



United States Department of the Interior



FISH AND WILDLIFE SERVICE
South Florida Ecological Services Office
1339 20th Street
Vero Beach, Florida 32960

August 8, 2017

Jason A. Kirk, Colonel
District Commander
U.S. Army Corps of Engineers
701 San Marco Boulevard, Room 372
Jacksonville, Florida 32207-8175

Service Consultation Code: 2015-F-0241
Date Received: July 7, 2017
Project: Planned Temporary Deviation
Applicant: U.S. Army Corps of Engineers
County: Broward, Miami-Dade and Monroe

Dear Colonel Kirk:

The U.S. Fish and Wildlife Service (Service) acknowledges receipt on July 7, 2017, of the U.S. Army Corps of Engineers' (Corps) Biological Assessment (BA) for the effects of the Planned Temporary Deviation regarding the operation of various water control structures (S-12A, S-12B, S-343A, S-343B, S-344, and S-332D) (Temporary Deviation) in Broward, Miami-Dade, and Monroe counties. The Corps requested emergency consultation under the Endangered Species Act of 1973, as amended (Act) (87 Stat. 884; 16 U.S.C. 1531 *et seq.*) on June 22, 2017, and June 26, 2017. On June 27, 2017, the Service concurred with the Corps' species effects determination of may affect, not likely to adversely affect for the endangered Everglade snail kite and threatened wood stork. The Service did not concur with the Corps' determination for the endangered Cape Sable seaside sparrow, and determined that formal consultation for this species was necessary.

Service staff has reviewed the Corps' BA for the Temporary Deviation and provides the enclosed comments and requests for additional information. This letter is submitted in accordance with section 7 of the Act.

Thank you for your cooperation and effort in protecting fish and wildlife resources. The Service looks forward to working with the Corps to conclude this Temporary Deviation as soon as possible and return to normal operations as outlined as part of the 2012 Water Control Plan, Comprehensive Everglades Restoration Plan, Everglades Restoration Transition Plan-2016, and

operational guidelines. If you have any questions regarding these comments, please contact me at 772-469-4299 or by e-mail at Donald_Progulske@fws.gov.

Sincerely yours,

A handwritten signature in blue ink that reads "Donald R. Progulske". The signature is fluid and cursive, with a long horizontal stroke at the end.

Donald (Bob) Progulske
Everglades Program Supervisor
South Florida Ecological Services Office

Enclosure

cc: w/enclosure (electronic copy only)
Corps, Jacksonville, Florida (Andrew Loschiavo, Gina Paduano Ralph)

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Page 4 – The Corps references a 90-120 day average annual hydroperiod. This should be corrected to an average 90-210 day discontinuous hydroperiod.

Page 7 – The Corps states that they “expect to raise the L-29 Canal maximum operating limit to 7.8 feet NGVD by October 2017.” The ERTTP-2016 Biological Opinion (BO) Reasonable and Prudent Alternative (RPA) established March 1, 2017 as the date to be able to meet that stage by, not October. This delay in raising the L-29 stage is due to the contract for construction within C-111 South Dade and 8.5 SMA not being completed. After further discussion with various Corps’ staff, it is believed that the L-29 stage will be able to increase to 7.8 feet by the end of August.

Page 7 – The Corps lists several reasons why they can’t raise the L-29 canal stage to 7.8 feet NGVD at this time. Most of those reasons are expected to be resolved by the end of July or August. The Corps states that acquiring flowage easements from FDOT and DOI acquisitions still needs to be completed before they can increase water levels. It was mentioned in a previous meeting that the Corps expected to take several months to complete paperwork for the FDOT easements along Tamiami Trail. The Service recommends that this process should be expedited on a higher level if necessary, in order to complete the required real estate interests so that stages in the L-29 canal can be increased.

Page 9 – The Corps states that the Service cancelled or rescheduled the ERTTP Leadership Group Meeting and has not provided additional dates for consideration. The previous meetings were postponed through a mutual agreement of the Corps and Service leadership. We continue to work with SAD and our Regional Office to establish an acceptable time for this meeting.

Page 9 – The Corps states that the ERTTP-2016 BO acknowledges that the RPA is subject to “timely completion of several ongoing and planned construction projects”. These caveats were included in the RPA at the Corps’ request. They were included to acknowledge that there is a risk to timely execution of the RPAs due to uncertainties with funding and contracting schedules. However, this acknowledgement of risks and uncertainties does not remove the Corps responsibility to fulfill the intent of the RPA.

Page 11 – The Corps “is seeking temporary deviation from the 2012 Water Control Plan”...“until the WCA-3A 3-station gauge average falls below Zone A of the WCA 3A Regulation Schedule.” This appears to be an open ended request and could continue indefinitely depending on how water management actions are executed. Does the Corps have an estimate of when Zone A might be reached? Does this impact the ability of the Corps to close the S-12A/B gates and other structures on schedule as outlined in the BO?

Page 11 – The Corps cites the risk of severe ecologic and economic losses due to prolonged high water levels as the reason for this emergency request. However, in the Corps’ telephone conversations with Larry Williams and the letter dated June 29, 2017, public health, safety,

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welfare and property, in addition to the environmental risks, were cited as the reasons for the requested deviation. Our response to the Corps, dated June 27, 2017, specifically cited the risks to human health and safety as the reason for accepting the emergency deviation. Has the risk to human health and safety been reduced to a point where it is no longer a reason for the emergency deviation?

Page 11 – The Corps refers to “Increment Plus Operational Strategy”. This should be Increment 1 Plus. Later on this page, the Corps states that “All areas of South Florida are inundated with water.” This appears to be an overstatement since several areas of CSSS habitat, as well as other regions within south Florida, remain dry at this time. The majority of rainfall fell across the Water Conservation Areas (WCA), not the Kissimmee basin, Lake Okeechobee, and Everglades National Park.

Page 12 – Figure 2 on this page should actually be labelled as Figure 1. The resulting change in figure numbers throughout the document should be adjusted within the text.

Page 13 – The Corps recommends “evaluating and implementing all available and appropriate water management options to immediately lower WCA-3A high water stages when the WCA-3A gauge average stage is forecast to exceed 12.7 feet NGVD.” Even though this stage was never reached, the Corps acted to utilize all structures to avoid the possibility of this happening. The maximum stage that was reached was around 11.3 feet on July 13, 2017.

Page 20 – The Corps provides a paragraph on how the marl prairies west of Shark River Slough are not a natural feature of the Everglades and that it is a product of reduced flows to the region due to years of water management. This statement could be seen by some as an attempt at minimizing the importance of CSSS-A and establishing a line of reasoning against CSSS management for this subpopulation. The Service does not believe this is an appropriate conclusion to make for the assessment of effects of the action considered within the BA. Even if the habitat was a result of drier conditions caused by water management practices, the ESA looks at the present condition and distribution of a species when assessing the effects of an action.

Page 21 – Documentation of Bernhardt and Willard (2006) is missing in the Literature Cited section. A review of the literature indicates that the authors analyzed two core samples located in Rattlesnake Ridge. To conclude that all “marl prairies west of SRS are not a natural feature of the Everglades landscape” based on the two core samples analyzed by this study may not be appropriate. The authors concluded that “further sampling of modern marl prairie communities and adjacent communities is necessary to document the pre- and post-drainage distribution of marl prairie.” CSSS have been documented west of SRS as early as 1932 and within the Big Cypress and Ochopee areas since the 1940s, indicating that sufficient CSSS habitat existed west of SRS prior to water management actions.

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Page 25 – Table 4 – The following corrections should be made to the table and effects determined.

Blodgetts silverbush	Threatened
Florida bristle fern	Endangered
Florida prairie clover	Candidate
Crenulate lead plant	Endangered
Carter’s small flowered flax	Endangered, Critical Habitat
Florida Brickell-bush	Endangered, Critical Habitat
Florida semaphore cactus	Endangered, Critical Habitat
Sand flax	Endangered

Page 26 – Section 5.3 Designated Critical Habitat does not include Carter’s small flowered flax, Florida Brickell-bush, and Florida semaphore cactus critical habitat.

Page 28 – The Corps states that CSSS have successfully nested in areas where “water levels were extremely high...approaching knee deep”. However, the Corps neglects to consider that even though some nests may be successful, these high water levels also expose CSSS to increased predation and greater vulnerability to smaller changes in water level which result in nest flooding.

Page 29 – The Corps refers to and cites studies from 1993 and 1998 regarding the “10 centimeter rule” for nesting heights and behavior in the marl prairie. More recent studies are available that reveal that additional complexities exist in the relationship between nest height, flooding, success, depredation and seasonality (Baiser et al. 2008, Boulton et al. 2009, Boulton et al. 2011, Dean and Morrison 2001, Lockwood et al. 2008, Pimm et al. 2014, Post and Greenlaw 2009, and Virzi and Davis 2013).

Page 29 – The Corps references successful nesting in areas where water depths were “approaching knee deep at times.” While there are a few accounts of nesting activity in habitat with higher water levels, the vast majority of CSSS research supports the fact that the most successful nesting conditions are related to drier habitat conditions with minimal surface water. In the third paragraph on this page, the Corps supports this by citing studies that conclude “Nearly all nests that fail appear to fail due to predation, and predation rates appear to increase as water level increases...”

Page 32 –Data should be included for current population estimates; 2016 – 2,416 birds (25% decrease from 2015, below ERTTP trigger level of 2,915), and 2017 – estimated 3,280 birds (above ERTTP2 trigger level of 2,281 and highest estimated number since 2004).

Page 33 – Update table with preliminary 2017 data.

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Page 34 –Update graph with 2016 and 2017 data.

Page 35 – The Corps states “CSSS-A, once thought to be critical to the existence of CSSS...” The Service is not sure why the Corps has made this statement. Although the original CSSS-A boundary was not selected for Cape Sable seaside sparrow critical habitat designation when revised, the subpopulation remains vital to the effort to restore a self-sustaining CSSS population in the Everglades ecosystem, and encompasses the largest potential subpopulation habitat of the six existing. It also represents the potential for longer term viable habitat in consideration of projected sea level rise scenarios.

Page 35 – The Service recommends that the Corps include a discussion of the 2016 and 2017 CSSS-A bird count and population estimate data. The Corps uses 2002 as the lowest population count (2,704 birds) and neglects to include the 2016 data (2,416 birds).

Page 37 – Second paragraph. As of the date of these comments, we now have documentation of the effects of these operations, especially the S-12A and S-12B, and the S-332D. Actual events will be used to assess the effects of the action on the species.

Page 38 – “In order to avoid overtopping, which will trigger a limited gate opening sufficient to prevent the gate overtopping condition for the applicable structure(s), USACE would need to open these structures prior to the July 8, 2017 date. An overtopping date of July 8, 2017 represents an earlier opening period of approximately 6 days.” This appears to state that in order to avoid opening the gates 6 days early the Corps would open the gates 3 weeks early. How is this justification for the deviation request?

Page 38 – The Corps states that 30,000 acre feet of water is projected to go through S-12A/B between June 27 and July 15 resulting in a stage increase at NP-205 of 2.17 inches. The Corps has based their affects analysis on this projected stage increase. Actual events indicate that this was a gross underestimate of the stage increase which had increased by 10.5 inches between June 28 and July 15. The Corps should review the actual events to determine the source of the error in these estimates and revise their affects analysis appropriately. Additionally, the Corps appears to have not taken into consideration the current above ground water depth within CSSS-A when assessing the effects of the stage increase. Specifically, the Corps stated “This volume of water is anticipated to increase stages at NP-205 by approximately 5.49 centimeters (2.17 inches). Since the average CSSS nest height during the wet season is 21 centimeters (8.3 inches), USACE does not anticipate that opening the structure prior to the projected opening date of July 15 will adversely affect nesting CSSS.” This appears to be an attempt by the Corps to fine tune operations adjusted to very tight water levels in relation to nest height close to levels that might flood or increase depredation of nests, and that the CSSS might tolerate in infrequent instances. The Service does not support making these kinds of decisions where margins of error in the calculations can result in take of a listed species. However, if the Corps decides to do this, they

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need to ensure that wide-ranging and current data is available to make those real-time determinations.

Page 38 – The Corps stated that “Despite implementation of these steps WCA 3A is projected to continue to rise and reach the top of the S-12A and S-12B slide gates at elevation 11.0 feet NGVD around July 8, 2017.” However, it appears that the Corps was not using the most recent stage data in their calculations. Since water levels were only increasing at a rate of 0.21'/week around June 20th and there was very little rainfall expected in the long range forecast, the rate of rise would have led to water levels reaching 11 feet NGVD at S-12A on July 25th and on July 28th at S-12B. It is apparent that the use of old stage data led to an over estimate when compared to actual occurrences. The headwater and tailwater stages at S-12A and S-12B quickly reached equilibrium once the gates were open and the stages never exceeded 10.4 feet between June 28 and July 15.

Page 38 – Immediately following the prolonged rain events in early June, the 3-avg ascension rate was 0.50'/week. In mid- and late-June, rainfall became sparse slowing the rate of water level rise to 0.03'/day or 0.21'/week by June 20th. However, the Corps' estimate that water levels at the 3-avg would be 12.7' NGVD by July 15th only considered the 0.50'/week ascension and did not incorporate the fact that water level ascension rates were already slowing and the rain forecast was for very little rainfall. Water levels eventually reached a maximum stage of about 11.25' NGVD, more than a foot below the predicted maximum. The result was an overestimation of stages in southern WCA-3A. More current ascension rates should have been used in the calculations.

Page 38 - Nearly 25,000 acre feet of water discharges occurred between June 29th and July 15th from opening S-12A/B early. This added nearly 7 inches of new water depths into the nesting marl prairie, while lowering stages in WCA-3A by 0.5 inch. However, it is important to acknowledge that the S-11 inflows were also reduced by 2,000 cfs at the same time the S-12A/B were opened. These reductions had a greater effect on lowering the ascension rate within WCA-3A than opening the S-12A/B.

Page 39 – The Service has several comments on this analysis. “Based on this evidence, USACE concludes that the amount of water that would reach CSSS-A between July 8, 2017 when the S-12A and S-12B are anticipated to overtop and July 15, 2017 when the gates no longer have CSSS restrictions, would not pose significant adverse effects even to the three active nests documented by FWS on June 27, 2017.” 1) Even though the Corps projected the overtopping to occur on July 8, there is no evidence that it would have actually occurred. Ascension rates were already slowing and it is possible that the S-12A/B structures would not have overtopped until after the July 15 opening date. 2) The structures were open on June 29, so an analysis based on a projected overtopping on July 8 is not sufficient. The analysis should have assessed the impacts of opening the S-12 structures on June 29, not July 8. 3) The 3 nests known by FWS were from a very small area where field crews were surveying. They did not represent all of the possible

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nests that could have been present in CSSS-A. The next status report from the field researchers indicated that 6 known nests were lost after the opening of the structures.

Page 39 – “According to FWS, there was documented nesting within CSSS-A between June 2 and June 16 and the average water depths within CSSS-A were approximately 9 inches above ground. Those nests appear to have successfully fledged.” It appears that the Corps is implying that even when water levels are 9 inches above ground, nests can successfully fledge. The 9 inch mean water depth figure the Corps is citing is based on the Sparrow Viewer tool and represents a calculation based on the entire boundary of subpopulation AX habitat. It is apparent upon viewing the maps during that period that the western half of CSSS-A is inundated to a much deeper level (12 to 18 inches) while areas to the east still remained dry and therefore the calculation for mean water depth is biased by that deeper water. The area(s) where sparrows had been documented are shown to be either dry or inundated to < 6 inches. Furthermore, ground researchers are only monitoring demographics within small plot areas and care must be taken when extending inferences to a larger scale.

Page 39 – “SFWMD positional analysis projections for stage levels at NP-205 indicate a zero percent probability of water stages receding below ground for the remainder of the 2017 wet season.” It appeared that the stage was receding at NP-205 prior to the S-12A/B opening. The recession rate that was occurring could have resulted in water stages going below ground, or at a minimum, decreasing stages over the area where CSSS were nesting, therefore increasing the possibility of successfully fledging those nests.

Page 39 – The Corps states that it was the end of the breeding season and that nests are less successful after June 1. Even though research has shown that later nests are less successful, it is important to note that nests were still ongoing and that, if not for the increased stages, some of these nests may have successfully fledged young.

Page 45 –The Service concurs with the conclusions in the first paragraph relating to the need to investigate alternate sources of water flow within CSSS-A habitat (e.g. western flow, sea level rise), as well as the need for a more holistic approach (e.g. USGS Sparrow Viewer tool) to measuring habitat availability within CSSS-A as opposed to the single measurement at NP-205.

Page 46 – The Corps final determination for the CSSS is “that early opening of the...structures will not significantly impact late season nesters within CSSS-A.” The Service is not sure what this means. How does the Corps define “significantly impact? The reports from ground researchers indicate that at least 6 nests, those being observed, were lost. Is this equivalent to a MANLAA determination by the Corps? A MANLAA determination is only appropriate when there are insignificant affects (ie. not measurable). The documented loss of 6 nests is measureable.

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Page 47 – There is a reference to Figure 3 associated with the S-332D features. Figure 3 is actually the WCA-3A Stage Hydrograph. This reference should be corrected.

Page 48 – The Corps attributes the decline in habitat in CSSS-C to “a consequence of the 1980 construction of the S-332 pumping station.” But then goes on to state “This 250 cfs increase in pumping at the S-332D...is not expected to alter any of the primary constituent elements within Unit 2...” The Corps states that on June 28 there was approximately 40.3% of CSSS-C habitat available for nesting. And, in their opinion, the additional 250 cfs of pumping at S-332D is not anticipated to significantly affect this subpopulation. However, according to the Sparrow Viewer, the amount of dry habitat within CSSS-C dropped from 40.3% on June 28 to 14% on July 2. This is a significant drop in dry habitat occurring just days after the S-332D pump rate was increased.

Page 48 – Data discussed for CSSS-C should be updated to include 2016 and 2017 population estimates and demographic monitoring. In data for 2017 CSSS-C, ground researchers have found up to 26 territories within the demographic monitoring plot. Data relating to pumping above 250 cfs during the 2017 breeding season shows a strong relationship with increases in average water depth and decreases in percent dry habitat in CSSS-C.

Page 48 – The vegetation data for CSSS-D referenced and discussed from Ross et al. 2003, should be updated to more recently available studies. Recent data has documented discernable trends toward drier habitat vegetation patterns in portions of CSSS-D, potentially increasing the suitability of this area for CSSS.

Page 49 – The Corps will develop an after action analysis report to demonstrate any effects on CSSS habitat and the ecosystem in general. There needs to be a defined date as to when the after action report will be provided so ESA consultation can be completed as appropriate. It is not appropriate to complete an emergency consultation until the effects of the action are fully documented.

Page 51 – Hydrologic Regime-Nesting Criteria, first paragraph. The last sentence attributed to Pimm is confusing and possibly misquoted. It appears to mix the discontinuous hydroperiod (60 to 180 days) and a 40 to 80 consecutive dry days metrics.

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