APPENDIX A – OPERATIONAL STRATEGY

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Operational Criteria to Mitigate High Water Conditions in Water Conservation Area 3A

The Corps of Engineers, Jacksonville District (SAJ) is seeking approval from the South Atlantic Division (SAD) for a Planned Temporary Deviation from the 2012 Water Control Plan and the Modified Water Deliveries (MWD) Increment 2 (MWD Increment 2) and the Water Conservation Area 3 (WCA-3A) Decompartmentalization (DECOMP) and Sheet Flow Enhancement Project Physical Model (DPM) Operational Strategy in order to provide high water relief for WCA-3A. This action will increase the volume of water that is able to be sent to WCA-3B, out of WCA-3A. The temporary deviation will be needed until the WCA-3A stage, as measured by the average of the Site 63, Site 64, and Site 65 gages (3-gage average) falls below Zone A of the WCA-3A Regulation Schedule (RS) (Figure 2) or November 30, 2018 whichever occurs first. A summary description and associated deviations for the structures the Corps will be responsible for is included below. This Operational Strategy includes additional background information and data analysis below.

The WCA-3A, 3-gage average is 10.67 feet, NGVD, as of July 17, 2018, which is 0.87 feet above Zone D of the WCA-3A RS and 0.39 feet above the WCA-3A Increment 2 Action Line. WCA-3A received a historical high rainfall of 12.33 inches in the month of May which was 285% of the average for that month, as shown in Figure 1. However, WCA-3A has received approximately 70 % of the average rainfall in the months of June and July. Figures 2 and 3 illustrate the sharp rise of the WCA-3A 3-gage average into Zone A of the WCA-3A RS in May of this year and the elevation above the WCA-3A Increment 2 Action Line due to this rainfall. On June 29, 2018, SAJ requested two planned temporary deviations from the Water Conservation Area 2A (WCA-2A) RS and from the U.S. Fish and Wildlife Service (USFWS) Biological Opinion (BO) and the Increment 2.0 Operational Strategy to reduce S-11s flows into WCA-3A and to utilize S-344, S-343A, S-343B, S-12A, and S-12B to alleviate high water in WCA-3A pending ongoing consultation with the USFWS. SAD approved the request on June 30, 2018.

The WCA-3A 3-gage average stage levels during May and June also coincides with the period-of-record (1962-2017) high water stage, for this time of year, in WCA-3A as indicated in the Exceedance Statistics Plot shown in Figure 3. Also, water levels in WCA-3A are not expected to lower quickly, as illustrated in the dynamic positional analysis provided on July 8th by the SFWMD in Figure 4. A summary of the current structure deviation operations is provided below.

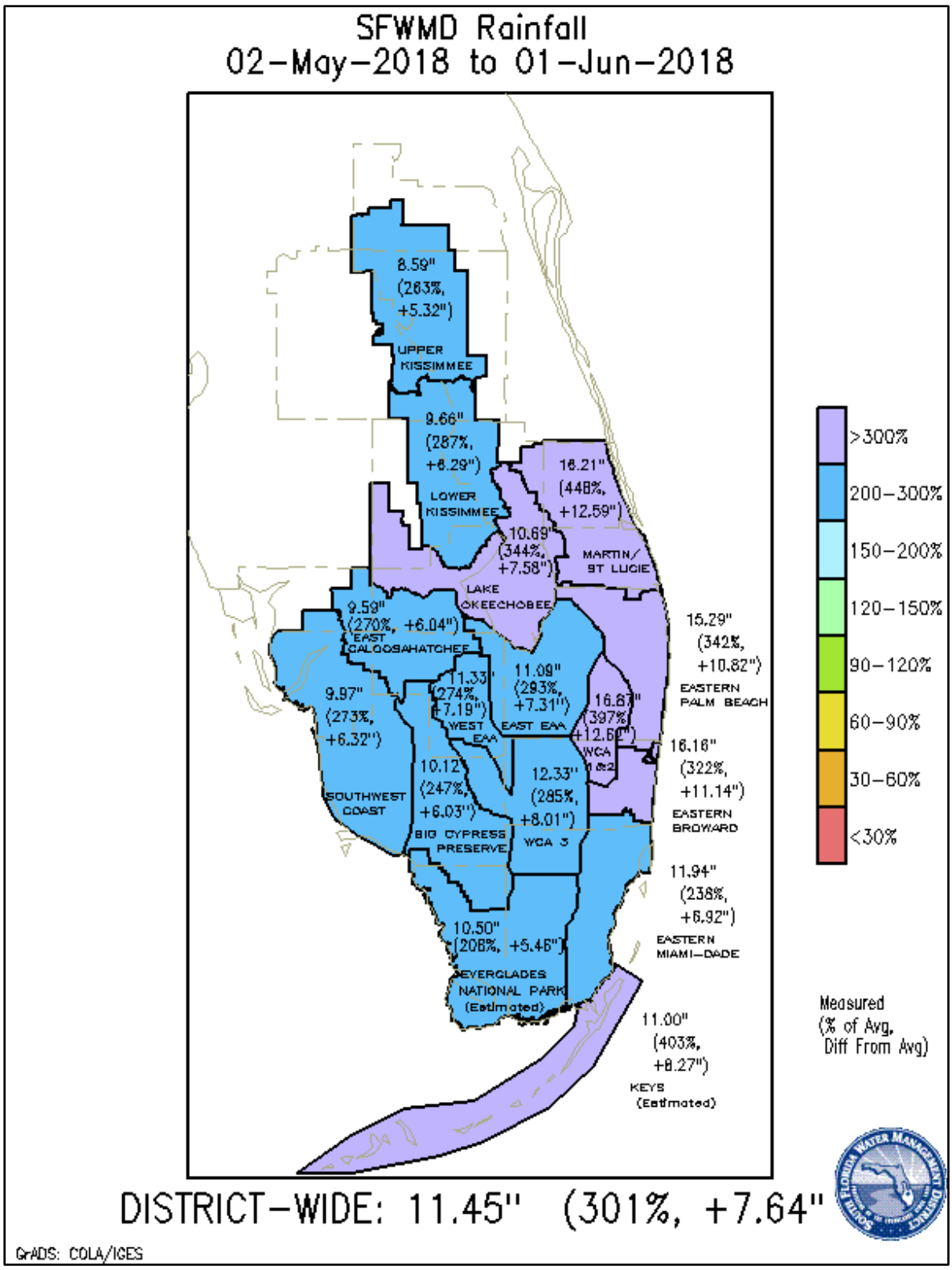

Figure 1 District Wide Monthly Rainfall [WCA-3: 12.33” (285% Avg., +8.01”)]

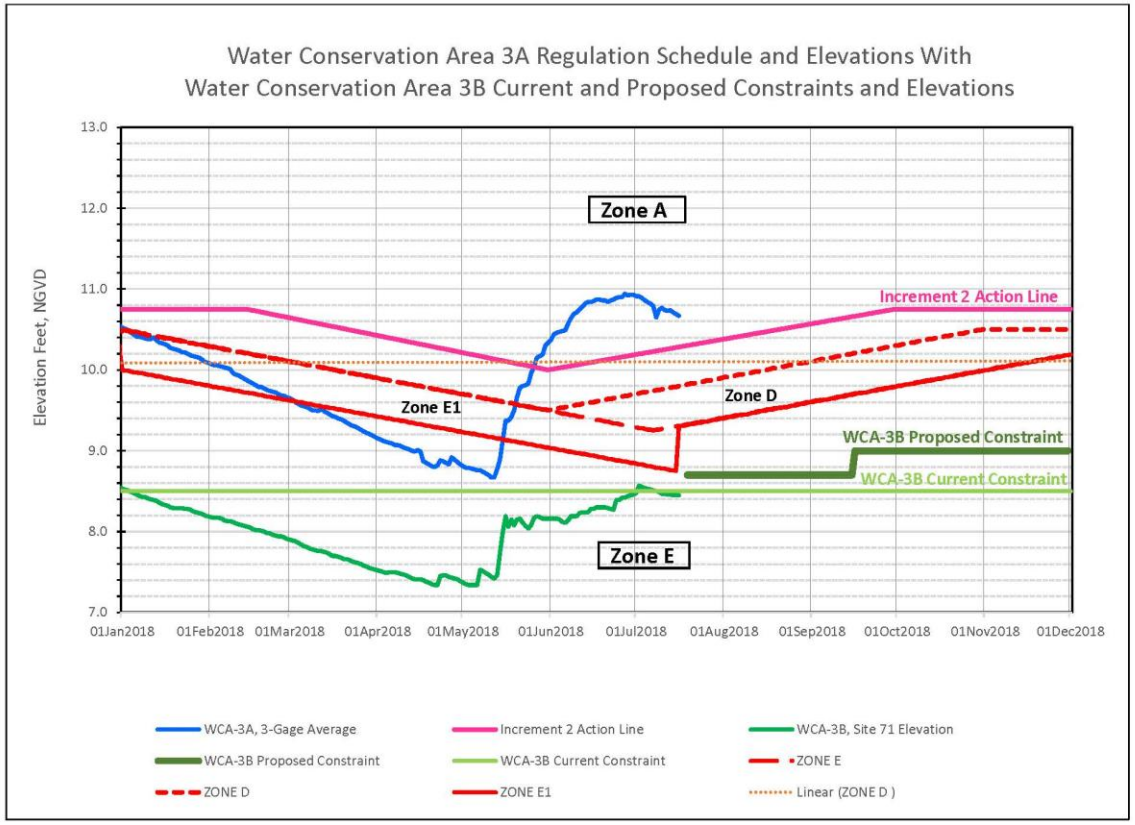

Figure 2 WCA-3A RS and Stage with WCA-3B Current and Proposed Constraints and Stage

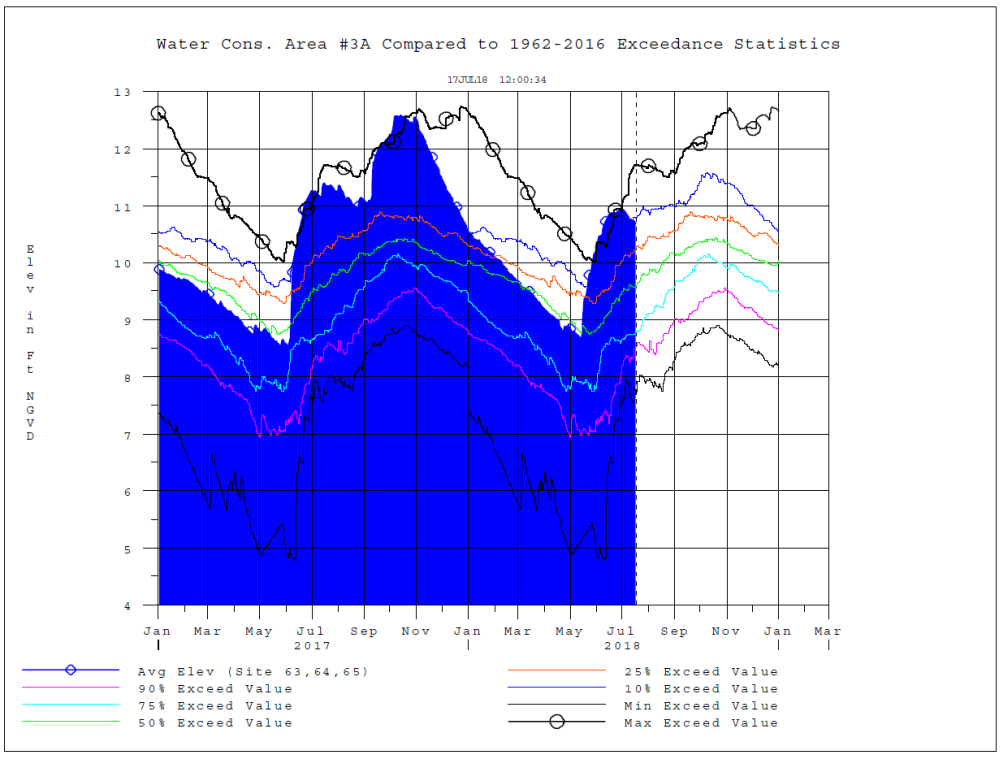

Figure 3 WCA-3A Stage Statistics

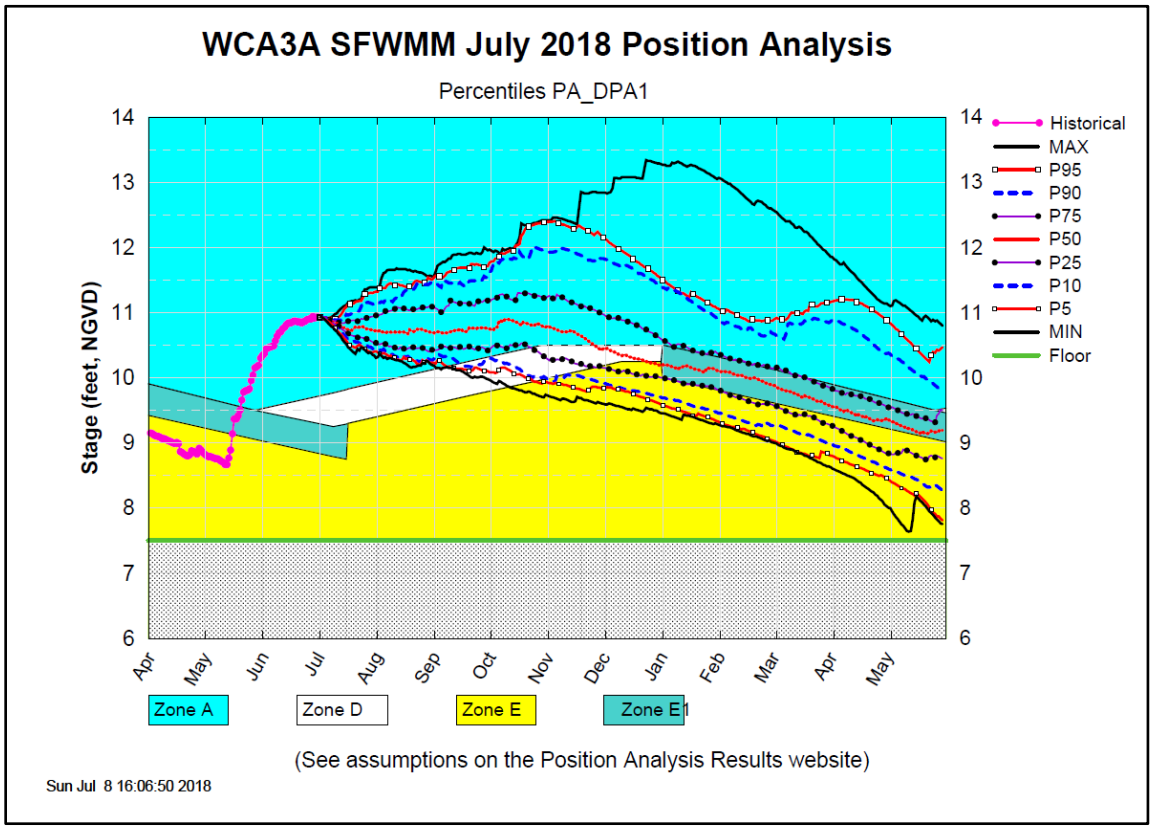

Figure 4 SFWMD Monthly Dynamic Positional Analysis of WCA 3A

Corps' Existing Structure Deviation Summary

S-11A, S-11B, and S-11C (S-11s) discharges are currently reduced to 0 cfs, in accordance with the previously mentioned, approved deviation from the WCA-2A RS in the 2012 Water Control Plan to provide high water relief in WCA-3A until April 30, 2019.

S-344 was opened on July 1, 2018, making maximum discharges in accordance with the previously mentioned deviation from the USFWS BO and the Increment 2.0 Operational Strategy approved on June 30, 2018. The current deviation maximizes releases at this structure to approximately 200 cfs; moving water into L-28 from WCA-3 and helping to alleviate prolonged high water levels in WCA-3A. After July 15, 2018, the 2016 Everglades Restoration Transition Plan, BO (ERTP BO) operational constraints were lifted and normal operations under the MWD Increment 2 Transition Plan have resumed.

S-343A was opened on July 6, 2018, making maximum discharges in accordance with the previously mentioned deviation from the USFWS BO and the Increment 2.0 Operational Strategy approved on June 30, 2018. The current deviation maximizes releases at this structure to approximately 200 cfs; moving water into L-28 from WCA-3 and helping to alleviate prolonged high water levels in WCA-3A. After July 15, 2018, the 2016 ERTP BO operational constraints were lifted and normal operations under the MWD Increment 2 Transition Plan have resumed.

S-343B was opened on July 6, 2018 making maximum discharges in accordance with the previously mentioned deviation from the USFWS BO and the Increment 2.0 Operational Strategy approved on June 30, 2018. The current deviation maximizes releases at this structure to approximately 200 cfs; moving water into L-28 from WCA-3A and helping to alleviate prolonged high water levels in WCA-3A. After July 15, 2018, the 2016 ERTP BO operational constraints were lifted and normal operations under the MWD Increment 2 Transition Plan have resumed.

S-12A was opened on July 13, 2018, making maximum discharges in accordance with the previously mentioned deviation from the USFWS BO and the Increment 2.0 Operational Strategy approved on June 30, 2018. The previously mentioned deviation maximizes releases at this structure to approximately 400 cfs. This operation would move water into the Shark River Slough (SRS) from WCA-3A, helping to alleviate prolonged high water levels in WCA-3A. After July 15, 2018, the 2016 ERTP BO operational constraints were lifted and normal operations under the MWD Increment 2 Transition Plan have resumed.

S-12B was opened on July 13, 2018, making maximum discharges in accordance with the previously mentioned deviation from the USFWS BO and the Increment 2.0 Operational Strategy approved on June 30, 2018. The previously mentioned deviation maximizes releases at this structure to approximately 400 cfs. This operation would move water into the SRS from WCA-3A, helping to alleviate prolonged high water levels in WCA-3A. After July 15, 2018, the 2016 ERTP BO operational constraints were lifted and normal operations under the MWD Increment 2 Transition Plan have resumed.

S-152 discharges are currently governed by the 2017 Operational Strategy which allows releases from WCA-3A into WCA-3B to meet the objectives of the DPM Science Plan to the extent that the trigger stage (measured at Site 71 or SRS-1) of 8.5 feet, NGVD and other prescribed water quality constraints allow. The operation of S-152 can be partially or fully open with the expectation that S-152 will initially be fully opened and then could be partially closed when the stage at Site 71 or SRS-1 approaches the trigger stage. Design flow for this structure is up to approximately 800 cfs fully open, although historical DPM operations have only realized 300-400 cfs. If the trigger stage is exceeded for more than 24 hours, all inflows shall be closed until the stage at Site 71 or SRS-1 declines to below the trigger stage for more than 24 hours. This deviation will raise the constraint at the Site 71 and SRS-1 gages to 8.7 feet, NGVD, from the beginning of this deviation through September 15, 2018, and then up to 9.0 feet, NGVD, from September 16, 2018 through November 30, 2018, allowing approximately 18,000 acre-feet per month discharges out of WCA-3A, based on 300 cfs flow rate through S-152. The operational actions which occur when the stage trigger is met remain the same. The DPM water quality constraint has been waived per the "Emergency Final Order for Highwater Conditions in S. Florida - OGC 18-1066". The continued operation (approximately 3 months) of S-152 is expected to reduce the elevation the WCA-3A by more than 0.1 feet.

Proposed Operational Flexibility

To help alleviate the high-water conditions in WCA-3A and address uncertainties of future system conditions, the following actions may be taken until the WCA-3A stage, as measured by the WCA-3A, 3-gage average falls below Zone A of the WCA-3A RS, or November 30, 2018, whichever occurs first:

- From the beginning of this deviation through September 15, 2018, the S-152 structure shall remain open until the stage measured at the Site 71 or the SRS-1 gages are above 8.7 feet, NGVD for more than 24 hours.
- From September 16, 2018 through November 30, 2018, the S-152 structure shall remain open until the stage measured at the Site 71 or the SRS-1 gages are above 9.0 feet, NGVD for more than 24 hours.
- Discharges from each of the outflow structures* for WCA-3B will be regulated to help avoid exceeding the deviation constraint limit measured at Site 71 or the SRS-1.
- If the WCA-3A, 3-gage average falls below the WCA-3A, Increment 2 Action Line prior to November 30, 2018, the WCA-3B outflow structures* will continue to be utilized until the stage measured at the Site 71 or SRS-1 recedes below 8.5 feet, NGVD. Operations are expected to transition the stage at Site 71 or SRS-1 from the deviation constraint limit to 8.5 feet, NGVD prior to WCA-3A stage receding below Zone A of the WCA-3A RS.

- Outflow structures' discharges will be subject to their respective downstream constraints.

*WCA-3B Outflow Structures: S-31, S-355A, S-355B, WCA-3B temporary outflow pumps placed at S-355B, S-335 (by way of seepage into the L-30 Canal from WCA-3B)