1.39 | 2.2 meters | Low |
| Causeway | 2.94 | 2.2 meters | In range |

25% I_z is the depth (z) where irradiance (I) is 25% of surface irradiance. Target values indicate the depth of light penetration needed for healthy seagrass.

Lake Flows: In the past 7 days, a net **1,035 AF** was discharged to the Caloosahatchee through **S-77** and **0 AF** to the **EAA**. There was a backflow of **3,144 AF** from the St. Lucie estuary through **S-308** with one day of missing data, a backflow of **860 AF** at the **L-8 canal**, and a flow of **1,616 AF** thru **S-310**. Water conservation areas received flows of **15,362 AF**, **33,476 AF**, and **16,495 AF** at **WCA1**, **WCA2**, and **WCA3**, respectively. Everglades National Park received **22,828 AF**.

| ACOE Daily Reports | | | |
|--------------------|----------------|----------------|----------------|
| Date | S79 Flow (cfs) | S78 Flow (cfs) | S77 Flow (cfs) |
| 7/21/2020 | 921 | 388 | 79 |
| 7/22/2020 | 670 | 407 | 74 |
| 7/23/2020 | 2095 | 848 | 74 |
| 7/24/2020 | 1907 | 746 | 77 |
| 7/25/2020 | 1800 | 717 | 77 |
| 7/26/2020 | 1995 | 746 | 78 |
| 7/27/2020 | 1672 | 758 | 38 |
| 7 day avg | 1580 | 659 | 71 |



Cyanobacteria Status: On 7/28/20 sampling by the Lee County Environmental Lab reported the presence (very sparse specks) of the (cyanobacteria species *Microcystis* at the Alva Bridge, Franklin Locks upstream and at the Davis Boat Ramp.

Upstream of S-79/Franklin Conditions: On 7/28/20 the Olga Water Treatment plant was off-line.

Upper Estuary Conditions: The 30-day average surface salinity at the Fort Myers Yacht Basin was **5.8 psu**, within the suitable range for tape grass. A phytoplankton bloom (*Gonyaulax* sp.) was present at Ft Myers RECON on 7/23 and at the yacht basin on 7/24 where surface chlorophyll was over 20 ug/L. The RECON chlorophyll sensor was not functioning.

Lower Estuary Conditions: The weekly average salinity at the Shell Point RECON was **26 psu**, within the optimal range for oysters.

J.N. "Ding" Darling NWR:

| Monitor Site | Salinity | Dissolved O ₂ (mg/L) | FDOM (qsde) | Chlorophyll (µg/L) |
|----------------|-------------|---------------------------------|-------------|--------------------|
| Mclntyre Creek | 29.3 - 32.3 | 2.8 – 8.6 | ----- | 1.4 – 3.2 |
| Tarpon Bay | 31.4 - 34.1 | 3.5 – 8.1 | 5.0 – 53.1 | 2.2 – 8.3 |
| Wildlife Drive | 27.6 – 31.8 | 0.7 – 10.1 | ----- | 1.4 – 12.7 |
| Wulfert Flats | 29.3 -31.7 | 3.3 – 10.5 | ----- | 2.6 – 68.2 |

Red Tide: On 7/24/20 FWC reported that the red tide organism, *Karenia brevis*, was not observed in samples collected statewide over the past week. FWC reported the marine cyanobacterium *Trichodesmium* was present in samples from Florida’s Northwest, Southwest, and East coasts. [Click here for the FWC status of red tide.](#)

Wildlife Impacts: The past week CROW, the wildlife hospital on Sanibel, had no patients with red tide symptoms.

| Site | Chlorophyll (µg/L) | fDOM (qse) | Turbidity (NTU) | Target Values | | |
|-------------|--------------------|------------|-----------------|---------------|------------|-----------------|
| | | | | Chl (µg/L) | fDOM (qse) | Turbidity (NTU) |
| Fort Myers | 18 | 302 | 2.2 | < 11 | < 70 | < 18 |
| Shell Point | 2.7 | 86.7 | 1.8 | < 11 | < 70 | < 18 |
| Causeway | 2.1 | 6.5 | 1.7 | < 11 | < 11 | < 5 |