

APPENDIX A – OPERATIONAL STRATEGY

This page intentionally left blank

Operational Criteria for High Water Relief of WCA-3A (Protective Operational Criteria to Compensate for Sustained L-29 Stage of 8.5 feet NGVD)

To provide high water relief for WCA-3A it is possible to substantively increase the available discharge capacity through S-333 by raising the L-29 stage limit and by routing water along an eastern manually operated route (S-151, S-337, S-335, S-356, & G-211).

The following criteria are protective and implementable operational criteria to compensate for the sustained increased flow to Northeast Shark River Slough (NESRS) associated with raising the L-29 Stage Limit from 7.5 to 8.5 feet NGVD. It is expected that over the period when flows to NESRS are increased that the water level in NESRS and along the entire eastern boundary of Everglades National Park (ENP), will rise meaningfully.

The increased S-333 discharges associated with this action are expected to be of a relatively short duration. A fixed duration or target line (e.g. at or below the Zone A Regulation Schedule Line for WCA-3A) or a combination of both will need to be determined. There will be a meaningful (e.g. 60 day) recovery period once the L-29 constraint is returned to 7.5 feet NGVD, during which the water level would recede to stages typical of the recent hydrological conditions and the operational criteria of ERTF Increment 1. The lowered operational ranges will remain until this recovery period is completed. A fixed duration or target stages [e.g. being below the upper quartile (P75) at representative gages along the eastern boundary of ENP] or a combination of both will need to be determined. All structures will be operated within their design limits and Maximum Allowable Gate Limits (MAGO).

To the extent that the raised L-29 stage limit allows, S-333 discharges will be sent to Northeast Shark River Slough (NESRS). S-334 will be used to the extent that is required to maintain the L-29 stage below the current temporary stage limit. It is expected that the L-29 stage limit will be raised from 7.5 to 8.5 feet NGVD incrementally as high water issues are resolved with the vendors. Once the L-29 stage limit is raised above 8.3 feet NGVD that at least initially there will be sufficient capacity for all of S-333's full capacity. If the L-29 stage is below the raised L-29 stage limit with S-333 discharging at its' full capacity (1,350 cfs) the USACE may use S-356 to reduce the flow south through G-211 and control the L-31N stage north of G-211. In addition, if the L-29 stage peaks well below the 8.5 feet- NGVD limit, with S-333 discharging at the maximum rate allowed by its MAGO limits, water from WCA-3A can be delivered through the manual route of S-151, S-337, and S-356.

The drainage (S-335 minus S-337) of the L-30 canal by S-335 will be reduced (below historical rate for comparable conditions) to free up capacity through G-211 and at the S-332B, S-332C, and S-332D detention areas and along the C-111 Canal. To provide compensating groundwater drainage the western reaches (S-336 to G-119 and G-119 to S-380) of the C-4 Canal will be lowered to the extent practical. Water passed through the L-30 Canal (water released by S-337) can and will be used if the available L-29, L-31N, and C-111 capacity exceeds the S-333's capacity. The SFWMD will continue to have the ability to detain or supply water from the L-30 Canal to smooth operations or respond to short term loss of downstream capacity. The drainage of the L-30 canal by S-335 discharges will be reduced until there is sufficient capacity to meet the primary objective of maximizing the discharge from WCA-3A or WCA-3A's condition becomes more normal, or WCA-3B conditions become acutely adverse, or the headwater (HW) stage rises to above the top of S-335's gate at 8.0 feet NGVD. If S-335's HW stage rises above 8.0 feet S-335 gate may be opened as necessary prevent flow over the top of the gate.

Should flow through S-334 be needed then flows will be maximized to the extent the following constraints allow. However, if the L-31N stage rises above the operation ranges prescribed below then S-334 discharges will be reduced to 250 cfs or less until the canal daily average stage returns to within the prescribed ranges. If the available capacity at S-332B, S-332C, and S-332D is insufficient to maintain the L-31N below the top of the lowered operational range for more than 24 hours then all S-334 flow will be ceased until the L-31N stage is lowered and maintained in the lowered operational range for 24 hours.

S-338 discharges will be maximized (e.g. 250 to 300 cfs) to the extent that downstream conditions allow. This includes operating S-148 with an open/close of 3.0/2.5 for S-148 flows of less than 700 cfs and with an open/close of 3.5/3.0 (lower half of the low range) for S-148 flow greater than 700 cfs.

G-211 will discharge to the extent practical to convey S-334 and S-335 discharges, and to maintain the L-31N with the 5.7/5.3 stage range prescribed by Column 2 operations.

S-331 will be operated to maintain S-331's HW using the standard ranges lowered by 0.2 feet (normal 4.3 to 4.8 and low from 3.8 to 4.3) with the remaining criteria unchanged.

S-332B and S-332C will be operated to maintain the L-31N's average daily stage between 4.6 and 4.3; which is 0.2 feet lower than the Column 2 ranges of 4.8 and 4.5 feet NGVD.

S-332D will be operated to discharge up to 250 cfs to S-332D's detention area and up to 325 cfs to the Southern Detention Area (SDA) through S-332DX1 to maintain the L-31N's average daily stage between 4.6 and 4.3 feet NGVD.

Discharge to tide through the C-102 Canal will be maximized to the extent that downstream conditions allow. The SFWMD will continue to have full operational flexibility to operate S-165 within the low range of 3.0 to 1.9 feet NGVD. It is acknowledged that without remote control of S-194 (manually operated structure) that changes to S-194 will occur less frequently.

Discharge to tide through the C-103 Canal will be maximized to the extent that downstream conditions allow. The SFWMD will continue to have full operational flexibility to operate S-167 within its low range of 3.0 to 1.9 feet NGVD and to operate S-179 between 2.0 and 1.5 feet NGVD. It is acknowledged that without remote control of S-196 (manually operated structure) that changes to S-196 will occur less frequently.

S-176 will be operated to maintain the L-31N average daily stage within the operational range. The amount of inflow from S-334/S-335 and discharge through S-176 will be adjusted to compensate for the available pumping capacity at S-332B, S-332C, and S-332D to 1) maintain the L-31N average daily stage within the operational range of 4.6 to 4.3 feet NGVD while facilitating S-334 flows. The SFWMD has complete discretion to increase pumping to proactively maintain the stage near the bottom of the range. The intention is to make full use of the available capacity at S-332B, S-332C, and S-332D while allowing normal maintenance. During period of higher than normal rainfall S-334 discharges will be reduced as required to assist S-332B, S-332C, and S-332D in maintaining the canal stage at the bottom of the range. Equitable use of S-332B, S-332C, and S-332D is based on having the net inflow (S-331 minus S-194 minus S-196 minus S-176) into the L-31N reach between S-331 and S-176 be comparable to the volume sent to the C-111 Canal.

S-199 will be operated with all available capacity until March 1, 2016 at which time the availability of the pumps will require compliance with the criteria for the Cape Cable Seaside Sparrow Critical Habitat Unit 3 (formerly known as Sub-Population D) ; stage at EVER4 below 2.36 feet NGVD.

S-200 will be operated with all available capacity until March 1, 2016 at which time the availability of the pumps will require compliance with the criteria for the Cape Cable Seaside Sparrow Critical Habitat Unit 2 (formerly known as Sub-Population C) ; stage at R3110 below 4.95 feet NGVD.

S-177 will be operated to maintain an average daily stage below 3.6 but no lower than 3.0 in the upstream reach of the C-111 Canal. The goal will be to maintain a fairly steady discharge through S-177 based on, but not limited to, the average daily/24-hour or instantaneous discharge from S-176 minus the flow through S-199. At times it will be necessary to discharge more than this amount due to rapid changes in the canal stage from rainfall and or increased inflow from S-176 and when S-199/S-200 are unavailable due to CSSS operation constraints.

S-18C will be fully open (gates out of the water) to maintain the Column 2 operational range of 2.25 to 2.0.

S-197 will be operated to maintain the S-18C's Daily Average HW between 2.6 and 2.3 feet NGVD with a daily discharge limit which does not exceed 400 cfs (half of the typical flow for a one third opening of S-197. This will result in discharges larger than those prescribed by the ERTF Increment 1 when WCA-3A is above the High Water Action Line (Case 3). S-197 discharge will be reduced as the stage declines towards 2.3 feet NGVD using S-176 and S-177 discharges as an indicator of inflows. S-197 shall be closed if S-18C HW fall below 2.3 feet NGVD. For the expected duration of this deviation (February through April) the stage of 2.3 represents a stage well above the historical median.

Operational Changes for WCA-3B in Response to High Water in WCA-3A

To provide some high water relief for WCA-3A the S-151 and S-152 structure will be used to release water from WCA-3A into WCA-3B to the extent that the Trigger Stage (measured at Site 71) of 8.5 feet NGVD allows. The preferred inflow route for WCA-3B is through S-152 but S-151 may be used if S-152 is unavailable. The operation of S-152 can be partially or fully open. If the Trigger stage is exceeded for more than 24 hours then all inflows shall be closed until the stage at Site 71 declines to below the Trigger Stage for more than 24 hours. If the stage in the L-29 allows the manually operated S-355A/S-355B will be opened to release water from WCA-3B with some minor back flow expected at times. The opening of S-355A/S-355B will likely extend past the L-29 Stage relaxation period. If the Site 71 constraint is raised and there is capacity available the L-30 canal may be lowered to provide groundwater drainage of WCA-3B.

Operational Flexibility Allowed (for all sections)

To address uncertainties, present or future system conditions, the following actions may be taken for any duration throughout the effect of the temporary deviation:

- Adjust stages upstream of S-357 and S-331 +/- 0.7 feet to maximize and/or optimize conditions consistent with the purpose.
- Adjust stages within the applicable canal system +/- 0.5 feet to maximize and/or optimize conditions consistent with the purpose.

- Adjust gate openings, pump rates and/or flows as needed to maximize and/or optimize conditions consistent with the purpose.

**TABLE A-1. OPERATING CRITERIA FOR TEMPORARY EMERGENCY DEVIATION: COMPARISON TO INCREMENT 1
AND 2012 WATER CONTROL PLAN**

Operational Document	Operational Component	Column 1: No WCA-3A Regulatory Releases to SDCS or SRS	Column 2: WCA-3A Releases to SDCS
Temporary Deviation for Increment 1	Note: Column 1 is the desired column to send releases to ENP. Column 2 would be used when constraints (such as but not limited to L-29, G-3273, or capacity in the SDCS) and considerations (such as but not limit to anticipated rainfall events, water quality, and other ecological benefits) exist. Transition to or from columns will be based on both current and anticipated conditions. When WCA-3A stage is above the Increment 1 Action Line (Figure 1): C-111 structures (S-332B, S-332C, S-332D, S-176, S-177, S-18C, S-194, and S-196) are operated according to the 2012 WCP Column 2 criteria. When Hydraulic Testing for detention areas between S-331 and S-177: Hydraulic testing is not to exceed one month duration and limits of keeping L-31N no lower than Column 2 (4.5 feet, NGVD) by S-332B, S-332C, S-332D or S-176. Hydraulic testing is not to exceed one month duration and limits of keeping C-111 Canal no lower than the C-111 Spreader Canal Western Project Preliminary Project Operating Manual off criteria for S-199 and S-200 (3.6 feet, NGVD), which is the same as the Column 1 and Column 2 gate closure criteria for S-177.		
Temporary Emergency Deviation	Note: The Temporary Emergency Deviation is to last for up to 90 days beginning February 12, 2016 followed by a 60 day recovery period. The purpose of the criteria is to compensate for the sustained increased flow to Northeast Shark River Slough (NESRS) associated with raising the L-29 Stage Limit from 7.5 to 8.5 feet NGVD. It is expected that over the period when flows to NESRS are increased that the water level in NESRS, and along the entire eastern boundary of ENP, will rise meaningfully.		
2012 Water Control Plan	S-333: G-3273 less than or equal to 6.8 feet, NGVD	Rainfall Plan target flow for S-333 (to NESRS). When WCA-3A is in Zone E1 or Zone A, maximum practicable through S-333 to NESRS. Note: If FDOT has no roadway subbase concerns S-333 will be closed when the tailwater is above 9.0 feet, NGVD. However, when FDOT has roadway subbase concerns, S-333 will be closed when the tailwater is above 7.5 feet, NGVD. However, upon completion of the Tamiami Trail Bridge Modification these concerns may no longer exist.	Rainfall Plan target flow for S-333 (to NESRS), plus as much of the remaining Rainfall Plan target flow that the S-12s cannot discharge to be passed through S-334 and subject to capacity constraints, which are 1,350 cfs at S-333, L-29 maximum stage limit, and canal stage limits downstream of S-334. When WCA-3A is in Zone E1 or Zone A, maximum practicable through S-333 to NESRS. Note: If FDOT has no roadway subbase concerns S-333 will be closed when the tailwater is above 9.0 feet, NGVD. However, when FDOT has roadway subbase concerns, S-333 will be closed when the tailwater is above 7.5 feet, NGVD. However, upon completion of the Tamiami Trail Bridge Modification these concerns may no longer exist.
	S-333: G-3273 greater than 6.8 feet, NGVD	Closed	Match S-333 with S-334 flows.

**TABLE A-1. OPERATING CRITERIA FOR TEMPORARY EMERGENCY DEVIATION: COMPARISON TO INCREMENT 1
AND 2012 WATER CONTROL PLAN**

Operational Document	Operational Component	Column 1: No WCA-3A Regulatory Releases to SDCS or SRS	Column 2: WCA-3A Releases to SDCS
Temporary Deviation for Increment 1	S-333	Water supply. S-333 releases to L-29/NESRS subject to S-333/S-356 priority as defined in 1) thru 4) below and S-334 Temporary Deviation. This includes L-29 constraint (L-29 stage limitations): Stop flows into L-29 Canal when the L-29 Canal stage (average of S-333 TW and S-334 HW) rises above 7.5 feet, NGVD. 1) Year-round when stage at G-3273 is below 6.8 and when WCA-3A stage is below the Increment 1 Action Line (Figure 1) (S-333 has priority; S-356 use is secondary to S-333 but S-356 can and should be used subject to L-29 stage limitations): S-333 will be used to release up to the full rate prescribed by WCA-3A Regulation Schedule and the Rainfall Plan into NESRS subject only to the L-29 constraint. 2) Year-round when stage at G-3273 is above 6.8 and the WCA-3A stage is below the Increment 1 Action Line (Figure 1) (S-356 has limited priority over S-333): S-333 will be used to release up to the full rate prescribed by the WCA-3A Regulation Schedule and the Rainfall Plan into NESRS subject to the L-29 constraint and an assured minimum available capacity of 250 cfs through S-356. If 250 cfs at S-356 is not possible due to the L-29 constraint, then S-333 releases will be reduced to allow S-356 to achieve the minimum available capacity of 250 cfs, if the S-356 capacity is needed to maintain the target stage range in L-31N. 3) When WCA-3A stage is above the Increment 1 Action Line (Figure 1) from 1 November through 14 July (S-333 has priority with no use of S-356): S-333 makes maximum releases to NESRS subject to L-29 constraint, with no dependency or other constraints (S-334 Temporary Deviation). 4) When WCA-3A stage is above the Increment 1 Action Line (Figure 1) from 15 July through 31 October (S-333 has priority with no use of S-356): S-333 makes maximum releases to NESRS subject only to L-29 constraint.	
Temporary Emergency Deviation	S-333	If the L-29 stage is below the raised L-29 stage limit with S-333 discharging at its' full capacity (1,350 cfs) the USACE may use S-356 to reduce the flow south and control the L-31N stage north of G-211. Note: To the extent that the raised L-29 stage limit allows, S-333 discharges will be sent to NESRS.	
2012 Water Control Plan	L-29 Borrow Canal	9.0* feet, NGVD * In order to raise the L-29 Borrow Canal above 7.5 feet, NGVD additional NEPA would need to be completed. Note: Refer to S-333 operations which address FDOT roadway subbase concerns.	
Temporary Emergency Deviation	L-29 Borrow Canal	L-29 Stage Limit raised to 8.5 feet NGVD.	

**TABLE A-1. OPERATING CRITERIA FOR TEMPORARY EMERGENCY DEVIATION: COMPARISON TO INCREMENT 1
AND 2012 WATER CONTROL PLAN**

Operational Document	Operational Component	Column 1: No WCA-3A Regulatory Releases to SDCS or SRS	Column 2: WCA-3A Releases to SDCS
2012 Water Control Plan	S-337	Water supply	Regulatory releases pursuant to WCA-3A Interim Regulation Schedule.
Temporary Emergency Deviation	S-337	If the L-29 stage peaks well below the 8.5 feet- NGVD limit, with S-333 discharging at the maximum rate allowed by its MAGO limits, water from WCA-3A could be delivered through the manual route of S-151, S-337, and S-356 as long as the pumping rate at S-356 exceeds the discharge rate at S-335.	
2012 Water Control Plan	S-151	Water supply	Regulatory releases pursuant to WCA-3A Interim Regulation Schedule.
Temporary Emergency Deviation	S-151	If the L-29 stage peaks well below the 8.5 feet- NGVD limit, with S-333 discharging at the maximum rate allowed by its MAGO limits, water from WCA-3A could be delivered through the manual route of S-151, S-337, and S-356 as long as the pumping rate at S-356 exceeds the discharge rate at S-335.	
2012 Water Control Plan	S-335	Water supply The intent is to limit the volume of water passed at S-335 to pre-ISOP conditions and not use S-332B, S-332C, or S-332D or other triggers to pass additional flows. Note: It is recognized that under these conditions operations of S-335 would be infrequent.	When making regulatory releases through S-151, limit S-335 outflows to not exceed inflows from the S-151/S-337 path. Use S-333/S-334 before S-151/S-337/ S-335
Temporary Emergency Deviation	S-335	S-335 discharges will be minimized with the western reaches (S-336 to G-119 and G-119 to S-380) of the C-4 Canal lowered to the extent practical. S-335 flows will be minimized to free up downstream capacity until WCA-3A condition becomes more normal, or WCA-3B conditions become acutely adverse, or the headwater (HW) stage rises to above the top of S-335's gate at 8.0 feet NGVD. If S-335's HW stage rises above 8.0 feet S-335 gate may be opened as necessary prevent flow over the top of the gate.	
2012 Water Control Plan	S-334	Water supply	Pass all or partial S-333 flows depending on stage at G-3273.

**TABLE A-1. OPERATING CRITERIA FOR TEMPORARY EMERGENCY DEVIATION: COMPARISON TO INCREMENT 1
AND 2012 WATER CONTROL PLAN**

Operational Document	Operational Component	Column 1: No WCA-3A Regulatory Releases to SDCS or SRS	Column 2: WCA-3A Releases to SDCS
Temporary Emergency Deviation	S-334	S-334 will only be used to the extent that is required to maintain the L-29 stage below the temporary stage limit of 8.5 feet while operating S-333 within its MAGO limits (maximum of 1,350 cfs). Should flow through S-334 be needed then flows will be maximized to the extent the following constraints allow. However, if the L-31N stage rises above the operation ranges prescribed below then S-334 discharges will be reduced to 250 cfs or less until the canal daily average stage returns to within the prescribed ranges. If the available capacity at S-332B, S-332C, and S-332D is insufficient to maintain the L-31N below the top of the lowered operational range for more than 24 hours then all S-334 flow will be ceased until the L-31N stage is lowered and maintained in the lowered operational range for 24 hours.	
2012 Water Control Plan	S-338	Open 5.8 feet, NGVD Close 5.5 feet, NGVD	Open 5.8 feet, NGVD Close 5.4 feet, NGVD
Temporary Emergency Deviation	S-338	S-338 discharges will be maximized (e.g. 250 to 300 cfs) to the extent that downstream conditions allow. Note: This includes operating S-148 with an open/close of 3.0/2.5 for S-148 flows of less than 700 cfs and with an open/close of 3.5/3.0 (lower half of the low range) for S-148 flow greater than 700 cfs.	
2012 Water Control Plan	G-211	Open 6.0 feet, NGVD Close 5.5 feet, NGVD Note: If S-331 pumping is limited and the G-211 tailwater rises above 5.3 feet, NGVD then close G-211.	Open 5.7 feet, NGVD Close 5.3 feet, NGVD Note: If S-331 pumping is limited and the G-211 tailwater rises above 5.3 feet, NGVD then close G-211.
Temporary Emergency Deviation	G-211	G-211 will discharge to the extent practical to convey S-334 discharges, and to maintain the L-31N with the 5.7/5.3 stage range prescribed by Column 2 operations	

**TABLE A-1. OPERATING CRITERIA FOR TEMPORARY EMERGENCY DEVIATION: COMPARISON TO INCREMENT 1
AND 2012 WATER CONTROL PLAN**

Operational Document	Operational Component	Column 1: No WCA-3A Regulatory Releases to SDCS or SRS	Column 2: WCA-3A Releases to SDCS
2012 Water Control Plan	S-331 resulting from the 2011 8.5 SMA Project EA FONSI	“High Range”: When LPG2 is less than 5.5 feet, NGVD, the “high range” applies and S-331 headwater will have no limit. “Intermediate Range”: When LPG2 is between 5.5 and less than 6.0 feet, NGVD, the “intermediate range” applies and S-331 average-daily headwater will be maintained between 4.5 and 5.0 feet, NGVD to the extent allowable by downstream conditions. “Low Range”: When LPG2 is at or above 6.0 feet, NGVD and S-357 constraints are limiting the ability of maintaining C-357 average-daily water level below 6.2 feet, NGVD, the “low range” applies and S-331 average-daily headwater will be maintained between 4.0 and 4.5 feet, NGVD to the extent allowable by downstream conditions and for a minimum of 24 hours. “Low Range Adjustment”: When LPG2 is at or above 6.0 feet, NGVD and S-357 constraints are not limiting the ability of maintaining C-357 average-daily water level below 6.2 feet, NGVD, the “low range adjustment” applies and S-331 average-daily headwater will be maintained between 4.5 and 5.0 feet, NGVD to the extent allowable by downstream conditions. Additional Operating Information: 1. When operating near range limits operations may be adjusted to the nearest range without reaching the range. This allows a transition to the next projected range or to avoid rapid changes in operating ranges. 2. S-331 “Low Range” may be used instead of the “Low Range Adjustment” to further the understanding of the hydrology and hydraulics of the 8.5 SMA conditions during ideal or acceptable meteorological and climate conditions, in order to provide data to help define a long-term solution to issues related to the S-357 pump station or during times of construction. 3. If the USACE determines the use of the “Low Range” instead of the “Low Range Adjustment” reduces or prevents undesirable seepage effects within the flood mitigation area due to S-357 operations, then the “Low Range” will be used instead of the “Low Range Adjustment” until the undesirable seepage effects from S-357 are modified by other operational or structural changes. 4. Evaluation to use the “Low Range Adjustment” instead of the “Low Range” should be done on a daily basis. 5. The operational ranges may be changed immediately in response to the trigger stage. Note: If S-331 tailwater is above 6.0 feet, NGVD or the S-176 headwater is above 5.5 feet, NGVD then no pumping at S-331. Under normal conditions, pumping at S-331 should be limited to two pumps or less.	
Temporary Emergency Deviation	S-331 resulting from the 2011 8.5 SMA Project EA FONSI	S-331 will be operated to maintain S-331’s HW using the standard ranges lowered by 0.2 feet (normal 4.3 to 4.8 and low from 3.8 to 4.3) with the remaining criteria unchanged.	

**TABLE A-1. OPERATING CRITERIA FOR TEMPORARY EMERGENCY DEVIATION: COMPARISON TO INCREMENT 1
AND 2012 WATER CONTROL PLAN**

Operational Document	Operational Component	Column 1: No WCA-3A Regulatory Releases to SDCS or SRS	Column 2: WCA-3A Releases to SDCS
2012 Water Control Plan	S-332B	Pumped up to 575 cfs* On 5.0 feet, NGVD Off 4.7 feet, NGVD *Pump to capacity if limiting conditions within the Sparrow habitat are not exceeded. There will be no overflow into ENP. Note: There are two 125-cfs pumps and one 75-cfs pump directed to the Southern Detention Area. The remaining two 125-cfs pumps are directed to the north seepage reservoir.	Pumped up to 575 cfs* On 4.8 feet, NGVD Off 4.5 feet, NGVD *Pump to capacity if limiting conditions within the Sparrow habitat are not exceeded. There will be no overflow into ENP. Note: There are two 125-cfs pumps and one 75-cfs pump directed to the Southern Detention Area. The remaining two 125-cfs pumps are directed to the north seepage reservoir.
	S-332B North Seepage Reservoir	The north reservoir is a 240-acre reservoir located to the north of the pump station with a weir discharging to the east. This seepage reservoir will have a normal maximum water depth of 2.0 feet. This 2.0 feet depth corresponds to 8.8 feet, NGVD at S-332B (North) tailwater. However, if USACE determines that a flood emergency exists similar to an event like the “No Name” storm, the depth of water would be increased to 4.0 feet, when possible.	
	S-332C	Pumped up to 575 cfs* On 5.0 feet, NGVD Off 4.7 feet, NGVD *Pump to capacity unless habitat conditions are not being achieved within the Rocky Glades. There will be no overflow into ENP.	Pumped up to 575 cfs* On 4.8 feet, NGVD Off 4.5 feet, NGVD *Pump to capacity unless habitat conditions are not being achieved within the Rocky Glades. There will be no overflow into ENP.
Temporary Emergency Deviation	S-332B & S-332C	S-332B and S-332C will be operated to maintain the L-31N’s average daily stage between 4.6 and 4.3; Note: This elevation is 0.2 feet lower than the Column 2 ranges of 4.8 and 4.5 feet NGVD.	
2012 Water Control Plan	S-332D	Pump up to 500 cfs from 15 July (or the end of the breeding season, as confirmed by FWS) through 30 November; 325 cfs from 1 December through 31 January; and 250 cfs from 1 February through 14 July. On 4.85 feet, NGVD Off 4.65 feet, NGVD	Pump up to 500 cfs from 15 July (or the end of the breeding season, as confirmed by FWS) through 30 November; 325 cfs from 1 December through 31 January; and 250 cfs from 1 February through 14 July. On 4.7 feet, NGVD Off 4.5 feet, NGVD
Temporary Emergency Deviation	S-332D	S-332D will be operated to discharge up to 250 cfs to S-332D’s detention area and up to 325 cfs to the Southern Detention Area (SDA) through S-332DX1 to maintain the L-31N’s average daily stage between 4.6 and 4.3 feet NGVD.	

**TABLE A-1. OPERATING CRITERIA FOR TEMPORARY EMERGENCY DEVIATION: COMPARISON TO INCREMENT 1
AND 2012 WATER CONTROL PLAN**

Operational Document	Operational Component	Column 1: No WCA-3A Regulatory Releases to SDCS or SRS	Column 2: WCA-3A Releases to SDCS
2012 Water Control Plan	S-332DX1	Open when stage difference between RG4 and NTS18 exceeds 1.0 foot and CR2 stage is higher than NTS18 stage (Gage locations shown on Figure 7-7). RG4 and CR2 typically have higher water levels than NTS18. Utilize RG4 water level gage located in northern portion of the SDA, NTS18 water level gage located in southern portion of the SDA, and CR2 water level gage located in ENP west of the SDA. Close when stage difference between RG4 and NTS18 is less than 0.25 feet or NTS18 stage is 0.75 feet greater than CR2 stage. ENP may make a recommendation to USACE to adjust the open/close criteria by + or – 0.5 feet.	
Temporary Emergency Deviation	S-332DX1	S-332D will be operated to discharge up to 250 cfs to S-332D's detention area and up to 325 cfs to the Southern Detention Area (SDA) through S-332DX1 to maintain the L-31N's average daily stage between 4.6 and 4.3 feet NGVD.	
2012 Water Control Plan	S-194	Open 5.5 feet, NGVD Close 4.8 feet, NGVD	Operated to maximize flood control discharges to coast Open 4.9 feet, NGVD Close 4.5 feet, NGVD
Temporary Emergency Deviation	S-194	Discharge to tide through the C-102 Canal will be maximized to the extent that downstream conditions allow. The SFWMD will continue to have full operational flexibility to operate S-165 within the low range of 3.0 to 1.9 feet NGVD. It is acknowledged that without remote control of S-194 (manually operated structure) that changes to S-194 will occur less frequently.	
2012 Water Control Plan	S-196	Open 5.5 feet, NGVD Close 4.8 feet, NGVD	Operated to maximize flood control discharges to coast Open 4.9 feet, NGVD Close 4.5 feet, NGVD
Temporary Emergency Deviation	S-196	Discharge to tide through the C-103 Canal will be maximized to the extent that downstream conditions allow. The SFWMD will continue to have full operational flexibility to operate S-167 and S-179 within their low ranges of 3.0 to 1.9 feet NGVD and 3.1 to 2.7 feet NGVD. It is acknowledged that without remote control of S-196 (manually operated structure) that changes to S-196 will occur less frequently.	

**TABLE A-1. OPERATING CRITERIA FOR TEMPORARY EMERGENCY DEVIATION: COMPARISON TO INCREMENT 1
AND 2012 WATER CONTROL PLAN**

Operational Document	Operational Component	Column 1: No WCA-3A Regulatory Releases to SDCS or SRS	Column 2: WCA-3A Releases to SDCS
2012 Water Control Plan	S-176	Open 5.0 feet, NGVD Close 4.75 feet, NGVD	Open 4.9 feet, NGVD Close 4.7 feet, NGVD
Temporary Emergency Deviation	S-176	S-176 will be operated to maintain the L-31N average daily stage within the operational range. The amount of inflow from S-334 and discharge through S-176 will be adjusted to compensate for the available pumping capacity at S-332B, S-332C, and S-332D to 1) maintain the L-31N average daily stage within the operational range of 4.6 to 4.3 feet NGVD while facilitating S-334 flows.	
2012 Water Control Plan	S-177	Open 4.2 feet, NGVD (see S-197 open) Close 3.6 feet, NGVD	
Temporary Emergency Deviation	S-177	S-177 will be operated to maintain an average daily stage below 3.6 feet, NGVD in the upstream reach of the C-111 Canal.	
2012 Water Control Plan	S-18C	Open 2.6 feet, NGVD Close 2.3 feet, NGVD	Open 2.25 feet, NGVD Close 2.0 feet, NGVD
Temporary Emergency Deviation	S-18C	S-18C will be fully open (gates out of the water) to maintain the Column 2 operational range of 2.25 to 2.0 feet, NGVD.	

**TABLE A-1. OPERATING CRITERIA FOR TEMPORARY EMERGENCY DEVIATION: COMPARISON TO INCREMENT 1
AND 2012 WATER CONTROL PLAN**

Operational Document	Operational Component	Column 1: No WCA-3A Regulatory Releases to SDCS or SRS	Column 2: WCA-3A Releases to SDCS
2012 Water Control Plan	S-197	If S-177 headwater is greater than 4.1 feet, NGVD or S-18C headwater is greater than 2.8 feet, NGVD, open 3 culverts. If S-177 headwater is greater than 4.2 feet, NGVD for 24 hours or S-18C headwater is greater than 3.1 feet, NGVD; open 4 more culverts for a total of 7 culverts open. If S-177 headwater is greater than 4.3 feet, NGVD or S-18C headwater is greater than 3.3 feet, NGVD, then open 6 more culverts for a total of 13 culverts open. Close gates when all the following conditions are met: 1. S-176 headwater is less than 5.2 feet, NGVD and S-177 headwater is less than 4.2 feet, NGVD. 2. Storm has moved away from the basin 3. After Conditions 1 and 2 are met, keep the number of S-197 culverts open necessary only to match residual flow through S-176. All culverts should be closed if S-177 headwater is less than 4.1 feet, NGVD after all conditions are satisfied.	
Temporary Emergency Deviation	S-197	S-197 will be operated to maintain the S-18C’s Daily Average HW between 2.6 and 2.4 feet, NGVD with a daily discharge limit which does not exceed the smaller of 1) the previous day’s average pumping at S-331, 2) the previous day’s average discharge through S-176, 3) the previous days average discharge through S-177, and 4) 400 cfs (half of the typical flow for a one third opening of S-197. This will result in discharges larger than those prescribed by the ERTF Increment 1 when WCA-3A is above the High Water Action Line (Case 3).	
2012 Water Control Plan	S-356	When conditions permit (i.e., G-3273 and L-29 constraints), discharges from S-356 will go into L-29. Pumping will be limited to the amount of seepage into L-31N in the reach between S-335 and G-211. A technical team will evaluate pumping limits and operations. The pumps will be operated accordingly.	When conditions permit (i.e., no S-334 regulatory releases and G-3273 and L-29 constraints), discharges from S-356 will go into L-29. Pumping will be limited to the amount of seepage into L-31N in the reach between S-335 and G-211. A technical team will evaluate pumping limits and operations. The pumps will be operated accordingly.
Temporary Emergency Deviation	S-356	If the L-29 stage is below the raised L-29 stage limit with S-333 discharging at its’ full capacity (1,350 cfs) the USACE may use S-356 to reduce the flow south and control the L-31N stage north of G-211.In addition, if the L-29 stage peaks well below the 8.5 feet- NGVD limit, with S-333 discharging at the maximum rate allowed by its MAGO limits, water from WCA-3A could be delivered through the manual route of S-151, S-337, and S-356 as long as the pumping rate at S-356 exceeds the discharge rate at S-335.	
Temporary Emergency Deviation	<u>South Florida Water Management District (SFWMD) Operated structures :</u> S-199 will be operated with all available capacity until March 1, 2016 at which time the availability of the pumps will require compliance with the criteria for the Cape Cable Seaside Sparrow Critical Habitat Unit 3 (formerly known as Sub-Population D) ; stage at EVER4 below 2.36 feet NGVD. S-200 will be operated with all available capacity until March 1, 2016 at which time the availability of the pumps will require compliance with the criteria for the Cape Cable Seaside Sparrow Critical Habitat Unit 3 (formerly known as Sub-Population D) ; stage at R3110 below		
Temporary Emergency Deviation	<u>Operational Changes for WCA-3B in Response to High Water in WCA-3A:</u> To provide some high water relief for WCA-3A the S-151 and S-152 structure will be used to release water from WCA-3A into WCA-3B to the extent that the Trigger Stage (measured at Site 71) of 8.5 feet NGVD allows. The preferred inflow route for WCA-3B is through S-152 but S-151 may be used if S-152 is unavailable. 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 approaches the Trigger Stage. If the Trigger stage is exceeded for more than 24 hours then all inflows shall be closed until the stage at Site 71 declines to below the Trigger Stage for more than 24 hours.		

**TABLE A-1. OPERATING CRITERIA FOR TEMPORARY EMERGENCY DEVIATION: COMPARISON TO INCREMENT 1
AND 2012 WATER CONTROL PLAN**

Operational Document	Operational Component	Column 1: No WCA-3A Regulatory Releases to SDCS or SRS	Column 2: WCA-3A Releases to SDCS
Temporary Emergency Deviation			Operational Flexibility Allowed: To address uncertainties, present or future system conditions, the following actions may be taken for any duration throughout the effect of the temporary deviation: • Adjust stages upstream of S-357 and S-331 +/- 0.7 feet to maximize and/or optimize conditions consistent with the purpose. • Adjust stages within the applicable canal system +/- 0.5 feet to maximize and/or optimize conditions consistent with the purpose. • Adjust gate openings, pump rates and/or flows as needed to maximize and/or optimize conditions consistent with the purpose.