MEMORANDUM

To: USACE Colonel Andrew D. Kelly, LtC Todd F. Polk, Richard McMillen, Kim Taplin, SFWMD Governing Board, Executive Director Drew Bartlett, LtC 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
Rae Ann Wessel & Rick Bartleson, Ph.D. - Sanibel Captiva Conservation Foundation

Subject: Caloosahatchee & Estuary Condition Report

Reporting Period: April 21 - 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: Caloosahatchee estuary salinities remain high despite recent rainfall. Average flows increased to a weekly average of 483 cfs at S-79 the past week. 89% of lake discharges to S-77, reached the estuary at S-79. Based on elevated salinities in the estuary the Caloosahatchee needs additional flow. A cyanobacteria bloom was reported a mile downstream of S-79, photos page 3.

USACE Action: On 4/24/20 the Corps continued pulse releases to the Caloosahatchee from Lake Okeechobee at a 7-day average of 457 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 to protect the remaining western edge of tape grass habitat in the upper estuary and oysters and seagrass in the lower estuary. We request the District increase flows at s-79 to 650 or apply equivalent cutbacks to all permitted users to provide shared adversity in water shortage.

Lake Okeechobee Level: 11.46 ft. (Beneficial Use Sub Band) Last week: 11.41 ft.

Lake Okeechobee Inflow: 807 cfs Lake Okeechobee Outflow: -160 cfs

Weekly Rainfall Total: WP Franklin 1.20" Ortona 1.53" Moore Haven 1.10"

Salinity Beautiful Island: NR (SCCF RECON) Previous week 5.1 - 9.0 psu

Salinity Fort Myers: 11-15 psu (SCCF Surface FM Yacht Basin) Previous week 11-15 psu

Salinity Shell Point: 27 – 35 psu (SCCF RECON) Previous week 26 – 35 psu

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>NR</td>
<td>&lt; 5 psu</td>
<td>-</td>
</tr>
<tr>
<td>Fort Myers</td>
<td>14 - 20</td>
<td>&lt;10 psu</td>
<td>High</td>
</tr>
<tr>
<td>Shell Point</td>
<td>27 – 35</td>
<td>25 - 32 psu</td>
<td>High</td>
</tr>
</tbody>
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Light (25% Iz depth meters)

<table>
<thead>
<tr>
<th>Location</th>
<th>Current Value</th>
<th>sustainable Range</th>
<th>High/ Low</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fort Myers</td>
<td>0.87</td>
<td>1 meter</td>
<td>Low</td>
</tr>
<tr>
<td>Shell Point</td>
<td>1.96</td>
<td>2.2 meters</td>
<td>Low</td>
</tr>
<tr>
<td>Causeway</td>
<td>2.57</td>
<td>2.2 meters</td>
<td>In Range</td>
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Lake Flows: The past 7 days 12,404 AF of water was discharged from Lake Okeechobee: 60% to the Caloosahatchee thru S-77; -8,687 AF backflowed from the St. Lucie into the lake at S-308; 35% was discharged south to the EAA, a net -192 AF backflowed from L8 into the lake and a net 5% was discharged through S-310. Of the 35% of lake discharges south, 50% reached the WCAs and 0 flow reached Everglades National Park. 11% of lake discharge to the Caloosahatchee at S-77 was used for irrigation upstream of S-79.

Cyanobacteria Status: Sampling by Lee County Environmental Lab on 4/28/20 reported presence of cyano species *Microcystis*, *Dolichospermum* and *Cuspidothrix* at the Alva boat ramp, *Microcystis*, *Dolichospermum* and *Planktothrix* upstream of the WP Franklin Lock and *Microcystis* and *Dolichospermum* at the Davis Boat ramp.

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

Upper Estuary Conditions: The 30 day average salinity at the Fort Myers Yacht Basin was 13 psu, above the optimal level for tape grass.

Lower Estuary Conditions: The average salinity at the Shell Point RECON was 32 psu, above the optimal range for oysters.

J.N. “Ding” Darling NWR:

<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>34.0 – 36.2</td>
<td>1.7 – 11.2</td>
<td>3.1 – 14.2</td>
<td>**********</td>
</tr>
<tr>
<td>Tarpon Bay</td>
<td>34.3 – 35.6</td>
<td>4.6 – 8.9</td>
<td>4.1 – 9.1</td>
<td>2.3 – 29.7</td>
</tr>
</tbody>
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Red Tide: On 4/24/20 FWC reported red tide, *Karenia brevis*, at background concentrations in Pinellas and Sarasota counties: [Click here for the FWC status of red tide](#)

Shellfish Advisory: On 4/24/20 the Florida Department of Agriculture and Consumer Services (FDACS) REOPENED Shellfish harvest area #6212 Pine Island Sound Section 1.

Wildlife Impacts: The past week CROW, the wildlife hospital on Sanibel, received NO red tide patients. SCCF reported 1 dead loggerhead sea turtle with evident predator damage (shark) on Captiva.
Cyanobacteria photographed approximately 1 mile downstream of S-79 on the south shore of the river at 8 am on 4/27/2020.

Photos: John Cassani