MEMORANDUM

To: USACE Colonel Jason A. Kirk, LTC Jennifer A. Reynolds, Richard McMillen, Kim Taplin, SFWMD Executive Director Peter Antonacci, Terrie Bates, Susan Gray, Peter Doering, DEP Secretary Jon Steverson

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 & Lesli Haynes - Lee County
Rae Blake – Town of Fort Myers Beach
Connie Jarvis & Harry Phillips – City of Cape Coral
Rae Ann Wessel & Rick Bartleson, Ph.D. - Sanibel Captiva Conservation Foundation

Subject: Caloosahatchee & Estuary Condition Report

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:** During the past week Lake Okeechobee water levels continued to recede. Discharges into the estuary at S79 the past week decreased to an average of 2,255 cfs and discharges to the river from Lake Okeechobee at S77 decreased to an average of 1,294 cfs. Watershed inflows to the Franklin pool between S78 and S79 averaged 624 cfs.

**USACE Action:** On May 6, 2016 the USACE continued pulse releases to the Caloosahatchee through S-79 to a weekly average of 2,000 cfs and 650 cfs to the St. Lucie measured at S-80.

**Recommendation:** For 16 weeks there has been no salinity signature in the middle Caloosahatchee estuary at Fort Myers. With successful lake recession occurring, high ET and little rainfall we request a gradual reduction in flows directed to the Caloosahatchee. We request flows be reduced the coming week to an average of 1,500 cfs at S79 with further reductions the next two weeks to 1,000 cfs to recover a salinity gradient throughout the estuary and protect and promote spawning in the Caloosahatchee estuary. Consideration should be made for providing dry season flows to the Caloosahatchee in light of potential development of La Nina conditions.

**Lake Okeechobee Level:** 13.90 ft. (Low Sub-Band)  
**Last week:** 14.12 ft.

**Lake Okeechobee Inflow:** 1,984 cfs  
**Lake Okeechobee Outflow:** 5,105 cfs

**Weekly Rainfall:**  
WP Franklin 0.66”  
Ortona 0.52”  
Moore Haven 1.10”

**Salinity Beautiful Island:** ND (SCCF RECON Marker 18)  
**Previous wk:** ND

**Salinity Fort Myers:** 0.2 – 2.0 psu (SCCF Yacht Basin)  
**Previous wk:** 0.5 – 2.4 psu

**Salinity Shell Point:** 13 – 32 psu (SCCF RECON)  
**Previous wk:** 13 – 32 psu

*Higher than normal dry-season flows have limited salinity variation in the upper estuary.*
Flow & Water Quality: Flows to the Caloosahatchee Estuary at S79 during the past seven days averaged 2,255 cfs. Over the past 14 days 38% of Lake Okeechobee outflows were directed to the Caloosahatchee, 13% were delivered to the St Lucie at S308, 43% of flows were discharged south to the EAA for irrigation demand, 5% to the L8 and 1% to S310.

### ACOE April 29 Pulse Release at S79

<table>
<thead>
<tr>
<th>Date</th>
<th>Day</th>
<th>Pulse Target</th>
<th>S79 Flow (cfs)</th>
<th>S78 Flow (cfs)</th>
<th>S77 Flow (cfs)</th>
</tr>
</thead>
<tbody>
<tr>
<td>4/29/2016</td>
<td>1</td>
<td>2300</td>
<td>2622</td>
<td>1743</td>
<td>2292</td>
</tr>
<tr>
<td>4/30/2016</td>
<td>2</td>
<td>2900</td>
<td>2353</td>
<td>1854</td>
<td>2023</td>
</tr>
<tr>
<td>5/1/2016</td>
<td>3</td>
<td>2600</td>
<td>2815</td>
<td>2200</td>
<td>2777</td>
</tr>
<tr>
<td>5/2/2016</td>
<td>4</td>
<td>2100</td>
<td>2163</td>
<td>1874</td>
<td>2460</td>
</tr>
<tr>
<td>5/3/2016</td>
<td>5</td>
<td>1700</td>
<td>1979</td>
<td>1167</td>
<td>1466</td>
</tr>
<tr>
<td>5/4/2016</td>
<td>6</td>
<td>1400</td>
<td>2002</td>
<td>1624</td>
<td>622</td>
</tr>
<tr>
<td>5/5/2016</td>
<td>7</td>
<td>1000</td>
<td>2550</td>
<td>1714</td>
<td>654</td>
</tr>
<tr>
<td>7 day avg</td>
<td></td>
<td>2000</td>
<td>2355</td>
<td>1739</td>
<td>1756</td>
</tr>
</tbody>
</table>

Upstream of S79/Franklin Conditions: On 5/10/16 the Olga Water Treatment plant chlorides measured 55 mg/L, apparent color was 107 CU and turbidity measured 4.32 NTU. No visible algae for the past week. The plant is off line for maintenance. Water appearance is extremely dark, turbid and murky.

Upper Estuary Conditions: Salinities in the upper estuary are in the suitable range for tape grass. Light was sufficient for SAV at 1 m depth at the Colonial Bridge in the middle estuary.

Lower Estuary Condition: The average salinity at Shell Point (21 psu) was in the optimal range for oysters.

McIntyre Creek & Tarpon Bay in J.N. “Ding” Darling NWR: Refuge waters are still brown and floating mats of green, filamentous algae (Cladophora sp.) persist in the west impoundment. Salinities are in the low end of the preferred range for seagrass.

Tarpon Bay: Salinity: 28.1 – 34.0 psu; CDOM: 8 – 26 qsde; Dissolved oxygen: 4.9 – 8.1 mg/L; Chlorophyll: 1.7 – 10.2 μg/L.

McIntyre Creek: Salinity: Salinity: 29.4 – 32.1 psu; CDOM: 3 – 14 qsde; Dissolved oxygen: 2.7 – 10.0 mg/L; Chlorophyll: 2.0 – 5.2 μg/L. Dissolved oxygen dropped below 4 mg/L four times over the last week at McIntyre Creek.

Red tide: On May 6, 2016 FWC reported a bloom of *Karenia brevis*, the Florida red tide organism, persists in samples along Pinellas, Manatee, Sarasota, and Charlotte Counties in southwest Florida.