MEMORANDUM

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

From: Periodic Scientists Conference Call Participants
Paul Tritaik & 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
Rae Ann Wessel & Rick Bartleson, Ph.D.-Sanibel Captiva Conservation Foundation

Subject: Caloosahatchee & Estuary Condition Report

Reporting Period: October 29 - November 4, 2019

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:** Caloosahatchee flows decreased by 57% to an average of 490 cfs at S-79 the past week. **Upper estuary salinities are at harmful levels. The Caloosahatchee needs additional flow.**

**USACE Action:** On 11/1/19 the Corps continued 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 remain at zero cfs.

**Recommendation:** The Caloosahatchee needs additional water to lower salinity levels throughout the estuary. If cut backs are needed to conserve lake water levels we ask they be applied equally to all water users, not just the Caloosahatchee estuary.

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**Lake Okeechobee Level:** 13.37 ft. (Base Flow Sub Band)  
Last week: 13.49 ft.

**Lake Okeechobee Inflow:** 353 cfs  
Lake Okeechobee Outflow: 1,368 cfs

**Weekly Rainfall:**  
WP Franklin 0.09"  Ortona 0.0"  
Moore Haven 0.0"

**Salinity Beautiful Island:** ND  (SCCF RECON 2 days)  
Previous week ND

**Salinity Fort Myers:** 13 – 19 psu  (SCCF RECON 3 days)  
Previous week 12 - 16 psu

**Salinity Shell Point:** 22 - 34 psu  (SCCF RECON 3 days)  
Previous week 22 - 33 psu

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**Salinity (psu)**

<table>
<thead>
<tr>
<th>Location</th>
<th>Current Value</th>
<th>Sustainable Range</th>
<th>High/ Low</th>
</tr>
</thead>
<tbody>
<tr>
<td>Beautiful Is</td>
<td>ND</td>
<td>&lt; 5 psu</td>
<td>-</td>
</tr>
<tr>
<td>Fort Myers</td>
<td>13 - 19</td>
<td>&lt;10 psu</td>
<td>High</td>
</tr>
<tr>
<td>Shell Point</td>
<td>22 - 34</td>
<td>25 - 32 psu</td>
<td>In Range</td>
</tr>
</tbody>
</table>

**Light (25% Iz depth meters)**

<table>
<thead>
<tr>
<th>Location</th>
<th>Depth</th>
<th>25% Iz Depth</th>
<th>Condition</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fort Myers</td>
<td>0.85</td>
<td>1 meter</td>
<td>Low</td>
</tr>
<tr>
<td>Shell Point</td>
<td>1.74</td>
<td>2.2 meters</td>
<td>Low</td>
</tr>
<tr>
<td>Causeway</td>
<td>2.30</td>
<td>2.2 meters</td>
<td>In Range</td>
</tr>
</tbody>
</table>
Lake Flows: The past 7 days 14,256 AF of water was discharged from Lake Okeechobee; 72% to the Caloosahatchee thru S-77, - 643 AF back flowed into the lake from the St Lucie at S-308, 20% was discharged south to the EAA, a net 7% was discharged from the lake to the L8 and a net 1% discharged from the lake to S-310.

Cyanobacteria Status: In the Caloosahatchee, Lee County Environmental Lab sampling on 11/5/19 reported no cyanobacteria at any of the sample sites.

Upstream of S-79/Franklin Conditions: The Lee County Olga Water Treatment plant will be offline until further notice.

Upper Estuary Conditions: The weekly average salinity at the Fort Myers Yacht Basin was 12 psu, above the suitable range for tape grass growing between the Caloosahatchee US 41 Bridges and Beautiful Island. The 30 day moving average at the SCCF yacht basin has been over 10 psu for three weeks and was 13 psu on 11/04/19.

Lower Estuary Conditions: The average salinity at the Shell Point RECON was 30 psu, above the optimal range for oysters.

J.N. “Ding” Darling NWR: Third week the Refuge has experienced fish kills and red tide irritation.

<table>
<thead>
<tr>
<th>Monitor Site</th>
<th>Salinity</th>
<th>Diss O2 (mg/L)</th>
<th>FDOM (qse)</th>
<th>Chlorophyll (µg/L)</th>
</tr>
</thead>
<tbody>
<tr>
<td>McIntyre Creek</td>
<td>32.0 – 33.4</td>
<td>0.6 – 6.1</td>
<td>7.2 – 12.7</td>
<td>3.0 – 87.6</td>
</tr>
<tr>
<td>Tarpon Bay</td>
<td>31.8 – 34.3</td>
<td>4.4 – 9.1</td>
<td>7.0 – 14.4</td>
<td>5.7 – 36.5</td>
</tr>
<tr>
<td>Wulfert Flats</td>
<td>27.2 – 34.0</td>
<td>2.6 – 10.0</td>
<td>----------</td>
<td>13.3 – 182.7</td>
</tr>
<tr>
<td>Wildlife Drive</td>
<td>31.8 – 33.7</td>
<td>0.8 – 12.3</td>
<td>----------</td>
<td>3.1 – 42.1</td>
</tr>
</tbody>
</table>

Beach Conditions: Sanibel beaches had moderate to heavy accumulations of drift algae the past week.

Red Tide: On 11/1/19 FWC reported red tide, Karenia brevis, bloom concentrations >100,000 cells per liter, persist in Charlotte, Lee, and Collier counties and were first observed in Sarasota County this past week. Samples from Sanibel’s beaches by Lee County, Sanibel Sea School and SCCF reported medium to high concentrations with the highest concentrations, >20 million cells/L, on 11/1/19, on Sanibel’s southeast beaches.

Shellfish Advisory: On 10/15/19 the Florida Department of Agriculture and Consumer Services CLOSED Sections 1-, 6212 and 2-#6222 in Pine Island Sound for the harvest of oysters, clams and mussels due to red tide, Karenia brevis.

Wildlife Impacts: The past week, CROW, the wildlife hospital on Sanibel treated 18 patients for red tide symptoms: 12 double crested cormorants, 3 laughing gulls, 1 American oystercatcher and 1 sanderling, died. SCCF recovered 1 juvenile green sea turtle that was taken to CROW.