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 Interim Secretary Shawn Hamilton

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

Subject: Caloosahatchee & Estuary Conditions Report

Reporting Period: June 29 – July 5, 2021

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 1,905 cfs at S-79 and a 7-day average of 395 cfs at S-77. The 14-day moving average flow at S-79 is 1,495 cfs and is within the optimal flow envelope (750 – 2,100 cfs; RECOVER 2020). Water clarity around Sanibel and Lee County remains good at this time.

**Recommendation:** With tropical storm conditions in coastal Southwest Florida, local basin runoff into the Caloosahatchee is expected to exceed targeted flows (1000 cfs) at S-79. During this time, we request that the Corps cease flow from S-77 until watershed flow dissipates.

**USACE Action:** On Saturday, 5/29/21 the USACE decreased targeted flows to a 7-day average of 1,000 cfs (pulse) to the Caloosahatchee Estuary as measured at the WP Franklin Lock & Dam (S-79) and continued no releases to the St. Lucie Lock and Dam (S-80).

**Lake Flows:** Regional rainfall, increased groundwater tables, and basin runoff from communities around Lake Okeechobee backflowed into the lake at S-308, S-310, and C-10A have contributed to increased lake levels. In the past 7 days there was a net backflow of 3,283 AF into Lake Okeechobee. There was backflow of 4,477 AF through S-308 at Port Mayaca, backflow of 1,212 AF through S-310 in Clewiston, and backflow of 359 AF through C-10A at the L-8 canal. The Caloosahatchee received 2,765 AF through S-77. 0 AF went to the EAA through S-351, S-352, and S-354. Water conservation areas received flows of 11,018 AF, 27,429 AF, and 13,904 AF at WCA1, WCA2, and WCA3, respectively. Everglades National Park received 591 AF.

**Lake Okeechobee Level:** 12.95 ft (Base flow sub-band)  
**Last Week:** 12.67 ft

**Lake Okeechobee Inflow:** 3,214 cfs  
**Lake Okeechobee Outflow:** 0 cfs

**Weekly Rainfall Total:** WP Franklin 1.46"  
Ortona 1.33"  
Moore Haven ≥ 2.22"
Cyanobacteria Status: Sampling for cyanobacteria by the Lee County Environmental Lab was not conducted for this reporting period due to tropical storm conditions. The Florida Department of Health in Lee County issued a Health Alert for the presence of harmful blue-green algal toxins in Orange River - Manatee Park on 7/1/21 in response to a water sample taken on 6/24/21 and for the Davis Boat Ramp on 7/2/21 in response to a water sample taken on 6/29/21.

Upstream of S-79/Franklin Conditions: On 7/6/21 the Olga Water Treatment plant reported chlorides of 60 mg/L, apparent color 82 CU and turbidity 2.92 NTU. Algae presence is light. The plant is offline at 4 GPM.

Upper Estuary Conditions: The 30-day average surface salinity at the Fort Myers Yacht Basin was 6.9 psu, within the suitable range for tape grass.

Lower Estuary Conditions: The average salinity at Shell Point RECON was 27 psu, within the optimal range for oysters.

Water Quality Conditions

<table>
<thead>
<tr>
<th>Monitor Site</th>
<th>Salinity (psu)(^a)</th>
<th>Diss O(_2) (mg/L)(^b)</th>
<th>FDOM (qsde)(^c)</th>
<th>Chlorophyll (µg/L)(^d)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Beautiful Island</td>
<td>1.1 – 2.5 [1.0 – 2.4]</td>
<td>4.1– 7.7</td>
<td>191</td>
<td>8.9</td>
</tr>
<tr>
<td>Fort Myers Yacht Basin</td>
<td>4.1 – 10 [4.1 – 10]</td>
<td>2.3 – 7.3</td>
<td>162</td>
<td>7.2</td>
</tr>
<tr>
<td>Shell Point</td>
<td>18 – 34 [21 – 35]</td>
<td>4.4– 6.8</td>
<td>59.6</td>
<td>3.3</td>
</tr>
<tr>
<td>McIntyre Creek</td>
<td>30.7 – 32.9</td>
<td>3.6 – 14.5</td>
<td>5.1 – 9.0</td>
<td>1.0 – 12.8</td>
</tr>
<tr>
<td>Tarpon Bay</td>
<td>30.9 – 35.2</td>
<td>4.3 – 9.6</td>
<td>0.5 – 1.6</td>
<td>0.4 – 1.5</td>
</tr>
<tr>
<td>Wulfert Flats</td>
<td>18.3 – 32.9</td>
<td>3.5 – 8.8</td>
<td>--------------</td>
<td>1.9 – 36.8</td>
</tr>
</tbody>
</table>

\(^a\) Salinity target values: BI < 5, FM < 10, SP = 25 – 32

\(^b\) Dissolved O\(_2\) target values: all sites > 4

\(^c\) FDOM target values: BI < 70, FM < 70, SP < 11

\(^d\) Chlorophyll target values: BI < 11, FM < 11, SP < 11

\(^*\) Single sonde lower and surface layer or surface grab lab measurement

Red Tide: On 7/2/21, the FWC reported that a patchy bloom of the red tide organism, *Karenia brevis*, persists on the Florida Gulf Coast. Over the past week, *K. brevis* was detected in 83 samples. Bloom concentrations (>100,000 cells/liter) were observed in 34 samples: six from Pasco County, ten from Pinellas County, 13 from Hillsborough County, two from Manatee County, and three from Sarasota County. In Southwest Florida over the past week, *K. brevis* was observed at background to high concentrations in and offshore of Pinellas County, background to high concentrations in Hillsborough County, background to medium concentrations in Manatee County, background to medium concentrations in Sarasota County, low concentrations in Charlotte County, and background concentrations in Lee County.

Wildlife Impacts: In the past week, the CROW wildlife hospital on Sanibel received 3 toxicosis patients: 1 white ibis (released), 1 little blue heron (died), and 1 tri-colored heron (died).
Daily average bottom salinity data for the last 14-days from sampling locations within the tidal Caloosahatchee River Estuary relative to oyster health (Sanibel, Shell Point and Cape Coral) and tape grass (*Vallisneria americana*) health (Ft. Myers only) conditions.

Water clarity at Lighthouse Beach Park on 7/2/21 at 14:06 on falling tide. (Low tide: 14:54 @ 1.07 ft)