

July 30, 2020

VIA E-MAIL ONLY: ANDREW.D.KELLY@USACE.ARMY.MIL
2020LORSHABEACOMMENTS@USACE.ARMY.MIL

Colonel Andrew D. Kelly
Commander of the Jacksonville District
United States Army Corps of Engineers
701 San Marco Boulevard
Jacksonville, Florida 32207-8175

Re: U.S. Sugar's Public Comment Letter on the 2020 Planned Deviation to the Water Control Plan for Lake Okeechobee and Everglades Agricultural Area (LORS 2008)

Dear Colonel Kelly:

This firm represents the United States Sugar Corporation ("U.S. Sugar"), an interested stakeholder in the management of Lake Okeechobee ("Lake"). We thank you for providing us an opportunity to submit these timely-filed public comments on behalf of U.S. Sugar, in response to the United States Army Corps of Engineers' ("Corps") public comment period on the Corps' Draft Environmental Assessment ("EA") and Proposed Finding of No Significant Impact ("FONSI") for the revised 2020 planned deviation ("Planned Deviation") from the water control plan for the Lake Okeechobee and Everglades Agricultural Area, also known as the Lake Okeechobee Regulation Schedule ("LORS 2008").

This letter incorporates by reference our previous comments on the 2019 Planned Deviation, dated September 20, 2019 ("U.S. Sugar's 2019 PD Letter") (Exhibit A). Because the Planned Deviation has not changed significantly since the 2019 Planned Deviation, the comments in U.S. Sugar's 2019 PD Letter apply to the Planned Deviation. U.S. Sugar has a substantial interest in the Corps' operation of the Lake, including the Planned Deviation, which was described in U.S. Sugar's 2019 PD Letter and as was further elucidated by events in the Spring of 2020. We incorporate by reference the comments of Florida Crystals Corporation and other aligned water supply users on the Planned Deviation. Exhibit B contains the indices¹ describing supporting technical information for the record submitted via FTP site. Please add these comments and the attached Exhibits and supporting technical information to the record for the Planned Deviation.

We requested the Corps extend the comment period; however, the Corps declined to do so. The 30-day comment period is insufficient for review of the Planned Deviation and the new modeling information that was not included in the Planned Deviation appendices. It is apparent this Planned Deviation is being expedited, even though no emergency circumstances are driving its adoption, to satisfy pressure from environmental groups in the pending lawsuit, *Center for*

¹ Citations to the supporting technical information for the record are indicated by the number in the index, *i.e.* Index No. X.

Biological Diversity, et al. v. U.S. Army Corps of Engineers, et al., Case No. 2:19-cv-14199-DMM. The Corps made plain in its March 6, 2020 Updated Joint Status Report² that the Planned Deviation is its path to resolve the pending court case. While it may be expedient for the Corps to rush to finalize the Planned Deviation to coincide with the court's briefing schedule, it should not be done at the expense of public transparency about its proposed operations and prudent planning to protect water supply and responsibly manage the Central and Southern Florida Flood Control Project ("C&SF Project").

THE PLANNED DEVIATION IS UNLAWFUL, ARBITRARY AND CAPRICIOUS AND SHOULD NOT PROCEED

Our previous comments in U.S. Sugar's 2019 PD Letter identified the Corps' lack of authority for managing the Lake for water quality as the Planned Deviation's purpose and intent. In response, the Corps reviewed its congressional authorizations and now identifies Section 203 of the Flood Control Act of 1968, Public Law 90-483, which the Corps states, approved House Document Numbered 369, 90th Congress, 2d Session ("HD 369"). The Corps, in contrast to its previous statements,³ identifies an isolated statement,⁴ cherry-picking one paragraph from a Chief's Report conjuring out of context support for its actions. The Corps ignores the fact that this paragraph does not authorize a project purpose; it discusses a consideration. The paragraph discusses water quality in Lake Okeechobee and downstream Everglades but says nothing about the Caloosahatchee and St. Lucie Estuaries which are the subject of the current proposal. Preemptive discharges that undermine the C&SF's water supply purpose are not consistent with the quoted language or Public Law 90-483. The full context of HD 369 demonstrates that Congress approved a project with the purpose of increasing water supply availability (both for users and Everglades National Park), and the operations proposed in the Planned Deviation would not have been aligned measures to employ. The Corps relies on a 'consideration' from a House Document that would have raised the Lake an additional four feet, over the 13.5-15.5 ft then-existing schedule, up to 17.5-19.5 ft. Congress and the Corps recognized the importance of water supply to the sustainable future of South Florida.

² *Center for Biological Diversity, et al. vs. U.S. Army Corps of Engineers, et al.*, Case No. 2:19-cv-14199 - [DE 45] Updated Joint Status Report, March 6, 2020, Index No. 157.

³ See, e.g., July 5, 2018, Corps Col. Jason Kirk Letter to Congressman Mast, Index No. 050, "While water quality is a consideration, addressing water quality is not a federally authorized project purpose and is not a primary factor in determining how much water to release."; *Center for Biological Diversity, et al. vs. U.S. Army Corps of Engineers, et al.*, Case No. 2:19-cv-14199 – March 13, 2020 [DE 53] Federal Defendants' Response to Plaintiffs' Statement of Material Facts, Index No. 159, p. 10, paragraph 113: "The Corps does not control the quality of the water which enters or exits the system. Instead, the State of Florida is responsible for regulating water quality for flows entering and exiting Lake Okeechobee and surrounding watersheds."

⁴ "Although the report does not make recommendations specifically for water-quality control, the problems associated with water use are of particular concern and the maintenance of optimum and desirable water quality is a prime objective in the operation of the project. Engineering and operation methods to evaluate and minimize the concentration of pesticides, herbicides, and nutrients and their effects on fish and wildlife in the conservation areas, Lake Okeechobee, and in the Everglades National Park will be employed to the maximum practicable extent. Water-quality control is a vital function in proper water resource management and will be incorporated in operational procedures as may be dictated by results of continuing investigations in this area in cooperation with affected State and Federal agencies." *Id.* at 89.

Even with the above-quoted citation to HD 369, the fact remains that water quality is not an authorized project purpose. This is undisputed.⁵ Because the Planned Deviation does not further a congressionally authorized Project purpose, it cannot significantly impact the approved purposes.⁶ The Planned Deviation calls for wasteful freshwater releases from the Lake during the dry season, just the opposite of the water supply purpose, and that will adversely affect other project purposes, including navigation, salinity control and recreation. The Planned Deviation proposes to upend the project's congressionally authorized purposes and relied-upon operations. In essence the "Planned Deviation" is not a deviation from LORS 2008, but rather a modification of the schedule. By eliminating the project's pervasive dry season water conservation ethos and substituting unquantified Lake releases, a prioritization is set that is not found in congressional authorizations for the defined, multi-purposes of Congress's comprehensive plan for central and south Florida.⁷ The project's operations would become centered upon avoiding high wet season discharges for more optimal estuarine performance and attempting to avoid Harmful Algal Blooms ("HAB") (without the science to support that the operations will succeed at this).⁸

Given low Lake operations through LORS 2008 and the proposed Planned Deviation, flood control purposes would be served.⁹ However, other project purposes, effectively become second-tier considerations due to reliance on rainfall for fulfillment. Without rainfall to replenish the Corps' flawed 'water bank,' many other project purposes will not be met since preemptively

⁵ See Footnote 3 (quoting July 5, 2018, Corps Col. Jason Kirk Letter to Congressman Mast, Record Document 050 and *Center for Biological Diversity, et al. vs. U.S. Army Corps of Engineers, et al., Case No. 2:19-cv-14199* – March 13, 2020 [DE 53] Federal Defendants' Response to Plaintiffs' Statement of Material Facts, Index No. 159).

⁶ Engineering Regulation (ER) 1165-2-119, Department of the Army, Modifications to Completed Projects (1982).

⁷ Congressional authorizations for the project, including its Lake release infrastructure are found in many federal acts and related Corps documents. For this topic and as noted in our prior comment letter, key authorizations include: Pub. L. No. 71-520, 71st Cong. (Rivers and Harbors Act of 1930); Pub. L. 80-858, 80th Cong., Second Session (Flood Control Act of 1948, authorizing House Document 643); Pub. L. 83-780, 83rd Cong., Second Session (Flood Control Act of 1954), authorizing House Document 186, later authorized in Pub. L. 85-500, 85th Cong. (Flood Control Act of 1958) and Pub. L. 90-483, 90th Cong. (Flood Control Act of 1968), authorizing Senate Document 101 and House Document 369.

⁸ The EA lacks demonstration of these benefits. See *Center for Biological Diversity, et al. vs. U.S. Army Corps of Engineers, et al., Case No. 2:19-cv-14199* – March 13, 2020 [DE 53] Federal Defendants' Response to Plaintiffs' Statement of Material Facts, Index No. 159, p.11, paragraph 116: "Harmful algal blooms have and will occur on Lake Okeechobee without regards to LORS or any other specific operations for the Lake." and paragraph 63, "The Corps acknowledges that the Lake and estuaries have experienced algae blooms but disputes that LORS is the cause of these blooms and avers that these blooms would occur regardless of the operations in place." See also *Center for Biological Diversity, et al. vs. U.S. Army Corps of Engineers, et al., Case No. 2:19-cv-14199* - [DE 52] Federal Defendants' Combined Response to Plaintiffs' Motion for Partial Summary Judgement and Cross-Motion, Index No. 158: "The record before the Court shows that HABs and red tide episodes occurred prior to LORS implementation and are fueled by factors outside Corps' control including rainfall and localized runoff. Corps AR 10159." and "Increased nutrient loading can be a factor favoring freshwater bloom conditions in the estuaries; however, nutrient loading to the estuaries on the east coast and west coast from Lake Okeechobee releases is overshadowed by local runoff in most conditions. *Id.*"

⁹ LORS 2008's Base Flow Band releases improved Caloosahatchee estuary's dry season performance, and impending operation of the CERP C-43 Reservoir is expected in 2024 and will improve both dry and wet season estuarine flows. Project Fact Sheet last viewed July 29, 2020, available at: <https://usace.contentdm.oclc.org/utis/getfile/collection/p16021coll11/id/4166>

released water will not be available to serve these needs later in the dry season or the subsequent year, if summer rains do not come. Such a prioritization is not balanced and is directly contrary to the project's multiple purposes and congressional authorizations, which provide for a comprehensive system. By proposing substantial and unbridled dry season releases to make storage room to avert wet season releases, an unauthorized, unanalyzed and spontaneous prioritization of project purposes will send ripples throughout south Florida.¹⁰ Accomplishing unbalanced project performance also repudiates the congressionally authorized Comprehensive Everglades Restoration Plan ("CERP"),¹¹ which adds both infrastructure and operational modifications to accomplish the objectives of restoring the south Florida ecosystem while also providing for the water related needs of the region, including water supply and flood protection. As such, the Planned Deviation is unlawful and cannot proceed.

THE PLANNED DEVIATION REQUIRES AN ENVIRONMENTAL IMPACT STATEMENT (EIS) OR SUPPLEMENT TO THE LORS 2008 EIS TO STUDY THE SIGNIFICANT EFFECTS ON THE HUMAN ENVIRONMENT

There are significant new circumstances affecting the human environment since the Corps adopted the interim LORS 2008 schedule that was intended to last only three years. The Corps has never analyzed the long-term effects (i.e. until at least 2022, 11 years longer than analyzed) to water supply users from the LORS 2008 schedule, and a supplemental EIS is necessary to analyze these effects, particularly as the Corps intends to worsen the effects on the already-diminished project purpose. Both the Council on Environmental Quality's NEPA regulations and the Corps' own regulations impose a duty to prepare a supplement to an EIS if there are "significant new circumstances or information relevant to environmental concerns and bearing on the proposed action or its impacts." *See* 40 C.F.R. § 1502.9(c); *see also* 33 C.F.R. § 230.13(b). Water supply should have been restored to pre-LORS 2008 conditions following the three-year interim schedule. Now nine years after the interim LORS 2008 schedule should have ended, in the ongoing Lake Okeechobee System Operation Manual ("LOSOM") process, the Corps has stated it intends to *improve* water supply conditions above LORS 2008 but refuses to commit to *restoring* the water supply conditions to pre-LORS 2008. By leaving diminished water supply conditions and never restoring them, the Corps avoids analyzing the long-term effects on the human environment of its LORS 2008 water grab.

The Corps finds the impacts of the Planned Deviation are similar to LORS 2008 and wrongly asserts they should be dismissed as insignificant. In reality, the Planned Deviation performs worse than LORS 2008 for water supply and the cumulative effect of adding the Planned Deviation to the diminished water supply is significant and unstudied. There were significant

¹⁰ The Planned Deviation's only apparent commitment to not make advance releases of Lake water happens when the stage is a mere .25' above the Water Shortage Band. *See* Planned Deviation, Appendix A at A-6 and A-11. This sliver of water above shortage restrictions introduces untold risks into south Florida's water resources, a region reliant on water and with known and substantial rainfall variation – both seasonally and inter-annually. During the dry season, the influence of evapo-transpiration is marked.

¹¹ Pub. L. No. 106-541 (WRDA 2000). The Corps is authorized to make operational changes to the C&SF Project for CERP purposes. Yet, the Corps consistently does not cite to or acknowledge implementation of CERP, evading the commitments to south Florida's water users.

effects on water supply identified in the LORS 2008 EIS, and the long term and incremental worsening of these effects is significant. The Corps' Section 4.1 of the Planned Deviation, purporting to address cumulative impacts, lacks analysis and only compares the Planned Deviation's effects to LORS 2008 as the baseline. *See* 40 C.F.R. §§ 1508.7 and 1508.8. There is no cumulative effect analysis in the Planned Deviation that addresses the effects of the Planned Deviation coupled with the LORS 2008 effects that began in 2008 and are expected to continue until 2022 or 2023. The Planned Deviation's reliance on LORS 2008 discharges, coupled with the addition of effects to those due to LORS 2008 re-opens the totality of effects for scrutiny. The Corps puts blinders on and ignores the cumulative effect this Planned Deviation has on water supply (it is equivalent to the 'straw that breaks the camel's back'). This gap in analysis is likely to carry over to the on-going Lake regulation schedule modification study, "LOSOM," if this Planned Deviation is approved and used in the LOSOM base condition.

In the years since LORS 2008 was studied, new significant information on climate change, sea level rise and severity and intensity of extreme weather events has developed. Rainfall patterns have changed, and in the LOSOM development process, the period of record applied through the Regional Simulation Model Basin and Glades (RSM-BN and RSM-GL). The Corps is currently using this data in the LOSOM process to analyze the impacts of an expanded period of record, from 2010 to 2016, but is ignoring that data here, as it studies operations of the same Lake in advance of LOSOM.¹²

The Planned Deviation's Operational Strategy Is Vague and Unconstrained and Amounts to a New Lake Schedule

The Planned Deviation's Operational Strategy is vague and non-committal as to constraints that were identified in the modeling in an attempt to establish the effects. Because the Operational Strategy does not commit to adhering to the modeling inputs, the model analysis is hollow in that it provides an illusory picture of the effects, since the Corps is free to operate beyond the modeling inputs. Therefore, the lack of any constraints in the Operational Strategy (Appendix A) renders any constraints or results modeled for the public's review in this Planned Deviation meaningless. Proposing a weekly periodic scientists' call, a call that is not widely noticed, subject to cancellation, and irregular participation, is not a substitute for a regulation schedule,¹³ and cannot be offered as the means to address effects going forward. A few examples will elucidate how modeled performance is unreliable in the real-world operations and, therefore, the likelihood of unanalyzed effects and transgression of authorized project purposes.

¹² "Regional Modeling Period of Record (POR) Extension (1965 – 2016) South Florida Water Management District (SFWMD) and Interagency Modeling Center (IMC) Presentation to the LOSOM PDT 6/25/20", Index No. 183.

¹³ Engineering Regulation 1110-2-240 states at 2-2: "Objectives of USACE Water Control Management a. In general, the goal of water control management is to conform a project's operation to its authorizing legislation, ... and applicable congressional acts relating to the purpose of federal facilities or systems. Water control plans shall be developed to accomplish this objective" and at 2-3: "Policy Requirements for Water Control Management ... d. Water control plans shall be developed and executed to reflect water conservation as a national priority...."

First, in Section 6-a., the Corps lists four bullets describing when the HAB operations could be used, including if a HAB is anticipated to occur on Lake Okeechobee, C-43 Canal, C-44 Canal, the Caloosahatchee Estuary, or the St. Lucie Estuary. *See* EA, Appendix A. And Section 6-b. describes the circumstances when advance releases may occur “in anticipation of HAB conditions” and cross references considerations in Section 6-c., which is not provided. *Id.* The Corps admits in the comment response matrix that “. . . there is no reliable and accepted predictive tool for algal blooms.” With no predictive tool for algal blooms, a HAB could be anticipated to occur in every year, allowing the Corps discretion to use the Planned Deviation in any given year (or every year). The Corps does not commit to any meaningful limitation on conditions in which it might use the Planned Deviation.

Likewise, if the Corps seeks maximum flexibility to allow it to use the Planned Deviation every year under a broader range of circumstances than modeled, then it must fully analyze all the effects and the full range of alternatives from this extreme flexibility. The Corps cannot hide behind an effects analysis that looks at a limited set of facts and operations.¹⁴ Here, the Corps tells one story of insignificant effects using highly constrained modeling inputs buried in a modeling appendix (and a model not publicly posted). However, the EA and the Operational Strategy, the appendix that purports to establish when and how the Corps will actually implement the Planned Deviation, set no meaningful constraints and have unknown effects. The full effects of the amount of flexibility the Corps is creating for itself have never been analyzed. Making the Corps’ intent more clear is the flexible, non-mandatory language used throughout the EA.¹⁵

In the water bank concept, the Corps says only that it will track and have a “goal” of reaching a net zero sum over a 10-month period. We previously commented that operating with a goal of reaching a “net zero” does not serve the project purposes because the water is discharged when it is needed most, in the dry season. Indeed, the Corps did not analyze the temporal effects of very low Lake levels in the dry season. Even if the water lost in the dry season is ‘zeroed out’ later in the wet season, there is likely an adverse effect, which remains unanalyzed by the Corps. Standardizing water availability across a calendar year fails to analyze the science that water has different value in the dry season than the wet season. These issues and effects are addressed in LORS 2008 but are unanalyzed here. The Corps provides no explanation for why certain effects, such as low Lake levels in the dry season, were of such significance to be analyzed in the LORS 2008 EIS analysis but are ignored in the Planned Deviation.

The Corps’ ‘water bank’ concept appears to be a mechanism to mitigate the effects of its proposed action, but the Corps does not recognize it as such and does not commit to implementing the “water bank” as modeled. If considered a component of the alternative, then only the Corps’

¹⁴ The Corps’ goal to maximize flexibility in Lake operations was made evident in the LOSOM planning process where the Corps first stated this objective. *See* November 7, 2019 Email to Corps (Index No. 180) (commenting on Corps’ October 2019 LOSOM PDT meeting presentation stating goal of LOSOM is to “Maximize flexibility in Lake operations while balancing congressionally authorized project purposes.”

¹⁵ For example, the Planned Deviation, Appendix A states at A-4, in an effort to accomplish maximal NEPA coverage, or a ‘blank check’ for Lake operations: “It is acknowledged that with the science in this field rapidly developing, **specific durations and timings of these operations for each potential instance cannot be defined for the operational strategy at this time.**” (Emphasis added).

avored water bank concept is analyzed.¹⁶ The Corps does not analyze a reasonable range of alternatives and does not consider alternatives we suggested in prior comments. Moreover, the Corps' 'water bank' concept depends on setting a 'credit limit' on the front end. The credit limit and subsequent lake releases depend on calculating the releases that would have been made during LORS 2008 operations, but were not.¹⁷ Ignored in the banking concept is that LORS 2008 contains operational flexibility, such as substantial "up to" ranges of potential volumes of water that are available for release from the lake. Because LORS 2008 does not tightly prescribe release volumes in the manner the water bank requires, it is not possible to calculate needed 'deposits.' Technical documentation demonstrates the Corps' proposed "water bank" routinely fails to attain its stated goal of making up for advanced releases by December 1st of each year.¹⁸ Such failure is not an option – it represents a proposal to transgress the C&SF Project's congressionally authorized purposes. Other alternatives do exist, as we have proposed, but the Corps dismissed these without evaluation. Also, the Corps did not analyze alternatives where extreme wet or extreme dry conditions intervene, particularly after "advance" releases. Without such analyses, effects are left unknown.

The water bank constraints are illusory. The Corps proposes a "credit limit" be established each year to limit the total volume of advanced releases, but this credit limit concept is flawed. It is not a true limit since the Corps preserves for itself complete flexibility both in setting a volume and there is no commitment to adhere to a specific volume. *See* EA, Appendix A at A-7. Furthermore, the Corps makes no commitment to conserve water by holding back releases to reach this net zero sum. In fact, the Corps lists a series of conditions that could occur in any year under which it may not reach a net zero sum and writes, "Conditions which may impact the zero sum could be, but not limited to, a large rainfall or tropical event, drought, La Niña or El Niño, or environmental concerns." *See* EA. None of these conditions were modeled to see what adverse effects are likely to occur when the Corps does not achieve the goal of a net zero sum. The Corps' track record for holding back releases in the fall season is non-existent --- see for example, the Adaptive Protocols operations, which were improperly relied on to make discharges in Spring 2020, without the necessary withholding of releases in the Fall season of 2019. The Corps has not taken the necessary 'hard look' at the water bank concept and its flaws.

Another example is the lack of definitive constraint on the amount of water sent from the lake south to the Water Conservation Areas. Lake flows south are neither constrained nor were effects modeled and evaluated in the EA, yet there is a known potential to impact water quality and Stormwater Treatment Area ("STA") performance. *See* DMSTA modeling effort in LOSOM, Index No. 180. Absent constraints, there is no assurance the Planned Deviation will be operated

¹⁶ As explained in the Planned Deviation, the Corps only analyzed variations within its 'water bank' concept to attain their objective; the EA states: "In addition to the no action alternative, three action alternatives were evaluated to determine the preferred alternative (Alternative B). **The action alternatives varied based on the allowable limit of advanced releases** (cubic feet per second (cfs)) to the Caloosahatchee and St. Lucie estuaries at S-79 and S-80." (emphasis added) (In the absence of page numbers, we reference PDF pages; here the citation is at p. 4 of 68).

¹⁷ The Planned Deviation Appendix B states, at 2: "The idea is to track the water releases per the TD versus those that were prescribed by LORS 2008."

¹⁸ MacVicar Consulting Technical Report Regarding 2020 Planned Deviation ("2020 MacVicar Report"), Index. No. 185.

as modeled and, therefore, no assurance the modeled effects will parallel reality. In fact, recent, actual Corps operations delivered vast quantities of Lake water south, sometimes as high as 454,000 acre-feet, eclipsing the modeled 60,000 annual average acre feet assumed in LORS 2008 and the Planned Deviation.¹⁹ Even more uncertainty as to how the overall C&SF Project will operate is apparent when considering the expected August 2020 implementation of the Combined Operating Plan (“COP”). COP, developed after years of analysis, is a complete overhaul of the Corp’s operating protocols for the Water Conservation Areas, Everglades National Park, and South Dade project features. None of these upcoming COP protocols are analyzed in conjunction with the Planned Deviation, but they should be.

The Planned Deviation effectively is a new Lake schedule because it rebalances the project purposes - placing a water quality **consideration** above the water supply, salinity control, navigation, recreation, flood protection and other congressionally authorized project **purposes**. The Planned Deviation fundamentally changes the operational plan of LORS 2008, which conserved water in the dry season, for an operational plan that discharges water in the dry season. This so-called deviation is inconsistent with other temporary deviations in Florida, which are usually short duration, with defined operations, during emergencies, or minor changes. See Index No. 174. The lack of consistency with other Corps deviations, together with the overall changes in the operations compared to LORS 2008, demonstrates that this Planned Deviation is actually a “planned” modification of the LORS 2008 schedule. The scale of the Lake and its position as the liquid heart of the C&SF system mean that these changes to operations are significant and require further study.

Given the lack of constraints and significant effects, we question the NEPA analysis and compliance with environmental requires in Chapter 7 of the EA. As we have stated in prior letters, the Planned Deviation raises serious environmental justice concerns in the manner in which the communities around the Lake are impacted. These concerns remain unaddressed by the Corps.

In sum, it is not possible to rely upon the modeling *alone* and noncommittal description of Lake operations to evaluate effects of Lake operations. The Corps also fails to analyze other alternatives demonstrated to be capable of meeting the Corps’ stated objective, such as Alternative D. The Planned Deviation is likely to involve major operational changes, cause unanticipated and unknown effects, and yield serious adverse impacts upon congressionally authorized project purposes.

HAB Science Is Uncertain and the EA Lacks Scientific Justification

We previously noted that the HAB science is uncertain, which makes these operations highly controversial. The Corps presented no updated HAB science in its EA and continues to rely on vague and uncited statements. The Corps stated in the EA without citation, “It should be noted

¹⁹ Reviewing inflow records for the past five water years, an average of 212,000 acre-feet has been sent from Lake Okeechobee to the STAs each year, with 454,000 acre-feet sent from the lake to the STAs in 2018-19. See SFWMD SFER Report and the May and June 2020 SFWMD Board Ecological Condition Reports by L. Glenn and Water Conditions Reports by J. Mitnik. See Index Nos. 177, 178.

that high stages in Lake Okeechobee maintained over an extended duration is linked to increased algal bloom activity in Lake Okeechobee.” This is an unsupported statement and ignores science on the whole range of factors that can drive algal bloom activity. We are aware that the Corps was in the process of preparing a HAB-risk performance measure in the LOSOM process; however, to date, this measure remains unapproved for use in a lake schedule and has not been fully vetted. The definition of HAB in the Appendix A Operational Strategy is “freshwater blue/green algae bloom causing adverse environmental, economic, or health effects.” This is an extremely broad definition, with no criteria to determine the degree of harmful effects, and subject to arbitrary interpretation. The lack of precision in defining HAB provides the Corps with unfettered discretion both in the dry season for making pre-wet season discharges *and* in the wet season as to whether the Corps decides to not make discharges called for under the LORS 2008 schedule.

The Unique Application of LOOPS Modeling Is Inadequate to Study the Planned Deviation’s Effects

The EA now includes a modeling analysis, performed by Corps staff using a screening level modeling tool known as the “Lake Okeechobee Operations Screening Model” or “LOOPS” and a selection of metrics used to evaluate alternative lake operations. Model files were not posted for the general public’s review and were not included as an Appendix to the Planned Deviation. Given the short 30-day review period for the EA, there is not enough time to understand whether the application of the LOOPS model – and the LOOPS model alone – properly analyzed the full effects of the Planned Deviation. As evidenced by its name, the LOOPS model has particular value – quickly screening alternative Lake operations through use of an Excel spreadsheet model.²⁰ In previous Lake schedule updates and in the current LOSOM effort, the Corps used full-scale regional models to analyze alternatives, in addition to the ability to run LOOPS for screening. The LORS 2008 regulation schedule was developed using the then ‘state of the art’ South Florida Water Management Model (SFWMM), a regional scale model, which was recognized as the “best available tool that can simulate the complexities of the water control system and operational rules of proposed regional-scale water management alternatives and provide adequate information for making water management decisions”. LORS 2008 Final SEIS at 89. The LOOPS model has not been used as the *sole* basis for modifying the lake’s regulation schedule, nor is it appropriate for this purpose. LOOPS model domain does not include Lake Worth Lagoon, Loxahatchee River and Water Conservation Areas, all of which are areas that may be affected by the Planned Deviation, yet remain unstudied.

Effects on Endangered and Threatened Species Have Not Been Studied

Snail kite nesting on the Lake had made a comeback in 2018, with the highest nesting on the Lake in years.²¹ That was until the Corps made its 2018 and 2019 Additional Operational Flexibility discharges and purposefully lowered the Lake, which has lasted over two years. After two years of no snail kite nesting on Lake Okeechobee, the Corps modified the Planned Deviation

²⁰ The LOOPS model contains information that notifies the user of the model’s limitations and appropriate use. *See* Index Doc. No. 184.

²¹ *See* Index No. 151, 2019 Snail Kite Demography Report.

to include a snail kite nesting season consideration and a snail kite recession rate consideration (although no commitment was made to apply these considerations in the Planned Deviation operations). The EA references Appendix A as containing detail on the snail kite recession rate yet no detail is provided. Yet again, the Corps determines “no effect” on snail kite, but the Corps is governed already by the 2018 Biological Opinion that quantifies incidental take from certain LORS 2008 operations, and the Corps is modifying the same operations without consultation and without cumulative impact review under the Endangered Species Act (“ESA”). *See* 50 C.F.R. § 402.02. It is unknown how the snail kite recession rate was modeled and whether the Corps would be obligated to apply it if snail kite is not observed nesting on the Lake.

The ESA consultations the Corps has completed for LORS 2008 since 2018 found that existing operations under LORS 2008 “may affect, but are not likely to adversely affect” listed species that use the estuaries, and no incidental take statement was needed for these species. With such minor effects on listed species, the Corps appears inconsistent with the purpose of this Planned Deviation, which the Corps states is to minimize water quality effects on fish and wildlife. Because of the Corps’ unilateral “no effect” determination on the Planned Deviation, the agencies have not studied the effects of the Planned Deviation on listed species, leaving the true effects of the operational flexibility unknown. On the other hand, with the listed species consultations concluding that there are no adverse effects to listed species from LORS 2008, the very purpose for proceeding with this Planned Deviation appears unfounded and not supported by science.

CONCLUSION

Proceeding with the Planned Deviation is unlawful because water quality is not a project purpose, an EIS is legally required, the congressionally authorized purposes are not met, and the EA is inadequate to satisfy APA requirements. We urge the Corps not to proceed with this Planned Deviation, return to managing the Lake within LORS 2008 guidelines, and instead, allow all stakeholders to focus their collective resources on developing a new balanced Lake schedule in the LOSOM process that takes advantage of the repaired dike and meaningfully assesses the full range of effects on all of the congressionally authorized project purposes.

Please include this letter and all exhibits and technical supporting information into the Planned Deviation administrative record. We appreciate the Corps’ consideration of our comments.

Sincerely,

A handwritten signature in blue ink, appearing to read "Luna Phillips", with a long horizontal flourish extending to the right.

Luna E. Phillips
Gunster Law Firm
Attorneys for the United States Sugar Corporation

United States Army Corps of Engineers

July 30, 2020

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Enclosures: Exhibit A – U.S. Sugar’s 2019 Planned Deviation Letter
Exhibit B – Index of Documents Supporting U.S. Sugar’s Public Comment letter
to the Corps Regarding the Planned Deviation, Parts 1 and 2

cc: Major General Scott A. Spellmon, Deputy Commanding General for Civil and
Emergency Operations, United States Army Corps of Engineers
Colonel Jason Kelly, Commander of the South Atlantic Division, United States Army
Corps of Engineers
Mr. Drew Bartlett, South Florida Water Management District
Client

Exhibit A

U.S. Sugar's 2019 Planned Deviation
Comment Letter

September 20, 2019

**VIA E-MAIL ONLY: ANDREW.D.KELLY@USACE.ARMY.MIL AND
MELISSA.A.NASUTI@USACE.ARMY.MIL**

Colonel Andrew D. Kelly
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Jacksonville, Florida 32207-8175

**Re: United States Sugar Corporation's Public Comment Letter on the
2019 Planned Deviation to the Water Control Plan for Lake Okeechobee and
Everglades Agricultural Area (LORS 2008)**

Dear Colonel Kelly:

This firm represents the United States Sugar Corporation ("USSC"), an interested stakeholder in the management of Lake Okeechobee ("Lake"). We thank you for providing us opportunity to submit public comments on behalf of USSC, in response to the United States Army Corps of Engineers' ("Corps") public comment period on the Corps' Draft Environmental Assessment ("EA") and Proposed Finding of No Significant Impact ("FONSI") for the 2019 planned deviation ("Planned Deviation") from the water control plan for the Lake Okeechobee and Everglades Agricultural Area, also known as the Lake Okeechobee Regulation Schedule ("LORS 2008"). With the public comment period extended to September 20, 2019, this letter and Exhibits 1 and 2 are timely filed. We incorporate by reference the comments of Florida Crystals Corporation on the Planned Deviation. We appreciate the Corps extending the comment period and considering our comments and the attached supporting technical information.

STANDING

USSC is an interested stakeholder in issues related to the Lake and its operations. USSC has a substantial interest in the Corps' operation of the Lake, including the Planned Deviation. Farming in Florida since 1931, USSC owns and farms approximately 245,000 acres of farm lands located Glades, Hendry, Palm Beach, and Martin counties. Within the affected area, shown in Figure 1-1 of the EA, USSC grows sugarcane, oranges, sweet corn and winter vegetables, relying on water from the Lake to grow its crops. Dependent upon weather and growing conditions, USSC produces over 8 million tons of sugarcane each year, providing approximately 10 percent of all the sugar produced in America. Sugar produced by USSC is used by food manufacturers in the United States to make numerous products, including bread, canned fruits and vegetables, juices, beverages, and ice cream, to name a few. USSC is also one of Florida's major producers of oranges and orange juice products, providing 250 million glasses of

premium orange juice each year, and making it one of the largest suppliers of orange juice nationwide.

USSC has a long-standing history as a good steward of its land, has been a major supporter of Everglades restoration, the expeditious repair of the Lake's Herbert Hoover Dike (the "Dike"), and contributes significantly to south Florida's thriving economy and growing communities. USSC's farming operations, which rely on the availability of adequate water supply, employ close to 2,500 employees, and regularly support numerous philanthropic efforts in its community, including hurricane relief, food banks, education and youth sports. USSC provides many well-paying jobs in south Florida. The farmers in the Everglades Agricultural Area ("EAA") have 1) contributed approximately 100,000 acres of privately-owned farm land for Everglades restoration, 2) pay an agricultural privilege tax (a tax unique to the EAA) to support Everglades restoration, 3) have invested more than \$400 million in restoring and preserving the Everglades, and 4) implement the most successful and well documented Best Management Practices program anywhere, reducing phosphorus loads in stormwater runoff by a long term average of 57 percent. No other community, business or special interest can claim this level of contribution for the betterment of south Florida's environment.

The EAA is one of the country's most important agricultural regions. Congress intended this when it created the Central and Southern Florida Project ("C&SF Project or Project") specifically providing for agriculture as a Project purpose. Agricultural water supply has been a congressionally authorized purpose since the Project's inception and remains a cornerstone of the management of the entire C&SF Project today. A review of the prior Lake schedules demonstrates the important role of agricultural water supply in the management of the Lake. This foundational authority remains unchanged today.

Operating the Lake to dump water in the dry season and drive the Lake to low levels contradicts the water supply purpose. It threatens to deny USSC the ability to deliver water to its crops, when crops need it most. With USSC's lands in close proximity to the Lake, low lake levels in the dry season have a cascading effect to draw down water levels water on USSC's lands, affecting its soils and canal levels. During the Corps' low Lake operations this past spring, USSC had difficulty delivering irrigation water to crops in the southern part of the EAA and in the vicinity of the L-8 canal.

Given USSC's significant economic, environmental and social commitments within the Project's affected area, operating the Lake to meet the Congressionally-mandated C&SF Project purposes, which include water supply and flood protection, is of utmost importance to USSC.¹ USSC's farming operations depend on the Corps' proper balancing of the water supply and flood

¹ See House Document 643, 80th Congress, for the cost-benefit analysis and support for National Economic Development; the Central and Southern Florida Flood Control District's ("CSFFCD") resolutions. The CSFFCD-related Florida Statutes likewise recognized benefits including defined land use benefits, such as providing flood protection for over 531,000 acres of agricultural land in the Okeechobee – Everglades region. See also §§ 601(b)(1)(A) and 601(h)(5)(A)(i) of Pub. L. No. 106-541 (WRDA 2000) (adding ecological restoration purposes while preserving water supply and adopting the savings clause protecting water supply existing legal users).

control purposes, as the Lake is an essential water supply source for agricultural production for south Florida. The Corps' temporary three-year schedule, LORS 2008, put USSC's, and south Florida's, water rights at severe risk by lowering the Lake over 1 foot and increasing drought risks, compared to the previous schedule, known as Water Supply and Environment ("WSE"). The Planned Deviation proposes to drain the Lake by another foot, creating extreme negative effects beyond LORS 2008. With the long-awaited repairs to the Dike nearing completion, restoring USSC's and the region's water rights to the certainty that existed in the last permanent schedule approved by the Corps, WSE, is critical. The Planned Deviation does just the opposite - it exacerbates the negative impacts on the already eroded and diminished water supply performance for south Florida. We urge the Corps to reconsider proceeding with the Planned Deviation as proposed for the reasons stated below and give serious consideration to other options such as proceeding to focus on developing the new Lake Okeechobee System Operating Manual ("LOSOM") schedule or studying additional optimized alternatives that we discuss below and in Exhibit 1.

**THE PLANNED DEVIATION IS UNLAWFUL, ARBITRARY AND CAPRICIOUS
AND SHOULD NOT PROCEED**

Consistent with the National Environmental Policy Act's ("NEPA") requirements, we identify the significant adverse effects expected from the Planned Deviation. In addition, we describe flaws in the EA that raise serious concerns regarding the legality and adequacy of the Planned Deviation's EA and FONSI.

**Invalid Project Purpose: The Planned Deviation's Sole Purpose Violates the Corps'
Congressionally Authorized Project Purposes for the Lake**

The Planned Deviation's *sole purpose* is to release water to address water quality-related Harmful Algal Blooms ("HAB"). Water quality is not a congressionally authorized Project purpose for Lake Okeechobee. This is undisputed.

In a July 5, 2018 letter to Congressman Mast regarding operating the Lake for HAB, Colonel Kirk, the Corps' former Jacksonville District Commander, stated, "Lake Okeechobee releases to the estuaries are made to address two main objectives: 1) reduce risk to human health and safety from potential HHD [Dike] failure and associated flooding; 2) environmentally beneficial flows to the Caloosahatchee Estuary. While water quality is a consideration, **addressing water quality is not a federally authorized project purpose and is not a primary factor in determine how much water to release.**" [emphasis added].

Again, in the September 7, 2018 hearing before the House Transportation and Infrastructure Subcommittee on Water Resources and Environment, Major General Scott Spellmon, responded to questions from Congressman Mast on HAB and the Lake and confirmed

that that the Corps does not have water quality authority (“I want to be clear, we don’t have the authority to regulate water quality.”)²

Lastly, within the Planned Deviation document, the Corps again confirmed that it does not have expertise or authority on HAB. On page A-3 of the Planned Deviation’s Operational Strategy, the Corps stated, “When initializing HAB operations, the Corps will engage with federal and state agencies to develop a unique plan on timing and quantity of advance releases to be made under these operations, **as the expertise and authority in water quality lies outside the Corps.**” [emphasis added].

A review of the Project’s congressional authorizations confirms that managing the Lake for water quality has not been authorized by Congress. Because the Planned Deviation does not further a congressionally authorized Project purpose, it cannot significantly impact the approved purposes.³ Here, the Planned Deviation does just that – it negatively and significantly affects water supply and other Project purposes. As such, the Planned Deviation is unlawful and cannot proceed.

The Corps Lacks Congressional Authority for the Planned Deviation

The Planned Deviation project purpose of controlling HAB is not within the Congressional authorization for C&SF Project. Prior to 1948, Congress authorized construction of the levee around Lake Okeechobee in 1930 in the Rivers and Harbors Act of 1930, Pub. L. No. 71-520. Congress first authorized the C&SF Project in 1948, in Section 203 of the Flood Control Act of 1948, Pub. L. No. 80-858. This 1948 act authorized “the first phase of the comprehensive plan for flood control and other purposes in central and southern Florida as recommended by the Chief of Engineers in House Document Numbered 643, Eightieth Congress [HD 643].” While this description states “flood control and other purposes,” those purposes were not unlimited, and they were dictated by the recommendation of the Chief of Engineers in HD 643. HD 643 contained both the scope of the comprehensive plan (and its estimated costs to complete the discrete construction and operations) and the reasoning supporting the flood control and other purposes. Water supply for droughts and improving agricultural lands were clearly within the Congressionally-authorized project purposes. *See, e.g.*, HD 643, paragraphs 3-5 on p.2. Other considerations, including “pollution abatement and public health” were considered in the study supporting the comprehensive plan, and it was found that the comprehensive plan would give incidental relief from such dangerous conditions as coastal discharge of sewage effluent from towns along the coast. *See* HD 643, paragraph 54 on p. 38. The Lake was described as “. . . a multiple-use reservoir with flood control, navigation, and water-conservation functions.” *See* HD 643, paragraph 58 on p. 40. The term “water conservation” was used to describe the water supply function, conserving water for needs during dry periods. It further stated, “The outlet canals and the lake provide a navigable waterway across Florida. Between

² September 7, 2018, Hearing before the House Transportation and Infrastructure Subcommittee on Water Resources and Environment, C-span.org Starting at 36:16, available at: <https://www.c-span.org/video/?451189-1/hearing-focuses-water-resources-infrastructure>

³ Engineering Regulation (ER) 1165-2-119, Department of the Army, Modifications to Completed Projects (1982).

elevations of 12.56 and 15.56 feet above mean sea level (the present prescribed limits of regulations) the lake provides storage of 1,320,000 acre-feet of water. This great reservoir and its controls are the heart of any plan for flood control and water conservation in south Florida.”

The Flood Control Act of 1954, Pub. L. No. 83-780 authorized implementation of the entire comprehensive plan (the first phase being previously authorized in 1948) for flood control and other purposes for central and southern Florida in accordance with HD 643. Congress authorized the comprehensive plan with “such modifications thereof as the Congress may hereafter authorize, or as in the discretion of the Chief of Engineers may be advisable.” The Chief of Engineers’ discretionary modification authority is not unlimited. “Both the Congress and the Corps have traditionally interpreted the discretionary authority to make post authorization changes of waterway projects without seeking further congressional authority to be subject to certain restrictions.” See *Environmental Defense Fund, Inc. v. Alexander*, 467 F. Supp. 885 (N.D. Miss. 1979), *aff’d*, 614 F.2d 474 (5th Cir. 1980) (explaining the Corps and Congress’s interpretation of discretionary authority; finding Corps had authority for certain modifications to a project). “The Corps construed the discretionary grant to permit project changes where (a) the scope of the project, i.e., the area to be served, is not materially changed; (b) the purpose or function of the project is not materially altered; or (c) the plan of improvement is not materially changed.” *Id.* Here, the purpose of the Planned Deviation is singular and not within the congressionally authorized project purposes; it is to manage the Lake for HAB (a water quality purpose). This purpose materially alters the function of the Lake for water supply purposes and impermissibly undermines the congressionally authorized project purposes of water supply and navigation. LORS 2008 lowered the Lake as much as was feasible to allow for repairs to the Dike. LORS 2008 operations pushed the water supply purpose to its extreme, and, in fact, portable forward pumps were required to mitigate the harmful effects of LORS 2008 to water supply. By significantly placing more risk on the water supply project purpose, the stated HAB operations purpose undeniably conflicts with water supply. Therefore, the Planned Deviation is inconsistent with Congress’s intent, and should not be approved without Congressional authorization. See *Garcia v. U.S.*, No. 01-801-CIV, 2002 WL 34395260 at *8 (S.D. Fla. Jul. 8, 2002) (finding the Corps’ proposal of non-structural flood control was contrary to Congress’s intent to have the Corps construct flood protection).

At the same time, Congress passed laws that serve to add factors that the Corps must consider in its projects, including the Fish and Wildlife Coordination Act amendment (1958), Pub. L. No. 85-624, Federal Water Pollution Control Act Amendments of 1972, Pub. L. No. 92-500), the Endangered Species Act of 1973, Pub. L. No. 93-205, and the Clean Water Act of 1977, Pub. L. No. 95-217. These acts are cited in the Master Water Control Manual Vol. I, Table 2-11. However, they do not add authority, only additional considerations.

In his LOSOM Scoping letter, Congressman Mast attempted to argue that water quality was one of the congressionally authorized Project purposes for Lake Okeechobee. His analysis was flawed. Congressman Mast relied on the following public laws for his flawed argument: 1) the Flood Control Act of 1968, Pub. L. No. 90-483, Sec 203 and House Document 369 [HD 369] (associated with Pub. L. No. 90-483, 2) the Federal Water Pollution Control Act Amendments of

1972, Pub. L. No. 92-500, and 3) the Clean Water Act of 1977, Pub. L. No. 95-217. The latter two, together, became known as the Clean Water Act and were codified at 33 U.S.C. 1251, et seq. These acts do not provide congressional authority for operating Lake Okeechobee.

The Flood Control Act of 1968, Pub. L. No. 90-483, Sec 203 modified the C&SF Project, and under a “Flood Control” heading stated, “The project for Central and Southern Florida, authorized by the Flood Control Act of June 30, 1948, is further modified in accordance with the recommendations of the Chief of Engineers in Senate Document Numbered 101, Ninetieth Congress, at an estimated cost of \$8,072,000, and in accordance with House Document Numbered 369, Ninetieth Congress, at an estimated cost of \$58,182,000.” Excerpts from Senate Document 101 and HD 369 are contained the Master Water Control Manual Vol. I. These excerpts include a summary of the Project purposes at N-16. Water quality is not listed as a project purpose.

The Project purposes for operating Lake Okeechobee are listed in the Master Water Control Manual, Vol. III (1996), and they are: Flood Control, Navigation, Agricultural Water Supply, Water Storage, and Salinity Control.

In the Water Resources Development Act of 1996, Pub. L. No. 104-303, Congress directed the Corps to develop a comprehensive plan for the purpose of restoring, preserving, and protecting the South Florida ecosystem. Congress mandated that Corps “take into account the protection of water quality” by considering applicable state water quality standards and may include in projects such features as are necessary to provide water to restore, preserve and protect the South Florida ecosystem. *See* § 528(b)(4) of Pub. L. No. 104-303. This Congressional direction was necessary to allow development of the Comprehensive Everglades Restoration Plan (“CERP”). Then in the Water Resources Development Act of 2000, Pub. L. No. 106-541 (“WRDA 2000”), Congress adopted CERP.

When WRDA 2000 was passed, ecosystem restoration became an important part of the C&SF system, allowing for the implementation of CERP projects and Project operations (through System Operating Manuals, like LOSOM). WRDA 2000 included the Savings Clause,⁴

⁴Section 601(h)(5) of WRDA 2000, Pub. L. No. 106-541, § 601, 114 Stat. 2690 (Dec. 11, 2000) states:

“(A) No Elimination or Transfer. -- Until a new source of water supply of comparable quantity and quality as that available on the date of enactment of this Act is available to replace the water to be lost as a result of implementation of the Plan, the Secretary and the non-Federal sponsor shall not eliminate or transfer existing legal sources of water, including those for –

- (i) an agricultural or urban water supply;
- (ii) allocation or entitlement to the Seminole Indian Tribe of Florida under section 7 of the Seminole Indian Land Claims Settlement Act of 1987 (25 U.S.C. 1772e);
- (iii) the Miccosukee Tribe of Indians of Florida;
- (iv) water supply for Everglades National Park; or
- (v) water supply for fish and wildlife.

(B) Maintenance of Flood Protection. – Implementation of the Plan shall not reduce levels of service for flood protection that are –

- (i) in existence on the date of enactment of this Act; and

in which Congress mandated that the Corps not eliminate or transfer existing legal sources of water until a new source of water supply of comparable quantity and quality is available to replace such lost water. If the Corps is attempting to achieve ecosystem restoration through the Planned Deviation, then WRDA 2000 applies and the Corps is required to complete a savings clause analysis, including identification of replacement water, prior to implementing the Planned Deviation.

If the Corps wanted to add a new Project purpose to the operation of Lake Okeechobee, such as HAB, it must follow its own regulations and guidance. The Corps' own "Policy and Procedural Guidance for the Approval of Modification and Alteration of Corps of Engineer Projects" (2006) stated, "Any significant alteration or modification to either a locally or federally maintained Corps of Engineers project must be approved by the Chief of Engineers under 33 USC 408 unless covered by ER 1165-2-119. Modifications to a Corps projects [sic] beyond those necessary to properly operate the project or to minimize maintenance costs as well as any significant alteration or modification requested by any non-Federal interest for their own benefit also requires the Chiefs approval under 33 USC 408." The Policy then concluded, "If the desired modifications cannot be suitably pursued or approved under any of the preceding approaches, additional congressional authorization may be required. Section 216 of the Flood Control Act of 1970 [Pub. L. No. 91-611] is the appropriate authority to use to consider such modifications." *Id.*

ER 1165-2-119, with regard to modifying a water control plan stated, "With some specific exceptions, revised plans for purposes not encompassed by the existing project authority require new Congressional authorization. Further [sic] Congressional authorization is not required to add municipal and industrial water supply, **water quality**, and recreation and fish and wildlife purposes **if the related revisions in regulation would not significantly affect operation of the project for the originally authorized purposes.**" [emphasis added]. It described the procedures to meet water quality needs, and stated in part, "Recommendations to modify a project for water quality reasons must be based on thorough analyses to insure that the best uses are made of the available resources. The analyses should include effects on project purposes, technical feasibility, environmental considerations, reasonableness of alternative actions, and economic impacts. Any action proposed by the Corps should be on the basis that it is engineeringly feasible, environmentally and socially acceptable, and related costs are justified on the basis of combined national economic development (NED) and environmental quality (EQ) effects. Proposals to modify projects for water quality reasons should be submitted to CDR USACE (DAEN-CWE-HW) WASH DC 20314." The EA does not adequately analyze the effects of adding HAB as an additional Project purpose.

The Planned Deviation's sole purpose is water quality, and water quality is not a Project purpose. As such, the Corps cannot implement the Planned Deviation if it will significantly

(ii) in accordance with applicable law.

(C) No Effect on Tribal Compact. – Nothing in this section amends, alters, prevents or otherwise abrogates rights of the Seminole Indian Tribe of Florida under the compact among the Seminole Tribe of Florida, the State, and the South Florida Water Management District, defining the scope and use of water rights of the Seminole Tribe of Florida, as codified by section 7 of the Seminole Indian Land Claims Settlement Act of 1987 (25 U.S.C. 1772e)."

impact the congressionally authorized Project purposes. As documented in the Planned Deviation, water quality has been and remains a province of the State. The EA discusses in detail the responsibilities of the various state agencies in addressing algae and water quality concerns.

A review of the effects from the Planned Deviation operations, which we discuss below, demonstrates that significant negative effects on water supply, navigation, and other purposes can be expected from the Planned Deviation. Therefore, the Corps lacks the legal authority for the Planned Deviation, and it cannot proceed as proposed.

The Planned Deviation Will Significantly Affect the South Florida Environment and NEPA Requires an Environmental Impact Statement (“EIS”) to Study the Effects

The Planned Deviation is a major federal action that will significantly affect the human environment for those in south Florida that rely on the Lake as resource for water supply, recreation, navigation, and fish and wildlife. “Major federal action” includes “action with effects that may be major and which are potentially subject to Federal control and responsibility. Major reinforces but does not have a meaning independent of significantly (§ 1508.27).” 40 C.F.R. § 1508.18. “Section 102(2)(C) of NEPA, 42 U.S.C. § 4332(2)(C), requires a federal agency to prepare an EIS when a major federal action significantly affects the quality of the human environment.” *Hill v. Boy*, 144 F. 3d 1446, 1449 (11th Cir. 1998) (remanding EA for further consideration). “Significantly” includes considerations of both “context” and “intensity”. 40 C.F.R. § 1508.27. Context requires analysis of the significance to society as a whole, the affected region, the affected interests, and locality, including both short and long term effects. 40 C.F.R. § 1508.27(a). Intensity refers to severity of the impact and includes analysis of 10 factors, any one of which is enough to require an EIS. 40 C.F.R. § 1508.27(b); *See Nat’l Parks Conservation Ass’n v. Semonite*, 916 F.3d 1075, 1082 (D.C. Cir.), *amended on reh’g in part*, 925 F.3d 500 (D.C. Cir. 2019) (“Implicating any one of the factors may be sufficient to require development of an EIS.”) It is also well established in NEPA that all effects, including beneficial and negative, of a federal action must be assessed, and if the effects are significant, as they are here, including beneficial effects, then an EIS is needed to evaluate the effects. *See, e.g., Env’tl. Def. Fund v. Marsh*, 651 F.2d 983, 993, 997 (5th Cir. 1981); 40 C.F.R. § 1508.27(b)(1).

Below is a summary of the significant effects which mandate that an EIS be undertaken.

Expected Significant Beneficial or Adverse Effects from the Planned Deviation Require an EIS

While the Corps attempts to cast the deviation as a “minor” change from LORS 2008, simple narrative statements in EA do not make it so. The MacVicar Consulting Technical Report Regarding 2019 Planned Deviation (“MacVicar Report”) analyzed the anticipated effects on various Project purposes. *See* Exhibit 1. Using the same model utilized by the Corps’ local sponsor, the South Florida Water Management District (“SFWMD”), the results show that the Planned Deviation will have significant effects on the human environment, triggering the need

for an EIS. 40 C.F.R. § 1508.27(b)(1). The Planned Deviation is significant in both context and intensity.⁵ 40 C.F.R. § 1508.27.

The MacVicar Report demonstrates the negative and significant effects the Planned Deviation, when compared to LORS 2008 on the Lake's levels, water supply, navigation, all while *increasing* the discharges to the estuaries.

These significant and negative effects include:

- Doubling the percentage of time the Lake stage is below 11 feet, which may adversely affect nesting success of the endangered Everglade snail kite;⁶
- Almost quadrupling the number of days the Lake stage is below 10 feet, affecting the Lake's ecology;⁷
- Increasing the amount of time the Lake stage is below 9 feet;
- Increasing the percentage of time the Lake will go below 12.56 feet, the Lake's navigational limit, impacting navigation, recreation and compromising hurricane evacuation routes;⁸
- Almost doubling the number of times the Lake is below 11 feet for greater than 80 days (implicating potential exceedances of the Lake's Minimum Flows and Levels ("MFL"));
- Increasing by 34%, beyond LORS 2008, average annual flows to the estuaries;
- Doubling the number of months that south Florida would experience water shortages;
- Doubling the amount of severe water shortages that south Florida would experience; and
- Discharging four times more water in the Base Flow band than dictated by LORS 2008.

The Planned Deviation intends to change operations that are currently approved under the LORS 2008 Water Control Plan, which has an EIS. The Corps' own NEPA regulations state that major changes to operations of completed projects are the type of action that requires an EIS. 33 C.F.R. § 230.6. The deviation calls for discharges not allowed under the current LORS 2008 plan, and they are significant – authorizing four times the amount of discharges currently allowed in the Base Flow band, and authorizing discharges when LORS 2008 says to conserve water. These discharges will increase the frequency, the intensity, and the duration of water

⁵ Advocacy groups also admit the significance and precedent-setting nature of the Planned Deviation. See Index No. 092, Bullsugar, "*This is what winning looks like*," August 6, 2019.

⁶ See Index No. 047, LORS 2008 Biological Opinion, 2018. Notably, this past spring during the Corps' low Lake operations, no snail kites nested on the Lake, as compared to past years. For example, in 2016, there were 231 nests on Lake Okeechobee, producing 255 fledglings (which was 40% of the observed number of young snail kites fledged statewide in 2016). Index No. 041.

⁷ See Index No. 047, LORS 2008 Biological Opinion, 2018.

⁸ See Index No. 023, Affidavit of Sean Smith, Corps employee, stating that navigation is impacting at levels below 12.56 feet. See also Index No. 109, Florida Navigational Inland District's LOSOM Scoping comment letter, dated April 22, 2019.

shortages in south Florida. The effects of water shortages in south Florida are staggering, widespread and economically devastating, and were not addressed in the EA.

When south Florida experiences a water shortage, the following are the significant effects that can be expected:

- Lack of water to recharge wellfields in Miami-Dade, Broward and Palm Beach Counties, risking salt water intrusion into coastal wellfields;
- Lack of water to golf courses, nurseries, farmers, landscaping and others causing severe economic impacts;
- Lack of water to public water utilities requiring reduced line pressure, decreasing fire protection system pressures in high rise buildings;
- Increase the potential for damaging and dangerous muck fires in the Everglades; and
- Increase the potential for damaging dry conditions in the Water Conservation Areas and the stormwater treatment areas.

See Index Nos. 008, 010, 011, 013.

The Planned Deviation also ignores these inherent dangers to the public's health and safety when Lake levels go below 12.56 feet, from a navigational perspective. The navigational limit for the Lake is 12.56 feet. This is confirmed by Corps employee, Sean Smith, in an affidavit, "the project depth is based on a Lake Okeechobee stage of 12.56 ft. NGVD. When the lake stage is below 12.56 ft., NGVD, the authorized project depth is not maintained." *See* Index No. 023, at page 2 of 14.

The Florida Inland Navigational District ("FIND"), the Corps' local navigation sponsor of the Okeechobee Waterway (OWW), shared its concerns regarding the impact of low Lake levels on navigation in its letter, dated April 22, 2019, submitted as part of the LOSOM Scoping public comment period. *See* Index No. 109. In this letter, FIND explained that "[w]hen lake levels are allowed to drop below 12 feet, navigation on the federal waterway becomes constricted, commercial and recreational vessel traffic is reduced, and the use of the OWW as a hurricane evacuation route is compromised." FIND further added, ". . . recreation is also a congressionally authorized purpose of the OWW. Lake levels lower than 12 feet have a large negative economic impact on the many marinas and fishing businesses located around the lake with boat ramps and landings becoming inaccessible."

These impacts to the navigation and recreation are significant, yet the EA is devoid of any analysis in this regard. Moreover, the Planned Deviation's impact to the OWW may transgress the OWW's authorized purposes, and may require elevating the Planned Deviation approval within the Corps organization beyond the Jacksonville District in order to proceed. *See* "Policy and Procedural Guidance for the Approval of Modification and Alteration of Corps of Engineer Projects" (2006).

The above provides a summary of the significant effects to water supply, navigation, recreation and the Lake's ecology. Whether the effects of the Planned Deviation are ultimately deemed to be beneficial, negative, or both, because they are significant, an EIS is required. 40 C.F.R. 1508.27(b)(1); 42 U.S.C. § 4332(2)(C).

The Planned Deviation's Effects are Highly Controversial and Require an EIS

An EIS may be required depending on the degree to which the effects on the quality of the human environment are likely to be highly controversial. 40 C.F.R. § 1508.27(b)(4). Under NEPA, a federal action is "controversial" when there is a substantial dispute as to the size, nature or effect of major federal action. *Hanley v. Kleindienst*, 471 F.2d 823 (2d Cir. 1972); *Anderson v. Evans*, 371 F.3d 475, 489–92 (9th Cir. 2004) (requiring an EIS when there was controversy as to the local effects of a whaling plan). Courts have required an EIS when there are criticisms of an EA in the record from experts and knowledgeable individuals that demonstrate controversy as to the effects of the action. *See, e.g., Sierra Club v. U.S. Forest Serv.*, 843 F.2d 1190, 1193–94 (9th Cir. 1988); *Found. for N. Am. Wild Sheep v. USDA*, 681 F.2d 1172, 1182 (9th Cir. 1982). The LORS 2008 SEIS states that lake schedules are highly controversial among interested stakeholders. *See pp. iii-iv of Executive Summary and Section 6.24 of LORS 2008 SEIS (Index No. 120)*. Here, various public comment letters and local government resolutions have identified substantial concerns about size and nature of the effects on water supply for agricultural and municipal water users and Lake ecology of operating the Lake at lower levels than LORS 2008. Commenters include experts in Lake operations who are familiar with water supply needs and scientists who are familiar with Lake ecology and resources. *See Index Nos. 077, 078, 079, 080, 081, 082, 083, 086, 109, 114, including Resolutions and Letters from Lake Worth Drainage District, Palm Beach County, City of West Palm Beach, and Florida Farm Bureau Federation.*

The Planned Deviation is highly controversial because there is much scientific uncertainty on how to address the issue of HAB and whether the Planned Deviation would be effective in doing so. How to address HAB remains an evolving science nationwide. Waterbodies across the State, the Nation and world-wide experience algal blooms, and research is ongoing to learn more about the causes of HAB and solutions. The State has convened the Blue-Green Algae Task Force to lead the efforts in solving the blue-green algae across the state. The Corps itself is currently participating in research to better understand HAB, having received funding from Congress for the purposes of researching HAB in the Lake.⁹ Even the Corps admits that "little is known about what environmental conditions trigger toxin production." *See p. 1-6 of EA*. The Corps stated in the EA that ". . . no single factor has been identified as a root cause for fresh water HAB events," "[r]etaining water in Lake Okeechobee or releasing water from Lake Okeechobee has no known short-term impact to HAB conditions in Lake Okeechobee," and "[n]utrient loading to the estuaries on the east coast and west coast from Lake Okeechobee is overshadowed by local runoff in most conditions, but increased nutrient loading

⁹ *See* Section 1109 of America's Water Infrastructure Act of 2018, Pub. L. No. 115-270. *See also* Harmful Algal Bloom Interception, Treatment And Transformation System – HABITATS Fact Sheet available at: <https://www.erd.c.usace.army.mil/Media/Fact-Sheets/Fact-Sheet-Article-View/Article/1920665/harmful-algal-bloom-interception-treatment-and-transformation-system-habitats/> (accessed September 18, 2019).

can be a factor in favoring freshwater bloom conditions in the estuaries.” EA at 1-7. In other words, the Planned Deviation calls for drastic action that contradicts the water supply purposes of the authorizing statutes in an attempt to achieve HAB control that is speculative and unscientific.

Even the criteria for operating to address HAB conditions is unspecified and uncertain. The Planned Deviation defines an HAB as a “freshwater blue/green algae bloom causing adverse environmental, economic, or health effects.” EA at A-1. No details or criteria are provided to explain how the Corps will determine when “adverse” effects occur or what criteria it intends to use to determine that a bloom is causing or is anticipated to cause “environmental, economic or health effects.” The Corps intends to rely on NOAA satellite imagery coupled with monitoring information from the Florida Department of Environmental Protection and the SFWMD to decide when HAB are present or anticipated to be present. EA at A-2. The uncertainty surrounding this approach was evident during the August 8, 2019 SFWMD Governing Board meeting when the NOAA imagery presented at this public meeting contained inconclusive data.¹⁰ In light of these ongoing research efforts to learn more about HAB, it is unclear what science the Corps can reliably depend to manage the Lake for HAB. Even the several HAB-related articles in the References section of the EA do not appear to provide scientific support for the Planned Deviation resulting in beneficial effects to HAB. The Corps should provide the scientific documentation that supports its position that HAB presence can be reduced through low Lake operations, and provide clear criteria on what an HAB is, and how it will determine the presence and the anticipated presence of HAB.

It is no answer to these concerns that the Planned Deviation provides the Corps with flexibility to release water to address HAB rather than a fixed command that it do so. The Planned Deviation expands on operational flexibility provided for in LORS 2008 that was only available on a limited and infrequent basis. The Planned Deviation’s expansion of that flexibility injects enormous uncertainty and vagueness into the Lake schedule. Changing the defined duration of the LORS 2008 flexibility, the Corps states it may operate under the Planned Deviation for the next 3 to 4 years, essentially creating a new schedule with an EA.¹¹ Changing the operational certainty in LORS 2008, the Corps states it will confer with other agencies during “periodic scientist calls” to decide how much water will be released east and west under the Planned Deviation. In another instance, the Corps puts off for another day how much water it intends to deliver south, potentially affecting the stormwater treatment areas (“STAs”). This exemplifies the vagueness, lack of certainty and controversial nature of the Planned Deviation. It also underscores that the Corps does not actually know how much water will be released, has not conducted an analysis, and cannot, therefore, conclude the effects from Planned Deviation will be minimal. A “hard look,” as required by NEPA, is not possible if the Corps will apparently be making operational decisions on an ad hoc basis after weekly telephone calls, adds to the uncertainty and controversial nature of the Planned Deviation.

¹⁰ See Index Nos. 096, 097.

¹¹ The current LORS 2008 was originally adopted as a three year schedule.

The Corps' proposed approach denies all the stakeholders who depend on the Lake water the ability to predict with certainty how the Lake operations will occur, making the effect of the Planned Deviation controversial and requiring an EIS. Such vagueness in the operational plan is also inconsistent with a regulation schedule, which must be predictable as to how operational decisions will occur and what effects they might have. The Lake is a unique resource in the United States and in the C&SF Project. It is often referred to as the liquid heart of Florida and millions of users rely on the Lake in the dry season for water supply as far south as Miami. The lack of criteria and vagueness surrounding the HAB operational strategy is an unacceptable approach to manage a lake with the significance and import to millions of people such as Lake Okeechobee. The loss of 500,000 acre-feet of storage in the Lake from LORS 2008 has already impacted south Florida, generating more harmful discharges to the estuaries and diminishing the water supply resource. This Planned Deviation exacerbates these adverse effects, increasing the discharges to the estuaries overall.¹² The changes to lower the schedule, harming this essential resource further, are highly controversial and require an EIS.

*The Planned Deviation Will Violate Other State Imposed Requirements
That Protect the Environment and Requires an EIS*

The Planned Deviation will violate state law aimed at protecting the Lake and the Everglades. 40 C.F.R. § 1508.27(b)(10). The Lake MFL was established to identify when **significant harm** will occur to the water resources or ecology of the area. The LORS 2008 low Lake stage operations already caused the Lake MFL to shift from a prevention of violation status to a MFL violation recovery status, requiring SFWMD to adopt a Lake MFL recovery strategy. This Planned Deviation threatens to bring more violations of the Lake's MFL, which occurs when an exceedance occurs more than once every six years, and an exceedance happens when the Lake declines below 11 feet NGVD for more than 80, non-consecutive or consecutive, days in an 18-month period. R. 40E-8.221(1), F.A.C. The likelihood of an exceedance is almost doubled under the Planned Deviation as compared to LORS 2008. *See* MacVicar Report. Wastefully draining the Lake when water should be conserved for the Lake's Project purposes risks causing low Lake levels that violate the Lake MFL.

SFWMD is also a permittee on Everglades Forever Act and National Pollutant Discharge Elimination System Program permits for the STAs. The STAs are required by state and federal law to treat water before it enters the southern parts of the system including the Water Conservation Areas. The Planned Deviation injects unstudied uncertainties into how the STAs will function, particularly when they are overloaded as the result of releases from the Lake, stressing the vegetation and short-circuiting flow-paths. The Corps stated it will make "maximum practicable releases" to the Water Conservation Areas, yet this term is undefined and unstudied. *See* EA at 2-1-2-2.

The Corps makes conclusory statements that the Planned Deviation "is not expected to cause the STAs to exceed design capacity" because releases to the STAs "will be determined by

¹² Last year's low Lake operations discharged an additional 400,000 acre-feet beyond what would have been discharged under LORS 2008. *See* MacVicar Report.

the SFWMD.” *See* p. 4-16 of EA. That claim is demonstrably incorrect. The STAs are designed to handle, on average, 60,000 acre-feet per year of Lake water. However, as admitted by the Corps, the STAs have been “significantly overloaded” over the past few years, with loading of approximately 200,000 to 300,000 acre-feet per year of Lake water. *See* p. 4-11 of EA. Knowing that the STAs have been overloaded under LORS 2008, the EA fails to analyze the potential long-term effect of continued overloading under the Planned Deviation. These effects could include significant additional costs to managing and operating the STAs and raising potential permit compliance concerns. Conversely, the EA contains no commitments or analysis on restricting the releases to the STAs to 60,000 acre-feet. The Corps’ analysis regarding the effects to the STAs is vague and incomplete and does not support the Corps’ conclusion in the FONSI that the “proposed action will not adversely affect water quality and will be in compliance with the Clean Water Act.” Draft FONSI at 3.

CERP projects such as the EAA Reservoir, the Central Everglades Planning Project, and the Lake Okeechobee Watershed Restoration Project will collectively improve the ability to send, store and treat water in the greater Everglades and throughout the system. USSC has been, and continues to strongly support the completion of these important CERP projects. But these projects are not yet complete. Until these projects are completed, volumes sent south must account for downstream constraints, including the STAs’ capacity.

Lastly, it is not clear if the Planned Deviation complies with Florida’s Coastal Zone Management Act (“CZMA”). The Corps states that the proposed action is consistent “to the maximum extent practicable” with the CZMA. *See* EA at 1-12. The EA does not expand on what this means or what was undertaken to insure compliance with law. The Corps should explain how the Planned Deviation complies with Florida’s CZMA.

The Corps is already devoting considerable resources to undertaking an EIS in its LOSOM process, with engagement from diverse stakeholders. The issues and effects raised caused by the 2019 Planned Deviation are significant and can be addressed through the LOSOM process. This allows the Corps and the public adequate time to assess these issues carefully and fully, in a transparent process where we can be assured all project purposes are assessed.

The EA is Arbitrary and Capricious

The EA contains vague parameters that provide no certainty on how the Planned Deviation will be implemented, resulting in a document that is arbitrary and capricious. The Administrative Procedure Act requires that a court overturn an agency’s decision if it is arbitrary and capricious, an abuse of discretion or otherwise not in accordance with law. *See* 5 U.S.C. § 706; *see also City of Oxford, GA v. F.A.A.*, 428 F.3d 1346 (11th Cir. 2005). “The court will overturn an agency’s decision as arbitrary and capricious under the “hard look” review if it suffers from one of the following: (1) the decision does not rely on the factors that Congress intended the agency to consider; (2) the agency failed entirely to consider an important aspect of the problem; (3) the agency offers an explanation which runs counter to the evidence; or (4) the decision is so implausible that it cannot be the result of differing viewpoints or the result of

agency expertise.” *Sierra Club v. U.S. Army Corps of Engineers*, 295 F.3d 1209, 1216 (11th Cir. 2002) (citing *Motor Vehicle Mfrs. Ass'n of the U.S., Inc. v. State Farm Mut. Auto. Ins. Co.*, 463 U.S. 29, 103 S.Ct. 2856, 2867 (1983)).

The EA consists of conclusory statements with no analysis, modeling or science to support its conclusions that the negative effects of the action will be minimal yet admits within the Planned Deviation document that effects will occur. Importantly, the EA contains no science or evidence that demonstrates a causal link between its plan to drain the Lake to levels lower than LORS 2008 and improving HAB.

*The Planned Deviation's "Water Bank" is Risky and Uncertain
Because It Relies on Rainfall, Which is Never Guaranteed*

The Water Bank is a concept intended to show the effects of the Planned Deviation can be ‘zeroed’ out in a given year. This paper exercise fails to account for seasonality and timing of releases. The withdrawals from the Water Bank would be occurring during times when LORS 2008 cautions that no withdrawals should occur, that is, in the Beneficial Use Sub-band, and once those withdrawals are made, there is no guarantee of a timely ‘deposit’ of rainfall. Moreover, it is irrelevant if the Water Bank deposits its make-up water in the wet rainy months because the irreversible negative effects from lack of water occur when the Lake water use released in the dry months. These dry season negative effects from lack of water cannot be “zeroed-out” or reversed by rainy season deposits. The key to balancing the Lake’s multi-purposes requires maintaining adequate water to meet all needs in the Lake year-round. The Water Bank does not do so, and is highly speculative and risky because it relies solely on rainfall, which cannot be predicted.

*The Corps Failed to Evaluate the Cumulative Effects of the
Planned Deviation in the EA, by Improperly Evaluating Only a Short-Term Duration*

LORS 2008 lowered the Lake’s levels to allow repairs to the dike to be undertaken. These repairs, and the diminished water supply, have continued for 11 years. The Planned Deviation, adds insult to injury, by further harming and reducing south Florida’s already diminished water supply. Now, the Corps states that the Planned Deviation may be in place until the new Lake schedule, LOSOM, is finalized, further exacerbating the effects on water supply from a low Lake in the dry season. EA at p. 4-16. Because LOSOM is expected to be approved in 2022, maybe later, the Planned Deviation will likely be in place for at least four (4) years. While admitting the possibility of these longer term effects, the Corps failed to analyze the reasonably foreseeable effects of managing the Lake lower than LORS 2008 over the course of the next four (4) years, as required. In addition, the Corps lists various projects as “reasonably foreseeable” in its cumulative effects section of the EA, but makes no attempt to actually analyze the effects on these other actions. Instead, it piece-meals its analysis into a shorter one-year timeframe, punting the longer term review for later. This is improper and appears as an attempt

to minimize adverse impacts. *See* 40 C.F.R. § 1508.7;¹³ 40 C.F.R § 1508.25(a)(2); 40 C.F.R. § 1508.27(b)(7); *see also Town of Huntington v. Marsh*, 859 F.2d 1134, 1142–43 (2d Cir. 1988).

If the Corps anticipates the Planned Deviation may be in place for years (as stated in the documents), it should assess the impacts accordingly. This is required by NEPA, and consistent with how the Corps regulates third parties.

The Alternatives Analysis in the EA is Arbitrary and Capricious

The array of alternatives analyzed in the Planned Deviation are exceedingly narrow and appear self-serving to insure a desired and pre-decided result of Alternative B. The EA did not present the required hard look needed to assess the Planned Deviation. NEPA requires the Corps to “study, develop, and describe alternatives to recommended courses of action in any proposal which involves conflicts concerning alternative uses of available resources.” 42 U.S.C. § 4332(2)(E).

The Corps dispensed with the No Action Alternative because it claims it would not meet the Planned Deviation’s purpose to discharge more water in the dry season to address HAB. Alternative C appears designed to increase the adverse effects from Alternative B and seemingly make Alternative B look more appealing. Alternative D was rejected without analysis because the Corps prematurely concluded it increased Lake stages and might threaten the Dike’s integrity. EA at 2-6.

The rejection of Alternative D is arbitrary and capricious for a variety of reasons. One, the statement is at odds with LORS 2008, which set the Lake’s high stage of 17.25 feet in 2008, even before any Dike repairs started. Two, the EA is equally at odds with recent statements by Colonel Kelly during his press release after Hurricane Dorian, where he stated, “The dike is in a great position. We have very low risk.” TC Palm Article Sept 11, 2019. Three, Alternative D, analyzed in the MacVicar Report, demonstrates that it has the ability to reduce discharges to estuaries, over Alternative B, while protecting the Project’s purposes, and maintains the high Lake stages virtually the same as LORS 2008. In addition, the MacVicar Report provides detailed analysis on the significant negative effects of Alternative B. The report contrasts Alternative D with Alternative B, showing Alternative D’s improved performance on all fronts over Alternative B, including reducing discharges to the Estuaries.

The Corps’ alternatives analysis, which analyzed only two alternatives, LORS 2008 and Alternative B, was not reasonable and failed to take a hard look at other reasonable alternatives that appear to better balance the Project’s purposes. With billions of dollars being paid by taxpayers for the Dike repairs, which are nearing completion, the alternatives analyzed should be

¹³ Cumulative impact is the impact on the environment which results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency (Federal or non-Federal) or person undertakes such other actions. Cumulative impacts can result from individually minor but collectively significant actions taking place over a period of time.

broadened and account for the improved condition of the Dike as well as other operational decisions that do not result in significant effects to other Project purposes.

The Corps' "No-Effect" Determination Regarding Listed Species Is Unsupported by Science, and the Corps Improperly Avoided Consultation

Drawing the Lake to extreme low levels will hurt the Lake's ecology and listed species. We have already seen that the endangered Everglade snail kite's nesting numbers were dramatically reduced and possibly eliminated, depending on late season kite surveys, on the Lake this past year. The Corps' operations this past dry season drove the Lake to low levels that do not support successful kite nesting. Despite the lack of kite nesting after low Lake operations, the Corps dispensed with an Endangered Species Act ("ESA") Section 7 consultation by concluding that its sustained low Lake operations will have "No Effect" on various listed species, and bypassing species consultation. A no-effect determination does not seem supportable in light of the possible effects from the Planned Deviation.

The Planned Deviation increases the number of days the Lake will be below 11 feet and below 10 feet. It also increases the number of exceedances of the Lake Okeechobee MFL. These increases in low Lake levels harm the Lake's ecology and adversely affect the nesting habitat for the snail kite. *See, e.g.*, Section 3.2.2.1, June 6, 2018, U.S. Fish and Wildlife Service Biological Opinion for LORS 2008. With only a conclusory statement that recession rates will not exceed those recommended by Fletcher (2017), and no analysis regarding any other listed species or critical habitat, the Corps summarily declares for itself a convenient no-effect conclusion. There is no evidence to substantiate how the recession rate in the deviation is supported. The no-effect conclusion appears contrary to the Corps' own 2017 Biological Assessment for LORS 2008.¹⁴ Considering that the Planned Deviation would significantly exceed the volume of discharges in LORS 2008 and increase the frequency of low Lake levels, engaging in ESA consultation with the U.S. Fish and Wildlife Service and the National Marine Fisheries Service seems prudent, if not necessary. The Corps should revisit its no-effect species determination and properly initiate Section 7 consultation with the appropriate agencies.

**THE PLANNED DEVIATION USURPS THE STATE'S WATER SUPPLY
OBLIGATIONS TO EXISTING LEGAL USERS**

Allocation of water supply made available by the C&SF Project was defined by Congress as a state prerogative. The federal government has consistently deferred to state water law and has translated this deference into federal civil works project operational protocols in a manner that sustains water availability. Since 1948, Congress clearly defined the State and Federal relationship in developing and implementing the C&SF Project, including "to recognize the interests and rights of the States in determining the development of the watersheds within their borders and likewise their interests and rights in water utilization and control" and "to preserve and protect to the fullest possible extent established and potential uses, for all purposes, of the

¹⁴ Index No. 042

waters of the Nation's rivers . . ." *See* Pub. L. No. 80-858 (incorporating by reference Section 1, Pub. L. No. 78-534). From the earliest formulations of the C&SF Project, water supply has been a Congressionally-authorized project purpose, with Congress citing the benefits to the U.S.'s economic development. *See* HD 643. After the Congressionally-authorized Restudy,¹⁵ Congress recognized that in adding ecological restoration purposes to C&SF Project, protection of the State's water supply program was necessary to maintain the economic benefits and investments of the C&SF Project. This was codified in WRDA 2000 as the Savings Clause, mandating protection of water sources available to existing legal users on date of enactment. *See* § 601(h)(5)(A)(i) of Pub. L. No. 106-541 (WRDA 2000).

Contrary to state and federal laws, the Planned Deviation operational plan destroys the careful, temporary compromises made in the LORS 2008 schedule. Changing the schedule to now discharge in the Beneficial Use Band and all the way down to 0.25 foot above the Water Shortage Band, the Corps impermissibly interferes with the State's water supply program by significantly reducing the amount of water available to allocate from the Lake, eliminating the Corps' stated deference to State operational guidance in the Beneficial Use Band, and making worse the State adopted MFL. The proposed operations also risk causing violations of State Water Quality Standards, permit requirements, and Court Orders by delivering excessive volumes to the Everglades STAs. The Planned Deviation will disrupt a complex web of water management, knowingly and collaboratively designed to fulfill specific legal and permit requirements. In so doing, it will lead to more water shortages and less ability for the State to meet its permitted, existing legal users' water demands, undercutting the State's water supply program and obligations, risking permanent harm to ecologic resources and violation of water quality and Court ordered permit conditions. The Corps' Planned Deviation violates Congress's intent in the above cited laws to preserve and defer to the State's water supply program.

If the Corps implements the Planned Deviation, the quantity of water available to existing legal users will likely be diminished, adversely impacting existing legal users. Under Federal law, the Corps is prohibited from doing so. Under state law, the State is required to provide reasonable assurances that this does not happen. § 373.1501(5)(d), F.S. To do this, the State would to make up the water supply lost by the Corps' operations by making additional water supply available to users if the Planned Deviation goes forward as proposed.

CONCLUSION

We urge the Corps not to proceed with this Planned Deviation and return to managing the Lake within LORS 2008 guidelines. The Planned Deviation is unlawful because water quality is

¹⁵ The "Restudy" is defined in section 373.1501(1)(h), F.S. as "the Comprehensive Review Study of the Central and Southern Florida Project, for which federal participation was authorized by the federal Water Resources Development Acts of 1992 and 1996 together with related Congressional resolutions and for which participation by the South Florida Water Management District is authorized by this section. The term includes all actions undertaken pursuant to the aforementioned authorizations which will result in recommendations for modifications or additions to the Central and Southern Florida Project."

not a project purpose, an EIS is legally required, and the EA is inadequate to satisfy APA requirements.

The Planned Deviation is inconsistent with the water supply mandate that Congress adopted. It undermines water supply for critical uses in the name of improving water quality, which is not a congressionally authorized purpose. The Corps cannot, as here, seek to address water quality when doing so is significantly at odds with the congressional authorized purposes. Also, as discussed above and in the MacVicar Report, the Planned Deviation will cause significant effects to water supply, navigation, recreation, and fish and wildlife that triggers the legal requirement to prepare an EIS. Finally, the EA that the Corps prepared is inadequate, failing to analyze the effects that the Planned Deviation will certainly have and often relying on speculation rather than data or science. Because it fails to address adequately the many effects of the Planned Deviation, or other reasonable alternatives, the EA is arbitrary and capricious in violation of the APA.

The Planned Deviation drives the Lake far lower than the current LORS 2008 schedule dictates, discharging Lake water when the current schedule says no discharges are authorized. This is a **significant** change that adversely affects congressionally authorized project purposes. The Planned Deviation's attempt to address HAB through the objective regarding "public health and safety" materially changes the Project's currently authorized purposes without congressional approval. The Corps has historically defined "public health and safety" to pertain to concerns regarding flooding and dike failure. Attempting to re-cast this objective today, in a manner that harms the Project's purposes, is improper; especially when it is unknown whether these proposed operational changes may even have an effect HAB, but it is well established that low Lake levels will harm the Lake's purposes, including after supply.

With the significant effects we discuss above, we respectfully request that the Corps not proceed with the Planned Deviation. Please include this letter and all exhibits into the 2019 Planned Deviation administrative record. We appreciate the Corps' consideration of our comments.

Sincerely,



Luna E. Phillips
Gunster Law Firm
Attorneys for the United States Sugar Corporation

Enclosures: Exhibit 1– MacVicar Consulting Technical Report Regarding 2019 Planned Deviation (“MacVicar Report”)
Exhibit 2 – Index of Documents Supporting USSC’s Public Comment letter to the Corps Regarding the Planned Deviation (*Hard copies submitted to the United States Army Corps of Engineers, Jacksonville District via Priority Overnight Federal Express Master Tracking No.7762-8698-7755, to the attention of Ms. Melissa Nasuti*)

cc: Major General Scott A. Spellmon, Deputy Commanding General for Civil and Emergency Operations, United States Army Corps of Engineers
Major General Diana Holland, Commander of the South Atlantic Division, United States Army Corps of Engineers
Lieutenant Colonel Jennifer A. Reynolds, United States Army Corps of Engineers
Lieutenant Colonel Todd F. Polk, United States Army Corps of Engineers
Mr. Gib A. Owen, United States Army Corps of Engineers
Mr. Ryan A. Fisher, United States Army Corps of Engineers
Mr. Drew Bartlett, South Florida Water Management District
Client

Exhibit 1

September 20, 2019

Colonel Andrew Kelly, Commander, Jacksonville District
c/o Melissa.a.nasuti@usace.army.mil
U.S. Army Corps of Engineers
P.O. Box 4970
Jacksonville, FL 32232-0019

RE: Deviation to the Lake Okeechobee Regulation Schedule (LORS08)

Dear Colonel Kelly:

I am writing to provide comments on the proposed deviation to the Lake Okeechobee Water Control Plan addressing harmful algae blooms. Our firm provides technical support for numerous agricultural land owners and businesses in the Lake Okeechobee Service Area, all of whom depend on Lake Okeechobee (Lake) for supplemental irrigation supply. I would like to start by thanking you for releasing the Draft Environmental Assessment (EA) for public review and comment, although the time allowed for the review of a proposal with this complexity, and obviously significant consequences, was still a challenge for us.

The algae blooms we have experienced in the last few years have resulted in wide-spread negative consequences to the environment and the thousands of people directly affected. For the Corps to assess its operations and look for adjustments that could provide some relief is very helpful, and you and your team are to be commended for the initiative you have shown. However the action proposed in the EA is a significant departure from the operations authorized in the LORS08 Environmental Impact Statement and the EA provides no useful evaluation to assess the likely outcomes of adopting the proposed deviation.

The proposal recommends operations very similar to those carried out from November 2018 through June 2019 but with even higher discharge rates to the estuaries during the dry season. The EA does not discuss the fact that these operations released approximately 400,000 acre-feet from the lake above what would have been released under LORS08, and what consequences these releases may have had.

It would have been helpful to evaluate a few questions related to the recent operations before recommending an even more aggressive plan to lower the lake: (1) Was the failure of Everglade snail kites to nest in the Lake for the first time in over a decade related to the lower water level brought on by the additional dry season releases? (2) Did the additional inflow from the lake affect the spring recession in the Water Conservation Areas and contribute to lower wading bird nesting than in recent years? (3) Was the performance of any of the STAs hurt by the unseasonal inflow from the lake? There are also questions regarding the impacts to the estuaries that could have been evaluated before submitting this EA for public review.

In the absence of any technical evaluation in the EA, we utilized the SFWMD's Lake Okeechobee Operations Screening (LOOPS) model to provide insight into the recommended

plan. The LOOPS model is a well-established tool for screening-level analysis of changes to the Lake schedule that is used routinely by the SFWMD staff and is available to the Corps. Typical operations under LORS08, Alternative B (the recommended plan), and Alternative D were all simulated and the results evaluated and compared to the No Action Plan (LORS08). A detailed description of how this exercise was performed and the results we obtained are included in the attached technical memorandum. Another alternative, which is a slight change to Alternative D, was also simulated just to show that other options could have easily been evaluated before the EA was published. The details of our technical analysis are discussed in the enclosed Technical Memo(Attachment A). A few observations worth noting are summarized in the following table.

Green = better; red = worse	LORS08 (No Action)	Alt B (Recommended)	ALT D
Average Annual LO flow to the Estuaries	753	1020	659
Years with greater than 500 kaf LO flow to the estuaries during the algae months (June-Sept)	7	3	3
Years with greater than 150 kaf LO flow to the estuaries during the algae months	15	9	9
45 year peak stage	17.66	17.65	17.65
45 year minimum stage	9.40	8.96	9.41
% time stage greater than 15.0	14%	10%	15%
% of time stage less than 11.0	6.9%	14%	7.2%
Number of times stage less than 11.0 for more than 80 days	8	14	8
% time stage below 12.56 (navigation limit)	22.1%	37.6%	21.9%
Number of days stage below 10	231	845	231
Number of days stage below 9	0	21	0
Number of Water Shortage months for LOSA	25	52	22
Number years with a Water Shortage	14	19	12
Severe Water Shortages (> 100 kaf)	5	13	4

As you can see, Alternative D is superior to Alternative B, the recommended plan, in almost every respect. None of the alternatives change the peak lake stage from the No Action Plan (LORS08) which is critical to preserving the protection afforded by the Herbert Hoover Dike (HHD) while it is under repair. The point of our analysis was not to recommend any specific plan but to point out that the plan recommended in the EA is not appropriate, and other more effective plans with far fewer negative consequences are available and could have been developed and included in the EA.

We would be happy to meet with your staff to answer any questions on this work or to explore other possible adjustments to the Lake Okeechobee Water Control Plan to achieve the multi-objective balance that is required.

Thank you for allowing us to review the proposed deviation and considering our evaluation before any plan is approved.

Sincerely,



Thomas K. MacVicar, P.E.
Macvicar Consulting

cc: Lieutenant Colonel Jennifer A. Reynolds, U.S. Army Corps of Engineers
Lieutenant Colonel Todd Polk, U.S. Army Corps of Engineers
Drew Bartlett, Executive Director, South Florida Water Management District

Attachment A – Analysis of the Corps 2019 Planned Deviation to the Water Control Plan for Lake Okeechobee

ANALYSIS OF THE CORPS' 2019 PLANNED DEVIATION TO THE WATER CONTROL PLAN FOR LAKE OKEECHOBEE

BACKGROUND

On August 6, 2019 the Jacksonville District of the U.S. Army Corps of Engineers (Corps) released a Draft Environmental Assessment (EA) and Finding of No Significant Impact (FONSI) entitled "2019 Planned Deviation to the Water Control Plan for Lake Okeechobee and the Everglades Agricultural Area." The objective of the proposal is to allow the Corps to make significant releases from Lake Okeechobee, beyond those specified in the current Water Control Plan, in response to Harmful Algae Blooms (HAB).

The EA describes three potential operational plans and a No Action alternative. There are two primary approaches to the operational changes: (1) Make pre-emptive releases in the dry season to lower the level of the lake in order to reduce the need for releases to the estuaries in the summer months, and (2) Reduce the actual release rates in the summer months from those called for in the current schedule. The preferred alternative (Alternative B) and Alternative C utilize both approaches while Alternative D emphasizes only the second approach. Either approach has the potential to cause significant negative environmental and economic consequences. Although the EA and FONSI recommend a specific alternative, no meaningful estimation was made of the effects of any of the alternatives. The draft EA contains no detailed discussion of alternatives other than the preferred alternative and the No Action alternative.

MacVicar Consulting, Inc. (MCI) is a specialized engineering firm providing client services related to water resource management in South Florida. The MCI staff includes professionals with many decades of experience on the staff of the South Florida Water Management District (SFWMD) and as private consultants analyzing water management operations in South Florida. MCI has the capability to simulate a range of Lake Okeechobee operations using software developed by the SFWMD. This memorandum summarizes the work done by MCI to simulate the alternatives described in the EA to estimate the potential impacts should the Planned Deviation be adopted. The model utilizes a set of standard performance measures developed by the Corps and SFWMD and used on every project affecting Lake Okeechobee.

This memorandum does not recommend a specific operating plan to the Corps. The goal was to use a well-established modeling tool already in wide use by the Corps and the SFWMD to provide a straightforward quantifiable assessment of the impacts of alternative operating strategies. Application of that tool makes it clear that there are other reasonable alternatives, including those described in the EA and eliminated from detailed evaluation that would do a better job of meeting the objectives stated in the EA with far fewer, if any, of the negative consequences to the Lake's other management objectives that the recommended plan would likely produce.

TECHNICAL ANALYSIS

Model Description: The Lake Okeechobee Operations Screening (LOOPS) Model (Neidrauer, 2006) version 6.32 was used in this analysis. The LOOPS Model is a hydrologic simulation tool developed and distributed by the South Florida Water Management District. It provides screening-level testing of operating rules for Lake Okeechobee, including Regulation Schedules, Water Shortage Plans, and protocols for defining release amounts when the Regulation Schedule guidance only provides a range of possible flow rates. The LOOPS Model was constructed by

SFWMD staff to aid with the testing of alternative operating strategies and has been in use for 15 years.

The LOOPS Model performs 45-year simulations, using a daily time-step, of the hydrology and operations of significant portions of the water management system including: Lake Okeechobee, the Lake Okeechobee Service Area, and the Caloosahatchee and St. Lucie watersheds and estuaries. The model does not simulate Everglades hydrology directly so Lake releases to the WCAs via STAs are provided as a fixed time series of values, and are the same for all alternatives in this analysis. This time series was developed by the large-scale South Florida Water Management Model for the LORS08 EIS and has been used as the base condition for COP and the Restoration Strategies simulations. This limitation may lead to underestimation of the releases from the Lake to the Everglades that would be made today. However, since all alternatives use this same assumption, the qualitative comparison between alternative scenarios is still valid.

LOOPS Analysis Mode. The LOOPS Model offers what is called the Position Analysis mode, which was selected for this evaluation. This method simulates individual years independently which is most appropriate for this application since it is unknown what the HAB situation will be in any given year, but each year has the potential to be an HAB year. Therefore the results presented here are not from a continuous simulation with HAB operations, but from a series of one year simulations of the HAB operations where each of the 45 years available for simulation is modeled independently.

Initial Conditions for Position Analysis: The user must select a start date for the simulation which is then used for all 45 years tested. For this evaluation all scenarios begin on October 1 with a Lake Okeechobee stage of 14.53 feet NGVD. This coincides with the stage on October 1, 2018 and October 1 coincides with the beginning of the water year used in the LOOPS water shortage analyses. Note that there are 45 complete water years in this analysis mode.

The Algae Months. The stated purpose of the deviation is to allow the Corps to change Lake Okeechobee operations to avoid algae export to the estuaries from the lake to the estuaries. Algae blooms in the lake tend to occur in the four summer months. The 2018 algae bloom on the lake started in June and had mostly dissipated by mid-September. For this analysis we have assumed the reduced lake releases identified in the EA would be applied in the months June through September. This may not be the case every year but if used as a consistent assumption in each simulation valid comparisons can be drawn regarding the impacts of each scenario.

ALTERNATIVES EVALUATED:

Alternative A. (No Action Alternative): This is a simulation of the LORS08 schedule as modeled in LOOPSV6.32 with the Adaptive Protocols option turned off. This alternative is labeled as LORS08 in the performance graphics. The graphic description of the model setup as displayed in LOOPS is shown in Appendix A, Figure A-1.

Alternative B. (HAB Operational Strategy, Recommended Plan). The description in the EA of the operations associated with the recommended plan is intentionally vague and ambiguous because of the many unknowns. The dry season actions are described fairly specifically while the wet season deviation operations are less well documented. In order to perform a reasonable simulation of the alternatives described in the EA several key assumptions had to be made. This does not imply operations would be exactly as simulated, that would depend on conditions at the time, only that some reasonable operations had to be assumed in order to perform the simulations

and evaluate the consequences in an objective manor.

Therefore Alternative B was modeled by (1) increasing Base Flow releases to 2,000 and 730 cfs to the Caloosahatchee and St. Lucie respectively, (2) lowering the Beneficial Use Band to the higher of 12 ft or 0.25 ft above the Water Shortage Line, and (3) cutting off all estuary regulatory releases below the Intermediate Band in the “algae months” of June through September. Adaptive Protocols are also turned off. This alternative is labeled Alt B in the performance graphics. The description of the model setup as displayed in LOOPS is shown in Appendix A, Figure A-2.

Alternative D. (No estuary releases during the algae months). The EA contains no real analysis of Alternative D. This alternative was modeled the same as LORS08, but Lake regulatory releases to the estuaries when the stage is below the High Lake Management Band were eliminated in the algae months. There are no pre-emptive releases prior to the wet season. Adaptive Protocols are also turned off. This alternative is labeled Alt D in the performance graphics. The graphic description of the model setup as displayed in LOOPS is shown in Appendix A, Figure A-3.

None of the alternatives simulate increased flows to the WCAs as envisioned by the Planned Deviation above those simulated in the LORS08 EIS as this is outside the scope of the LOOPS model. This does not limit the validity of the model to evaluate the Deviation proposal but it does require additional discussion of the interpretation of the results.

Alternative D2. (Hybrid Plan based on Alternative D) This simulation was performed to show that other alternatives are available and could have been analyzed, that accomplish the algae related objectives of the EA with far fewer, if any, negative consequences to the other Lake management objectives. Alternative D2 makes one change from Alternative D. Rather than having no releases to the estuaries in the Algae season until the stage reaches the High Lake Management Band, releases begin when the stage enters the High Band. The idea behind Alt D2 is to alleviate concern over rising lake stage in the summer related to the HHD rehabilitation projects now underway. The graphic description of the model setup as displayed in LOOPS is shown in Appendix A, Figure A-4.

RESULTS SUMMARY

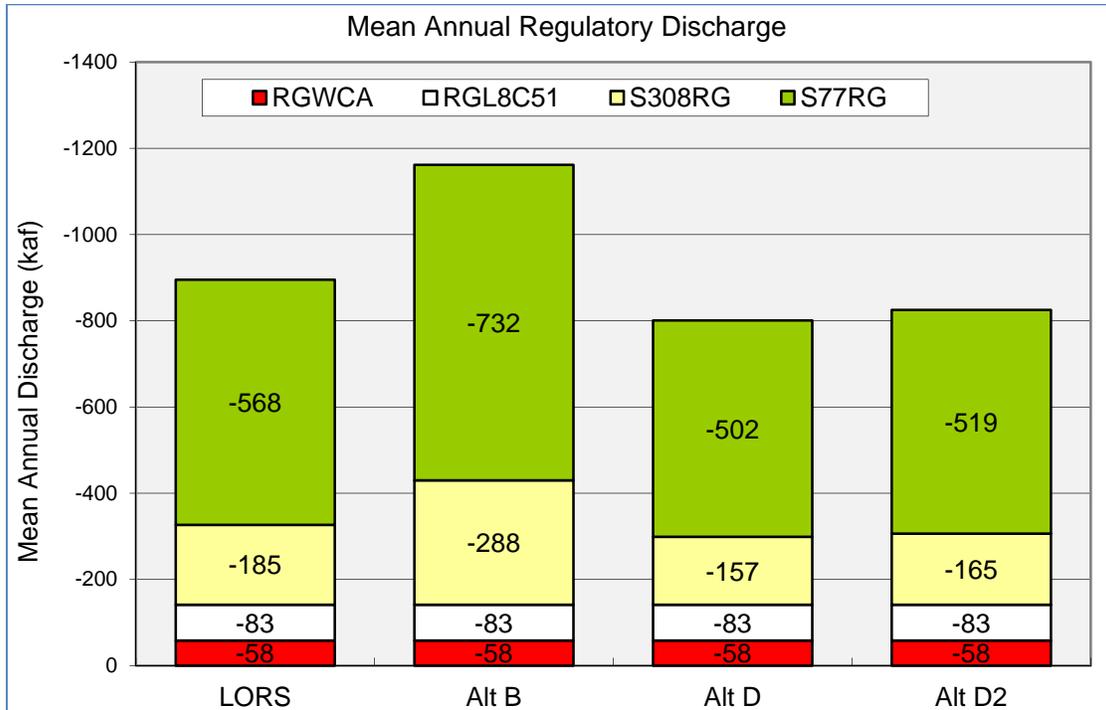
Below is a summary of each of the following 3 performance areas for each of the alternatives simulated: (1) Estuary Releases, (2) Lake Okeechobee Water Levels, and (3) Water Supply for the Lake Okeechobee Service Area.

Regulatory Releases to the Estuaries

Figure 1 shows the total regulatory releases from the Lake for each of the alternatives. The average annual volume of regulatory releases to the estuaries is much higher with the recommended plan (Alternative B). This is because in some years the pre-emptive releases turn out not to have been necessary. With this additional flow comes additional nitrogen and phosphorus in the lake water. Alternative D is the best performing alternative for this metric.

Water releases to the estuaries during the 4 algae months (Jun-Sep) decrease significantly with Alternative B and Alternative D. (See **Table 1**) With LORS08, 7 of the 45 years have algae season flows greater than 500 thousand ac-ft (kaf) and 15 of the 45 have flow greater than 150 kaf. The comparable numbers with Alternative B are 3 of 45 years greater than 500 kaf and 9 years greater than 150 kaf. It is not clear what flow quantity, if any, would be low enough to prevent the transfer of algae to the estuaries.

Figure 1. Estuary Performance Graphic Produced by the LOOPS Model. The recommended Plan performs the worse because it releases water in the winter and spring in many years when those releases would not have been necessary to avoid releases in the summer months. With the additional flow comes addition nitrogen and phosphorus in the lake water.



RGWCA = Regulatory Releases to WCAs; RGL8C51 = Regulatory Releases to L8 and C-51 Canals; S308RG = Regulatory releases to St. Lucie River through S-308; S77RG = Regulatory Releases to the Caloosahatchee River through S-77

Performance Measure	LORS	Alt B	Alt D	Alt D2
Average Annual Release to the Estuaries	753	1020	659	684
Years with greater than 500k ac-ft to the estuaries during algae months	7	3	3	4
Years with greater than 150k ac-ft to the estuaries during algae months	15	9	9	9

Lake Okeechobee WaterLevel

1. The peak lake stage during the 45 year simulation (17.65) was essentially the same for all scenarios.(see **Table 2**) It occurred on April 1st, 1970, not in hurricane season.
2. The percent of time the Lake Okeechobee stage is less than 11.0 feet (6.7% to 14%) doubles with the Recommended Plan compared to LORS08. See **Figure 2**. The other scenarios are very similar to LORS08 and much better than Alternative B.
3. **Figure 3** shows that with Alternative B the Lake stage would be below 11.0 feet for more than 80 days in 14 of the 45 years compared to only 8 for the other scenarios. This is an important metric because it is one of the primary components for determining whether a violation of the Minimum Level for the Lake has occurred.
4. As expected, Alternative B lowers the amount of time the stage is above 15.0 NGVD compared to the other alternatives. (See **Table 2**) The percent of time the lake stage is above 15.0 feet is reduced by 4% compared to LORS08.
5. The stage is below 10 feet for 845 days with Alternative B compared to only 231 days for LORS08 or Alternative D. There are numerous negative environmental, navigation, recreation and economic impacts when the lake stage is below 10.

Figure 2. Percent of Time Simulated Lake Okeechobee Stage Exceeds Specified High and Low Elevations

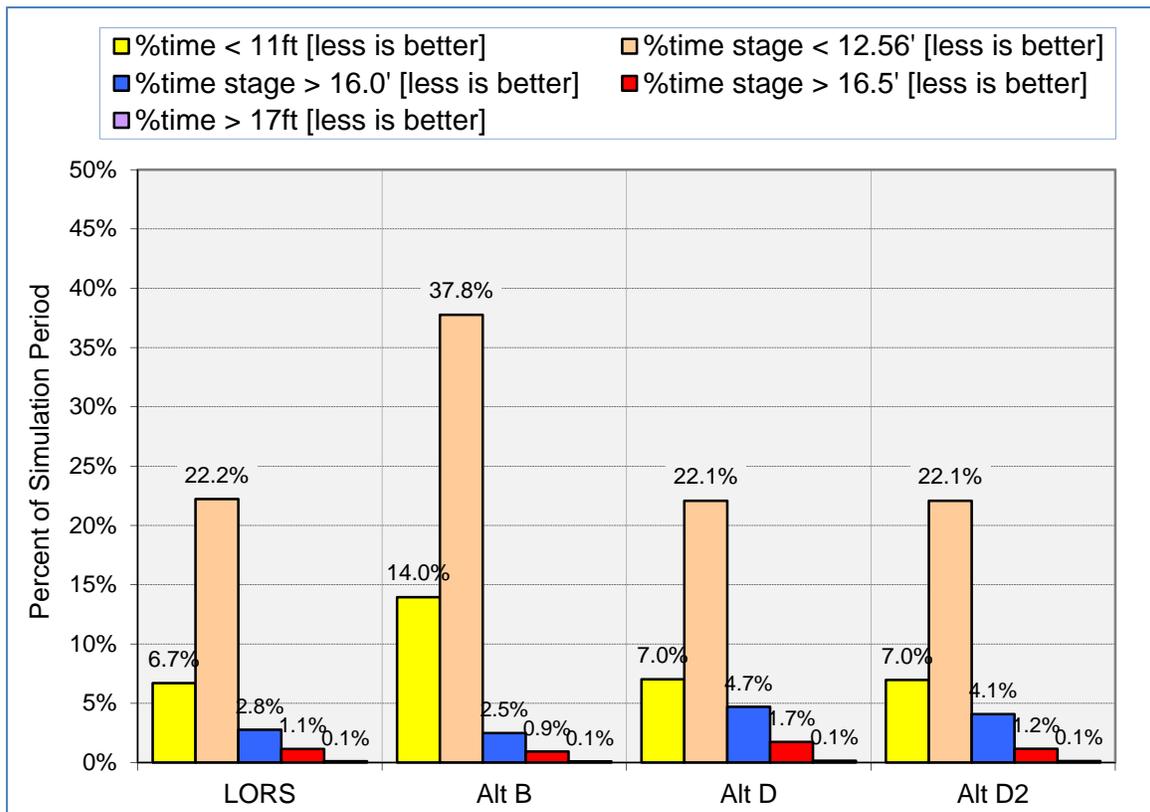


Table 2. Summary of Lake Level statistics produce by LOOPS for each of the scenarios.				
Performance Measure	LORS	Alt B	Alt D	Alt D2
45 year peak stage	17.66	17.65	17.65	17.66
45 year minimum stage	9.40	8.96	9.41	9.41
% time stage greater than 15.0	14.1%	10.3%	15.0%	14.9%
% of time stage less than 11.0	6.9%	14.2%	7.2%	7.2%
Number of times stage less than 11.0 for more than 80 days	8	14	8	8
% time stage below 12.56 (navigation channel stage)	22.2%	37.6	21.9%	22.1%
Number of days stage below 10	231	845	231	231
Number of days stage below 9	0	21	0	0

Figure 3. Low Stage Summary related to the Minimum Level for the Lake established under State law.

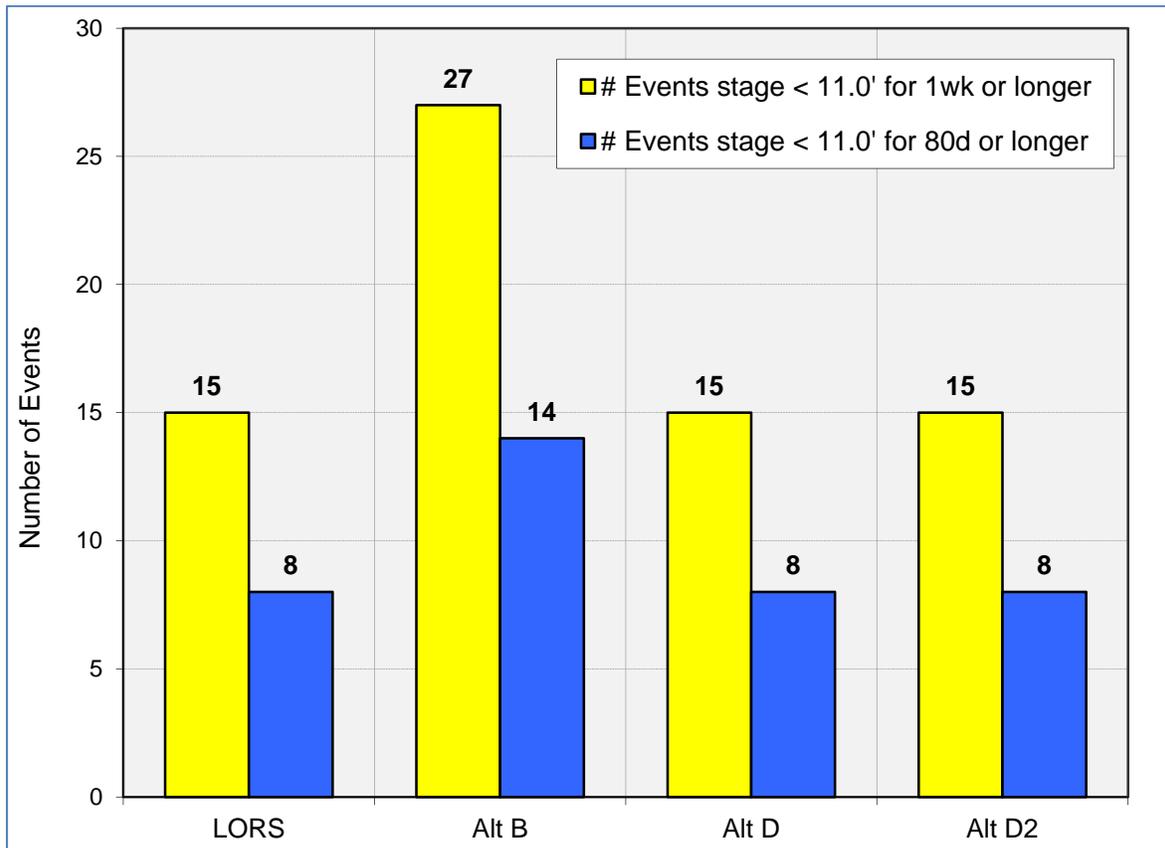
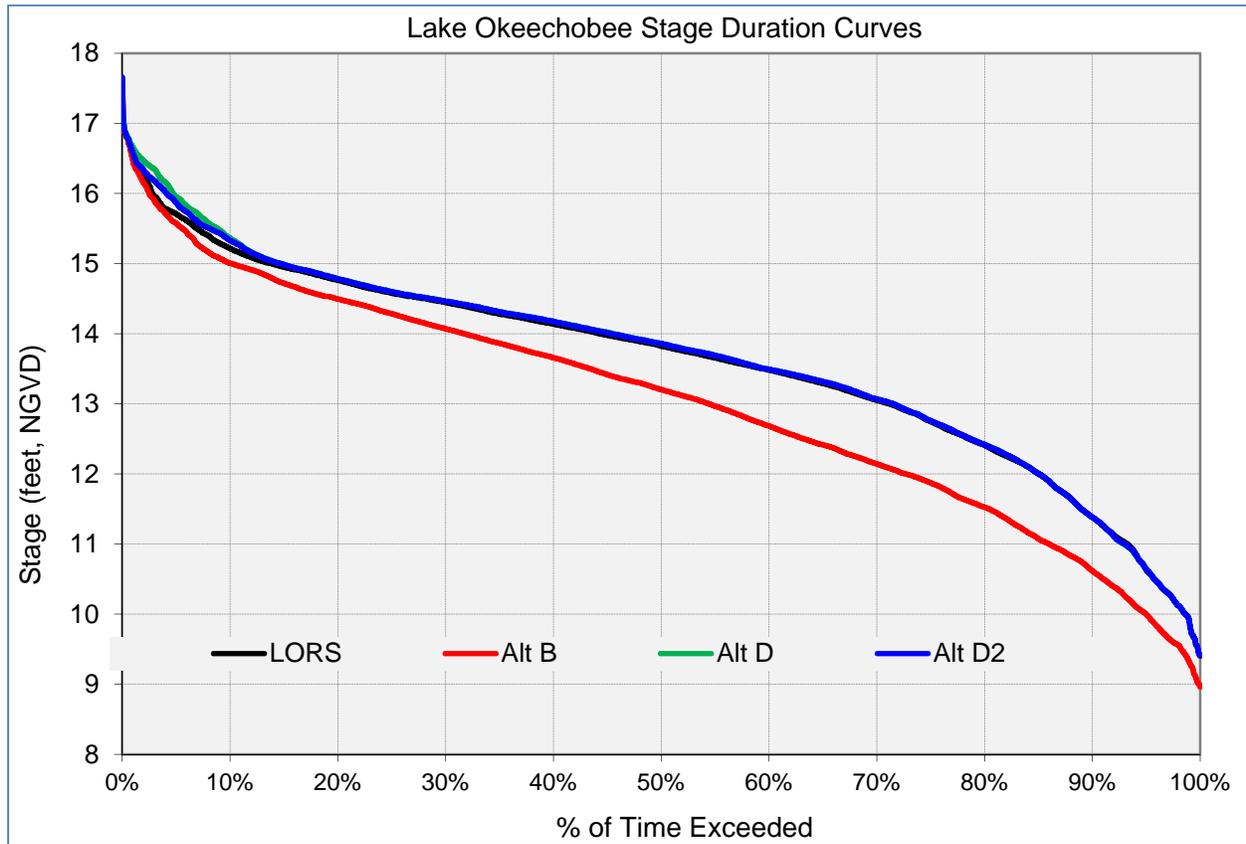


Figure 4. Stage Duration Curve for Lake Okeechobee. Alternative B significantly lowers the lake stage for 95% of the range. The other alternatives are the same as LORS08 except for some minor differences at stages between 15.5 and 16.5 feet. Based on the simulation of 45 years of record none of the alternatives appears to pose a meaningful threat to the Herbert Hoover Dike.

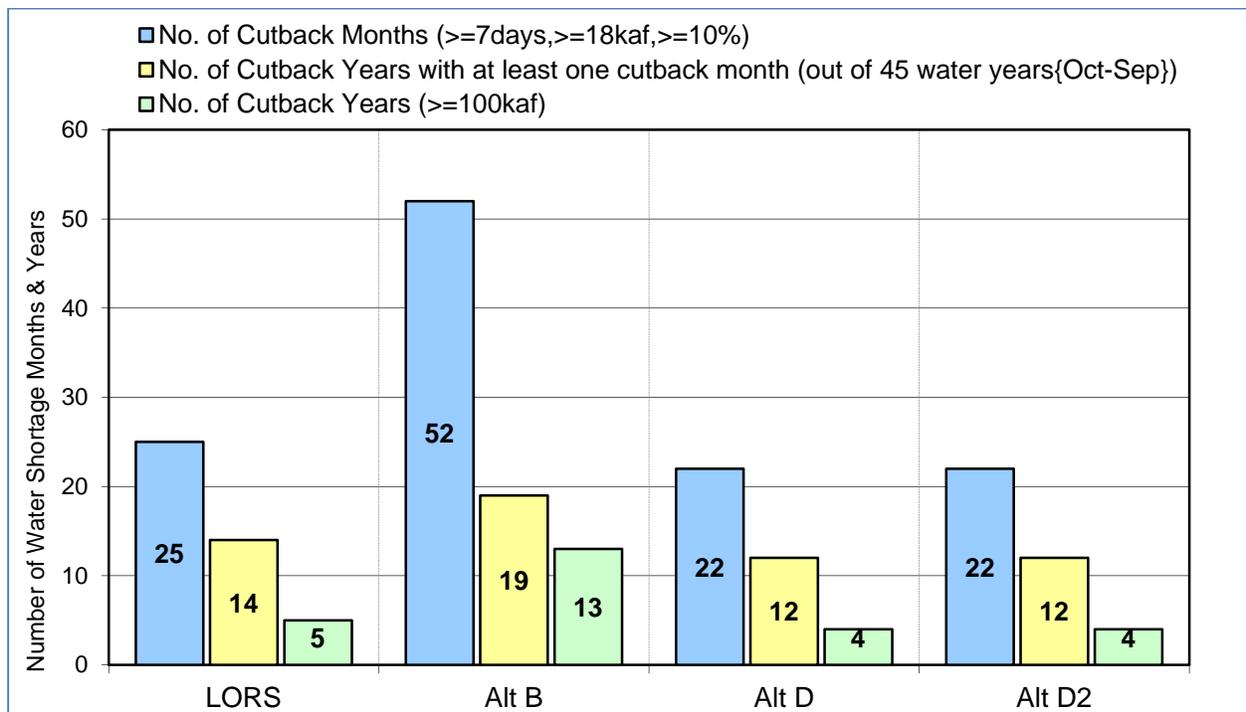


Water Supply

Figure 5 shows that Alternative B results in significant impacts for water supply compared to LORS08. Alternatives D and D2 actually perform slightly better than LORS08 by holding slightly more water in the lake during the summer months.

The key metric showing the most significant impact is the number of years with water shortages requiring more than a 100,000 ac-ft reduction in water supply for irrigation. Alternative B produces 13 years with these large reductions while LORS08 produces only 5 and Alternatives D and D2 only lead to 4 years with large water supply cutbacks.

Figure 5. Water Shortage performance summary for all the alternatives modeled. Alternative B results in significant impacts to available water supply during drought years and is by far the worst performing alternative.

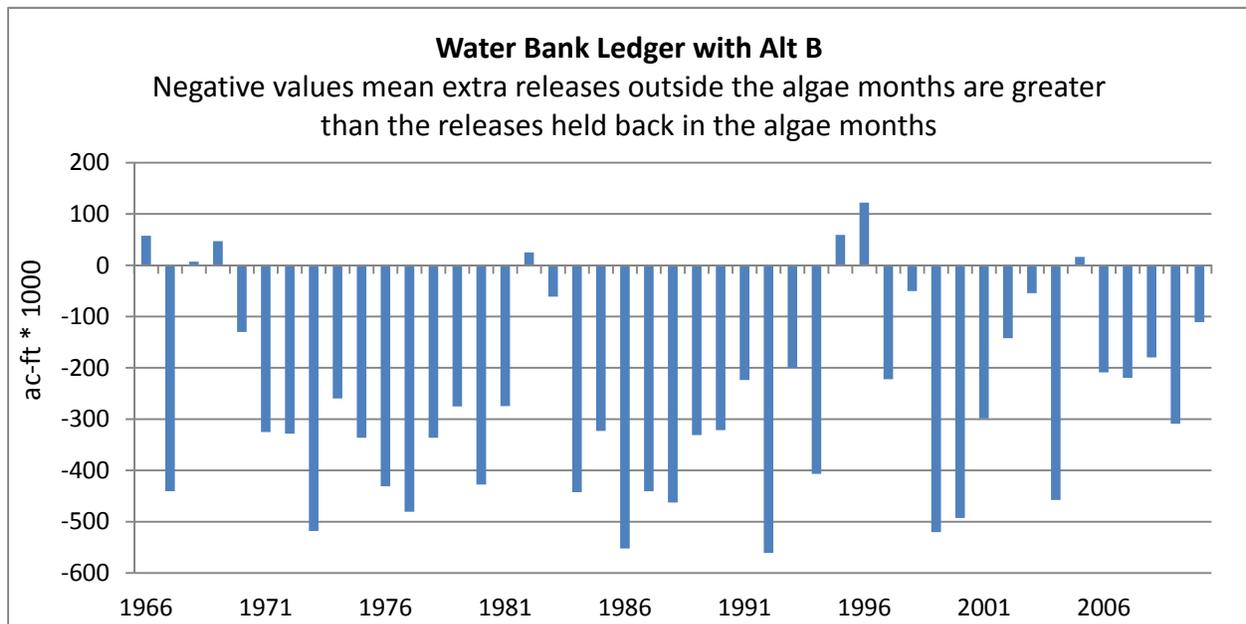


Performance Measure	LORS	Alt B	Alt D	Alt D2
Number of Water Shortage months for LOSA	25	52	22	22
Number years with a Water Shortage	14	19	12	12
Severe Water Shortages (> 100 kaf)	5	13	4	4

Water Bank Proposed in the Planned Deviation

The EA proposes a water banking scheme which is essentially maintaining an annual ledger in an attempt to balance early preemptive releases with later actions to hold more water in the lake than LORS08 would indicate. The methodology has several fatal flaws which make it impossible to use in any meaningful way. These include:

1. The releases before the wet season to make storage capacity available in the lake must be made without any knowledge of whether wet season releases would be necessary. As a result, in years when wet season rainfall is below average the early releases act to make water shortages occur more often and be more severe and no actions later to release less water to tide can compensate for this.
2. Since the water shortages occur before make-up water can be held back in the lake, it is irrelevant whether the “bank” balances after the next wet season if adequate water is not available in the dry months. It will be too late to offset the damage to water supply and the other project purposes done by the early releases.
3. There is no way to calculate what releases would have been made under LORS08 because it does not mandate specific release amounts but only indicates a range of release rates that could be used. In recent years the Corps has consistently released less than the “up-to” amounts specified in the table. This means the Corps could claim they have held water back in the lake when in reality they would have done the same thing whether they were using the Planned Deviation or not.
4. The simulation of the concept using the LOOPS model shows how impractical and irrelevant this banking scheme would be. There are very few years with any balance in the account at the end of the year and in those years the amounts were very small compared to the large negative balances in the large majority of years.



APPENDIX A

Model Description: The Lake Okeechobee Operations Screening (LOOPS) Model version 6.32 was used in this analysis. The LOOPS Model is a hydrologic simulation tool developed and distributed by the South Florida Water Management District that provides screening-level testing of operating rules for Lake Okeechobee, including Regulation Schedules, Water Shortage Plans, and protocols for defining release amounts when the Regulation Schedule guidance only provides ranges of flows. The LOOPS Model was constructed by SFWMD staff to aid with the testing of alternative operating strategies.

The model uses a graphical interface to set the parameters of the Lake Schedule Operating rules and displays the lake stage range, operating range and flow rate decision on the figures shown below. Figures A-1 through A-5 show the graphical depiction of the schedules used in this analysis.

Figure A-1. LORS08 Regulation Schedule graphic from the LOOPS Model

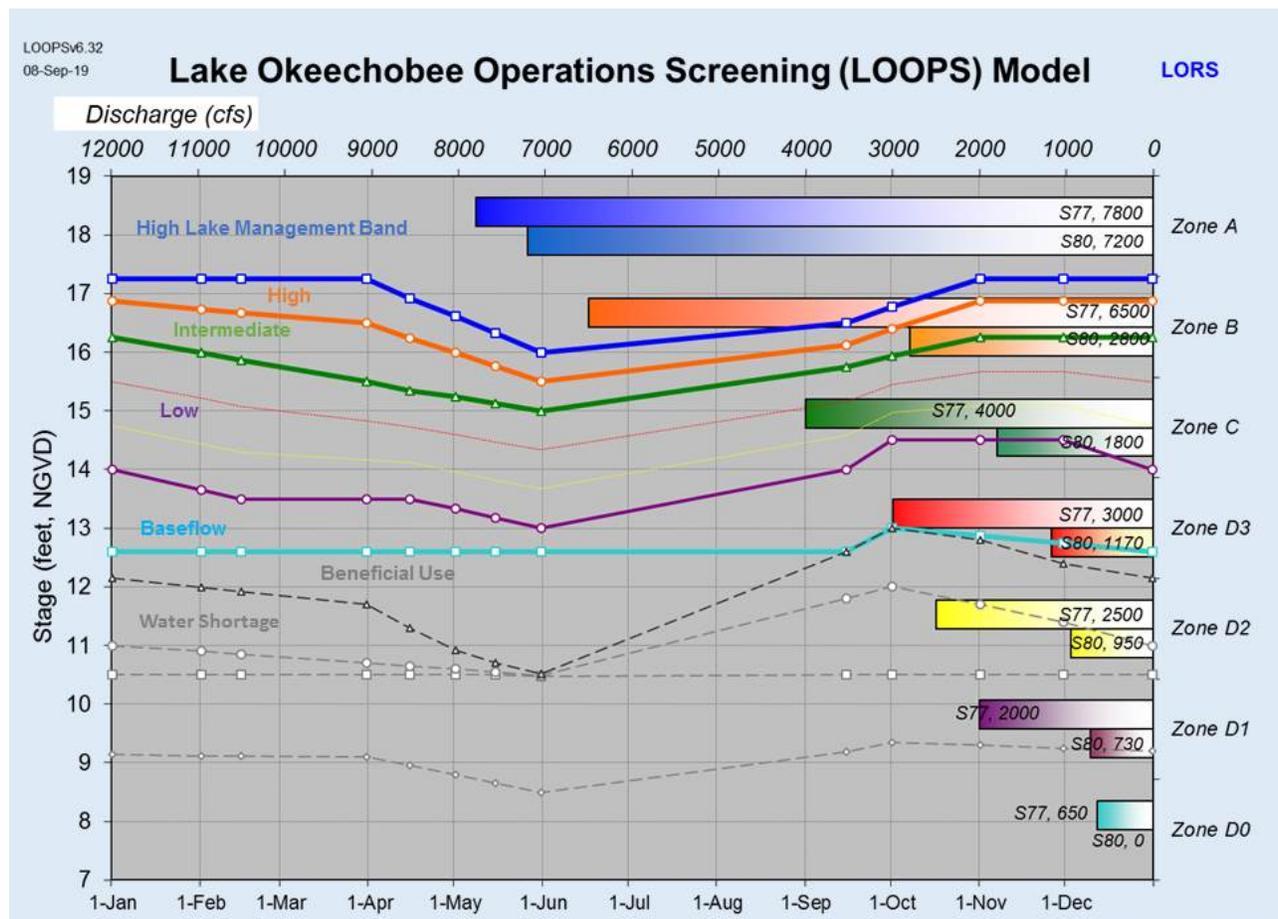


Figure A-2. Alternative B schedule as modeled. (1) Beneficial Use Band lowered in the dry season to allow more Base Flow releases, (2) Beneficial Use Band Raised in the summer months to stop estuary releases until the stage enters the Intermediate Band, (3) Base Flow rates to the Caloosahatchee increased to 2,000 cfs and to 730 to the St Lucie.

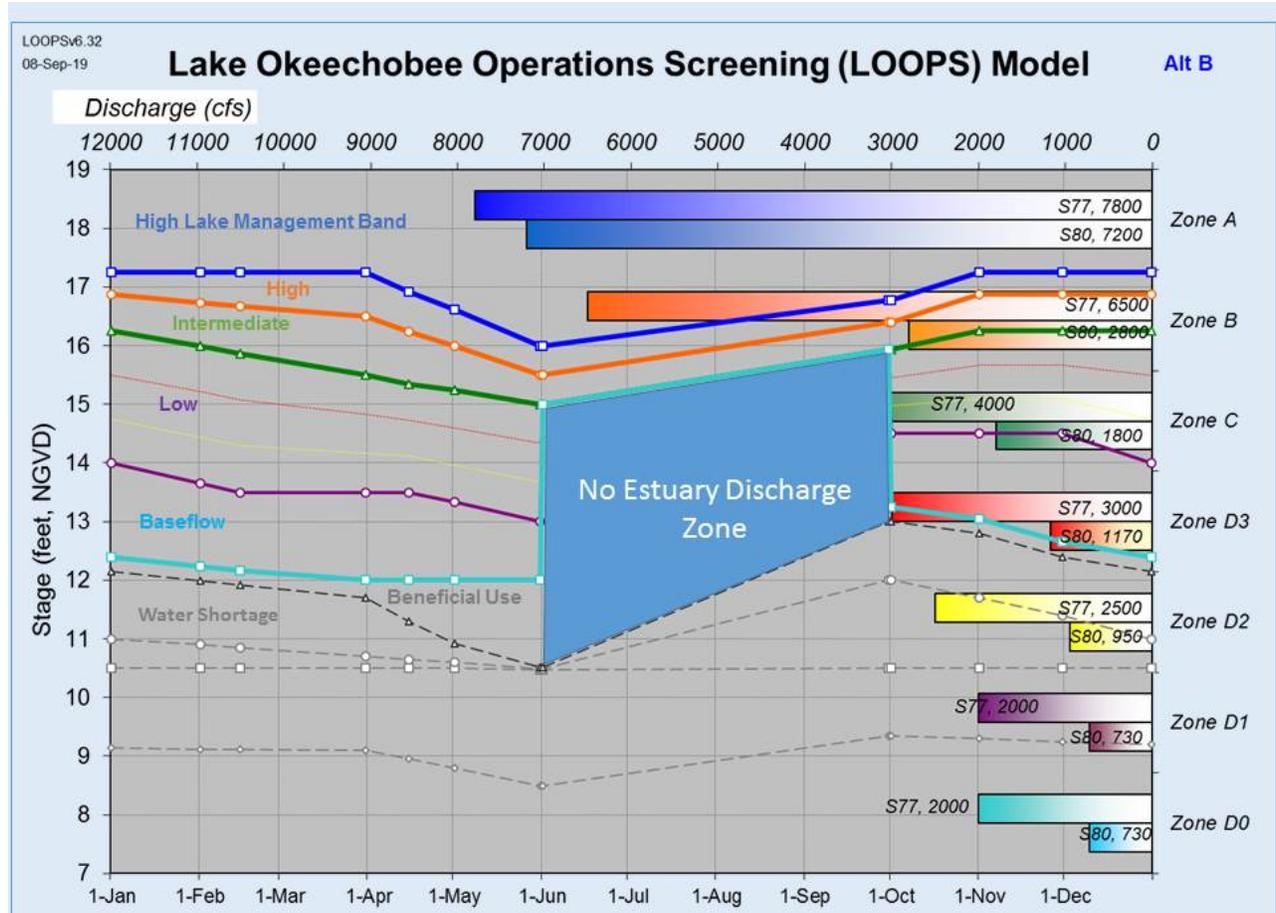


Figure A-3. Alternative D schedule as modeled. No change to the Base Flow Band flow rates and no change to the boundary between the Base Flow Band and the Beneficial Use Band. The only change from LORS08 is the stop estuary releases in the summer months unless the lake stage enters the High Lake Management Band.

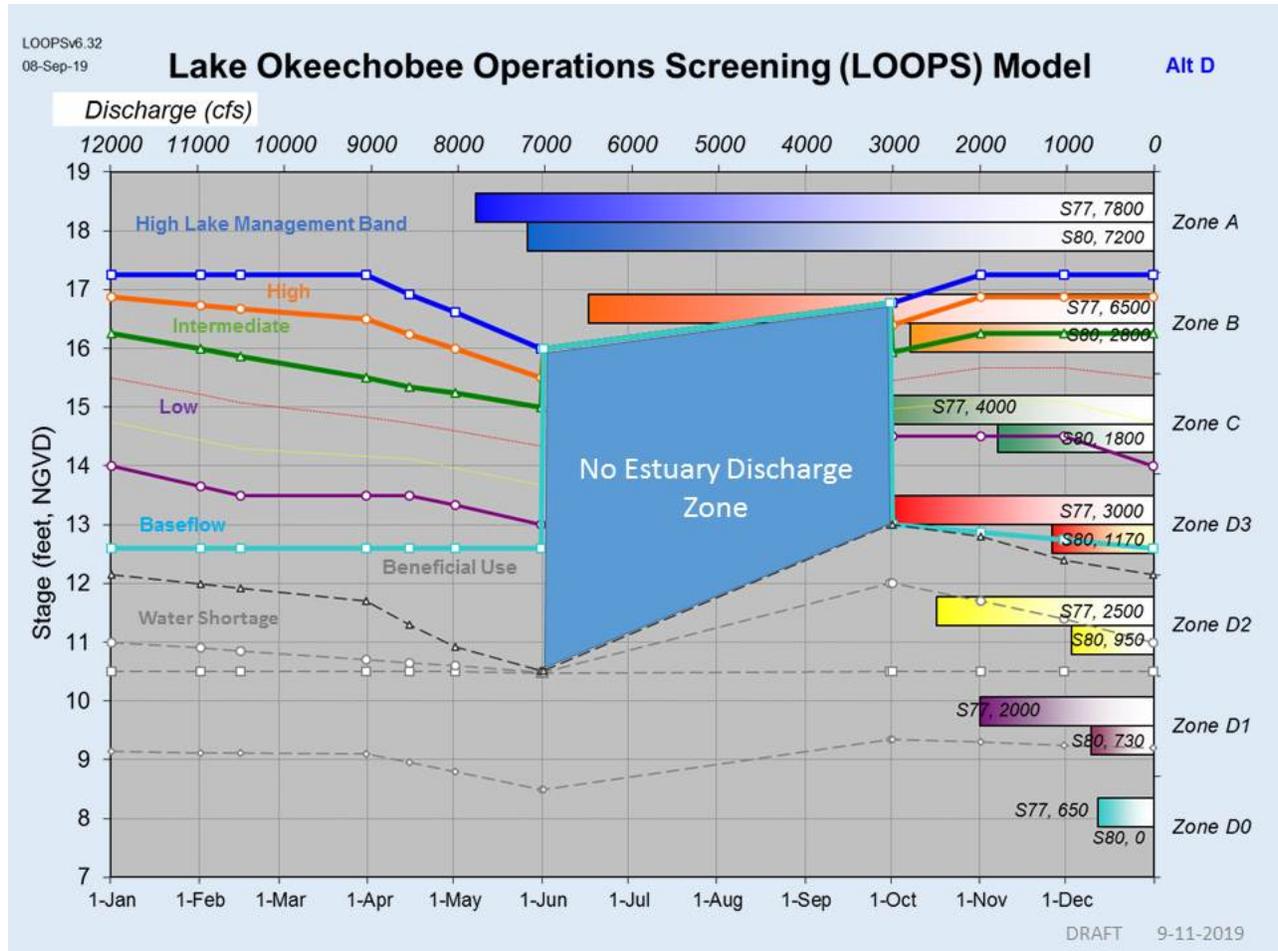
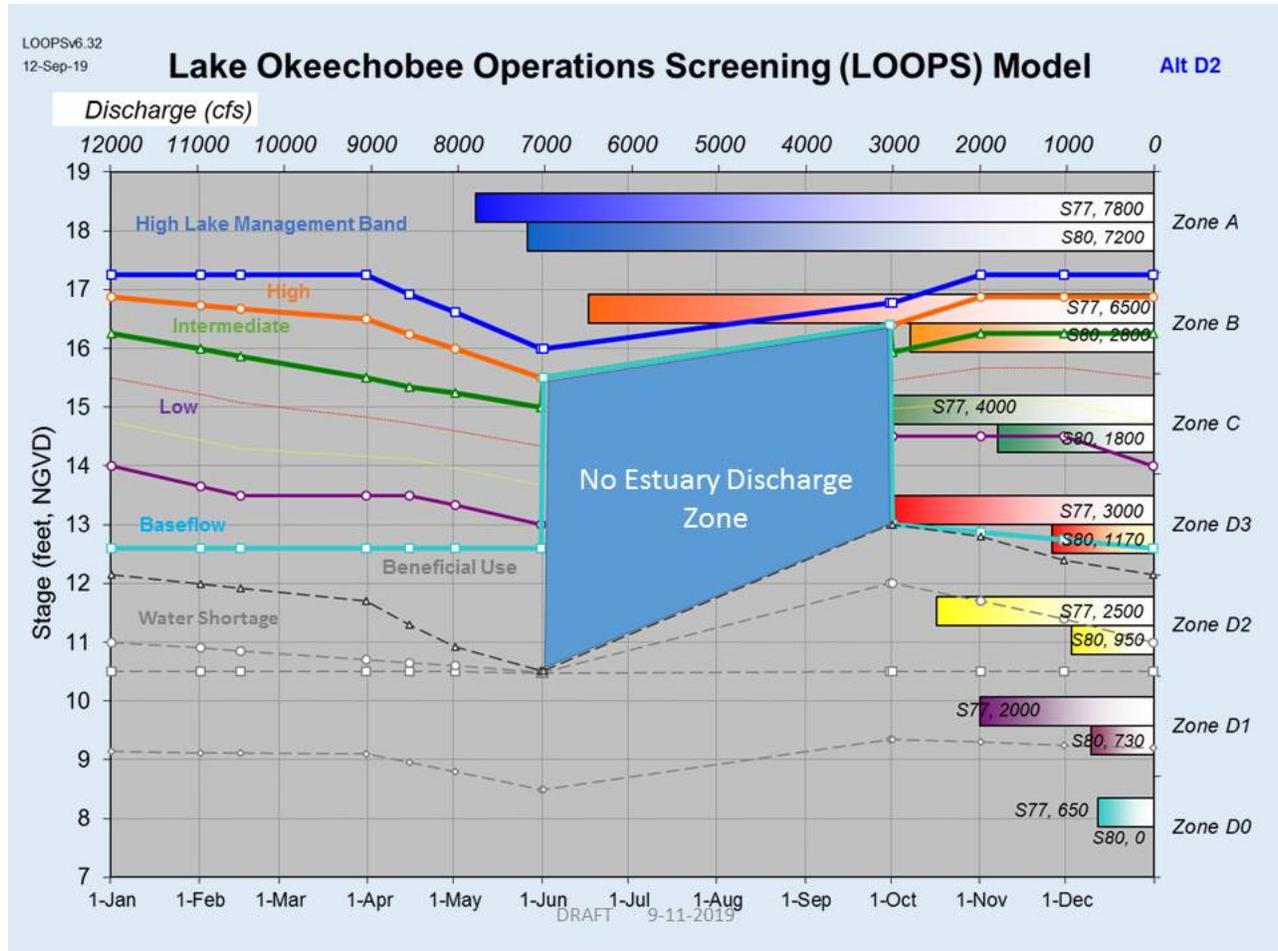


Figure A-4. Alternative D2 schedule as modeled. This alternative is the same as Alternative D but with a slightly lower extent of the “no estuary” flow zone in the summer months. With this alternative there would be no flow to the estuaries in the summer months until the stage enters the High Band.



LOOPS MODEL REFERENCE

A Spreadsheet-based Screening Model for Evaluating Alternative Water Management Strategies for Lake Okeechobee, Florida, Calvin J. Neidrauer, Luis G. Cadavid, Paul J. Trimble, and Jayantha T. B. Obeysekera South Florida Water Management District, 3301 Gun Club Road, West Palm Beach, FL 33416; PH (561) 686-8800; FAX (561) 681-2570; email: cal@sfwmd.gov (PUBLISHED IN THE PROCEEDINGS OF THE OPERATIONS MANAGEMENT 2006 CONFERENCE OPERATING RESERVOIRS IN CHANGING CONDITIONS” ENVIRONMENTAL WATER RESOURCES INSTITUTE (EWRI) OF THE AMERICAN SOCIETY OF CIVIL ENGINEERS (ASCE))

Exhibit 2

Exhibit 2

Index

Documents Submitted in Support of the USSC Public Comment Letter Regarding the 2019 Planned Deviation to the Water Control Plan for Lake Okeechobee and Everglades Agricultural Area (LORS 2008)

September 19, 2019

(Hard copies submitted to the U.S. Army Corps of Engineers, Jacksonville District via Priority Overnight Federal Express to the attention of Ms. Melissa Nasuti)

NO.	DESCRIPTION
001	Lake Okeechobee Regulation Schedule (LORS) – Water Supply and Environmental (WSE) 001.001 1999-11-00 Final WSE Environmental Impact Statement for LORS Study 001.002 1999-06-00 WSE LORS Study, Alternatives & Appendix A-C 001.003 2000-03-00 WSE LORS Study, Errata to Final EIS 001.004 2000-07-07 WSE Record of Decision LORS Study
002	2000 Lower East Coast (LEC) Water Supply Plan 002.001 LEC Regional Water Supply Plan – Planning Document 002.002 LEC Regional Water Supply Plan – Appendices, Volume 1 002.003 LEC Regional Water Supply Plan – Appendices, Volume 2
003	2005-03-14 WS-1 Frequency and Severity of Water Restrictions for Lake Okeechobee Service Area
004	2005-03-14 WS-2 Frequency, Severity and Duration of Water Restrictions for LEC Service Area
005	2005 to 2008 LEC Water Supply Plan Documents 005.001 LEC Regional Water Supply Plan (2005 – 2006 Update) – Planning Document 005.002 LEC Regional Water Supply Plan (2005 – 2006 Update) – Appendices 005.003 LEC Regional Water Supply Plan (2008) Final Order of Amendment to Appendix H
006	2013 LEC Water Supply Plan Documents 006.001 2013-10-10 LEC Water Supply Plan Update – Planning Document 006.002 2013-10-10 LEC Water Supply Plan Update – Appendices A through F

NO.	DESCRIPTION
007	2018 and 2019 LEC Water Supply Plan Update 007.001 2018-11-00 LEC Water Supply Plan Update – Planning Document 007.002 2018-11-00 LEC Water Supply Plan Updated – Appendices A through F 007.003 2019-01-14 LEC Water Supply Plan Updated – Final Order
008	2001-00-00 SFWMD The 2000-2001 Drought in South Florida
009	2001-08-00 TMDL for Total Phosphorus Lake Okeechobee
010	2003-00-00 Hodges, H., Economic Impacts of Drought on Florida Environmental Horticulture Industry
011	2004-05-00 MacVicar, Federico & Lamb, Inc., Economic Impact to Agriculture as Result of Water Use Restrictions in 2000-2001
012	2007-03-07 Lake Okeechobee Performance Measure Lake Stage
013	2007-06-14 FDACS Drought 2007 Report, The Economic Implications
014	2007-05-18 USFWS Letter to Corps on Lake Istokpoga Regulation Schedule Temporary Deviation Request
015	2007-08-14 FDACS Comment Letter to Corps
016	2007-08-20 SFWMD Comment Letter to Corps
017	2007-09-11 NOAA NMFS Letter to Corps on Draft EIS for LORS
018	2007-11-00 Appendix C, Final Biological Opinion and Fish and Wildlife Coordination Act Report
019	2007-11-30 Corps' Memorandum, J. Woodley
020	2008-03-00 C&SF Project Water Control Plan for Lake Okeechobee and EAA
021	2009-01-15 Declaration of James Hammond
022	2009-01-16 Declaration of Andrew Geller
023	2012-10-26 Declaration of Sean Smith
024	2013-09-17 Letter to Governor R. Scott Requesting Corps to Reassess the LORS2008

NO.	DESCRIPTION
025	2013-11-01 SFWMD Letter to Bonita Springs, Fort Myers Beach, Fort Myers, Sanibel and Cape Coral Regarding Lake Okeechobee
026	2013-12-17 USFWS Letter to Corps Regarding Preliminary Biological Opinion, CEPP
027	2013-12-31 Corps Incorporating Sea Level Change in Civil Works Programs
028	2014-04-10 SFWMD CEPP Resolution No. 2014-0410 and 2014-04-11 Letter of Support
029	2014-04-10 FDEP Final Order Approving the CERP CEPP; FDEP No. 14-0113; OGC No. 14-0185
030	2014-12-10 Final Lake Okeechobee BMAP
031	2014-12-24 USFWS Climate Change
032	2015-03-00 Graham, W., Options to Reduce High Volume Freshwater Flows to the St. Lucie and Caloosahatchee Estuaries and Move More Water from Lake Okeechobee to the Southern Everglades: An Independent Technical Review by the University of Florida Water Institute
033	2015-05-14 NMFS Letter to Corps - LORS Sawfish Critical Habitat MANLAA Concurrence
034	2015-06-00 Havens, K., Climate Change and Ecosystem Services of Florida's Largest Water Body: Lake Okeechobee
035	2015-09-00 A Look at Florida Agriculture
036	2015-11-23 Florida Senate SB 552, Bill Analysis and Fiscal Impact Statement
037	2016-00-00 Progress Toward Restoring the Everglades, Sixth Biennial Review Report
038	2016-02-23 Audubon Comment Letter to Corps on HHD
039	2016-06-00 Appendix C. Pertinent Correspondence, HHD FEIS
040	2016-11-30 SFWMD Letter to Corps Regarding Initiation of Section 7 Consultation for the Everglades Snail Kite
041	2017-04-00 Fletcher, R., Snail Kite Demography 2016 Annual Report
042	2017-09-28 Corps Biological Assessment - Lake Okeechobee

NO.	DESCRIPTION
043	2018-00-00 Progress Toward Restoring the Everglades, Seventh Biennial Review Report
044	2018-02-01 Changes to Water Management in the Southern Everglades
045	2018-02-00 Corps Fiscal Year 2018, Civil Works Budget
046	2018-04-00 Havens, K., Managing High Water Levels in Florida's Largest Lake: Lake Okeechobee
047	2018-06-04 USFWS Letter to Corps Regarding 2018 LORS Biological Opinion
048	2018-06-15 Kirk, Col. J., Corps Why We Release Water
049	2018-07-00 Corps Integrated Delivery Schedule Placemat
050	2018-07-05 Corps Letter to Congressman Mast on Lake Okeechobee
051	2018-08-07 Portable Forward Pumps Corps Permit
052	2018-09-19 Lapointe, B., Harmful Macroalgal Blooms in a Changing World
053	2018-10-16 USDA Florida Agricultural Facts
054	2018-10-26 Corps MFR and 2018 Operational Strategy
055	2019-00-00 Corps Congressional Fact Sheet - Lake Okeechobee and the Storage of Water in Conservation Areas 1, 2, and 3
056	2019-00-00 Mast Protect Florida Act
057	2019-01-04 Governor R. DeSantis Letter to President D. Trump on South Florida Water Infrastructure
058	2019-01-10 Executive Order 19-12
059	2019-01-11 SFWMD Navigation Notice - Close North Shore Locks
060	2019-01-14 Corps Navigation Notice 2019-001 Lake Okeechobee Low Water
061	2019-01-25 SFWMD Navigation Notice - Close North Shore Locks
062	2019-01-29 Corps Letter on Scoping Regarding LOSOM NEPA
063	2019-02-08 Governor R. DeSantis Letter to Corps Regarding LOSOM

NO.	DESCRIPTION
064	2019-02-08 LORS Performance Comparison Chart
065	2019-02-11 Corps Letter to Governor R. DeSantis and Memorandum Directive to Staff
066	2019-02-12 SFWMD Lake Okeechobee Water Level Comparison
067	2019-02-12 Governor R. DeSantis Letter to Corps Regarding LOSOM
068	2019-02-14 SFWMD Ecological Conditions Update
069	2019-02-22 Corps MFR and 2019 Operational Strategy
070	2019-02-28 Palm Beach Soil and Water Conservation District, Resolution No. 113-19
071	2019-03-00 Corps Fiscal Year 2020, Civil Works Budget
072	2019-03-05 Ashton, S., Help the Refuge, Solve the Problem of Septic Systems
073	2019-03-05 SFWMD Weekly Environmental Conditions for System Operations
074	2019-03-11 Remaining Items, Investigations Construction Operation and Maintenance, Harbor Maintenance Trust Fund, Mississippi River and Tributaries
075	2019-03-12 Lake Okeechobee Water Level Comparison
076	2019-03-12 Lake Okeechobee Water Level History and Projected Stages
077	2019-03-12 Palm Beach County, Resolution No. 2019-0379
078	2019-03-12 Hendry County, Resolution No. 2019-23
079	2019-03-13 Lake Worth Drainage District, Resolution No. 19-03
080	2019-03-14 Okeechobee County, Resolution No. 2019-07
081	2019-03-15 Letter to Corps and SFWMD Regarding Lake Okeechobee Discharges
082	2019-03-25 City of West Palm Beach, Resolution No. 118-19
083	2019-04-01 City of Clewiston, Resolution No. 2019-14
084	2019-04-17 LORS Performance Comparison Chart
085	2019-04-17 Table of Impact to Drought Years When the June 1st Target Stage is 11.0 Feet

NO.	DESCRIPTION
086	2019-04-17 Lake Worth Drainage District, Resolution No. 2019-04
087	2019-05-01 SFWMD Navigation Notice Closing Final North Shore Navigation Lock as Lake Okeechobee Levels Continue to Drop
088	2019-06-25 FDEP Order on Center for Biological Diversity's Petition Rulemaking to Establish Water Quality Criteria for Cyanotoxins
089	2019-06-27 Corps Presentation on Rivers Coalition Update
090	2019-07-18 Nicol, R., Florida Chamber touts science-based solutions to solve Florida's water problems
091	2019-08-01 <i>United States Sugar Corporation vs. U.S. Army Corps of Engineers, et. al., Case No. 9:19-cv-81086</i>
092	2019-08-06 Bullsugar.org, This is What Winning Looks Like
093	2019-08-06 Corps seek comments on proposed LORS deviation
094	2019-08-07 Elsen, K., Corps seeks lake level deviations
095	2019-08-08 SFWMD Governing Board Votes to Significantly Expand Water Quality Monitoring in Northern Everglades and Lake Okeechobee
096	2019-08-08 SFWMD Governing Board Ecological Conditions Update
097	2019-08-08 SFWMD Governing Board Water Conditions Summary
098	2019-08-08 Treadway, T., Bacteria alert, Stay out of N. Fork of St. Lucie River
099	2019-08-13 Corps Email Regarding LORS08 2019 Planned Deviation Request for Additional Time for Public Comment
100	Florida Agriculture Overview and Statistics
101	Fresh from Florida - Florida's Commodities at a Glance
102	Food USSC Grows on Its Farms

NO.	DESCRIPTION
103	<p>Corps' Fact Sheets</p> <p>103.001 2019-00-00 Fact Sheet - HHD Rehabilitation Project (Spring)</p> <p>103.002 2019-04-00 Fact Sheet - Loxahatchee River Watershed Restoration Project</p> <p>103.003 2019-06-00 Fact Sheet - LOSOM</p> <p>103.004 2019-07-00 Fact Sheet - Caloosahatchee River (C-43) West Basin Storage Reservoir</p>
104	<p>Corps' Webinar Presentations</p> <p>104.001 2019-05-20 Webinar 1 - Overview of the Central & Southern Florida (C&SF) Project, L. Alejandro</p> <p>104.002 2019-05-22 Webinar 2 - SFWMD's How Lake Okeechobee Water Levels Affect Lake Ecology, Z. Welch, Ph.D.</p> <p>104.003 2019-05-24 Webinar 3 - Dam Safety and Herbert Hoover Dike, A. Whiting</p> <p>104.004 2019-05-28 Webinar 4 - SFWMD's Estuarine Overview, P. Gorman</p> <p>104.005 2019-05-30 Webinar 5 - Lake Okeechobee Regulation Schedule (LORS 2008), S. Lacy</p> <p>104.006 2019-06-04 Webinar 6 - Kissimmee River Restoration, T. Gysan</p>
105	<p>Corps' LOSOM Scoping Meeting Transcripts</p> <ul style="list-style-type: none"> • 2019-02-05 Fort Myers, Florida • 2019-02-06 Okeechobee, Florida • 2019-02-11 Clewiston, Florida • 2019-02-19 Stuart, Florida • 2019-02-26 Fort Lauderdale, Florida (Broward) • 2019-02-27 West Palm Beach, Florida • 2019-02-28 Miami Gardens, Florida • 2019-03-20 Marathon, Florida
106	<p>Florida's Blue-Green Algae (BGA) Task Force's Supporting Documents</p> <ul style="list-style-type: none"> • June 12, 2019 BGA Task Force – Meeting 1 • July 1, 2019 BGA Task Force – Meeting 2 • August 1, 2019 BGA Task Force – Meeting 3 • August 30, 2019 BGA Task Force – Meeting 4 • Video Links to BGA Task Force Meetings 1, 2 and 3
107	<p>FDEP BGA Bloom Weekly Updates</p>

NO.	DESCRIPTION
108	SFWMD Weekly Environmental Conditions for Systems Operations Memorandums
109	Lake Okeechobee Comment Letters to the Corps
110	STA Permit, NPDES Permit and EFA Consent Order
111	1992-00-00 Settlement Agreement
112	1992-02-24 Consent Decree
113	1932-2017 SFWMD Rainfall and Lake Stage Anomalies Chart https://apps.sfwmd.gov/sfwmd/common/images/weather/district_monthly_rainfall_1932_2003.pdf
114	USSC Comment Letters
115	Corps HHD FEIS
116	East Lake Tohopekaliga 2019 Drawdown EIS and Related Materials
117	SFER 2018
118	SFER 2019
119	Lake Okeechobee MFL
120	LORS EIS 2008
121	Historical HHD Related Docs and Fact Sheets
122	Lake Okeechobee Graphics
123	Historical Lake Schedules
124	2018-07-10 Krimsky, L., A Response to Frequently Asked Questions about the 2018 Lake Okeechobee, Caloosahatchee and St. Lucie Rivers and Estuaries Algal Blooms
125	2019-09-04 Congressman W. G. Steube Letter to Corps
126	2019-08-30 Corps Email Notification Extending Public Comment to September 20, 2019
127	1999-06-00 C&SF Project Master Water Control Manual, Lake Okeechobee and EAA, Volume 3

NO.	DESCRIPTION
128	2019-09-11 Wickstorm, B., Game changing revelations from water management officials
129	2019-09-12 SFWMD Governing Board Ecological Conditions Update
130	2019-09-12 SFWMD Governing Board Water Conditions Summary - Special Report on Preparations and Responses to Hurricane Dorian
131	2016-03-00 Florida Agriculture Facts
132	2018-00-00 Florida Agriculture Fast Facts ICS Booklet
133	Compilation of Articles on Florida's Droughts 2001, 2007, 2011
134	2019-09-00 USSC Farming in the Everglades Agricultural Area
135	SFWMD "Who Relies on Lake Okeechobee?" (<i>link only</i>) https://www.youtube.com/watch?v=4TGihJIfWoc&feature=youtu.be

Exhibit B

Index of Documents Supporting
U.S. Sugar's Public Comment Letter to
the Corps Regarding the Planned
Deviation, Parts 1 and 2

Part 1**Index****Documents Submitted in Support of the USSC Public Comment Letter Regarding the 2019 Planned Deviation to the Water Control Plan for Lake Okeechobee and Everglades Agricultural Area (LORS 2008)****September 19, 2019***(Hard copies submitted to the U.S. Army Corps of Engineers, Jacksonville District via Priority Overnight Federal Express to the attention of Ms. Melissa Nasuti)*

NO.	DESCRIPTION
001	Lake Okeechobee Regulation Schedule (LORS) – Water Supply and Environmental (WSE) 001.001 1999-11-00 Final WSE Environmental Impact Statement for LORS Study 001.002 1999-06-00 WSE LORS Study, Alternatives & Appendix A-C 001.003 2000-03-00 WSE LORS Study, Errata to Final EIS 001.004 2000-07-07 WSE Record of Decision LORS Study
002	2000 Lower East Coast (LEC) Water Supply Plan 002.001 LEC Regional Water Supply Plan – Planning Document 002.002 LEC Regional Water Supply Plan – Appendices, Volume 1 002.003 LEC Regional Water Supply Plan – Appendices, Volume 2
003	2005-03-14 WS-1 Frequency and Severity of Water Restrictions for Lake Okeechobee Service Area
004	2005-03-14 WS-2 Frequency, Severity and Duration of Water Restrictions for LEC Service Area
005	2005 to 2008 LEC Water Supply Plan Documents 005.001 LEC Regional Water Supply Plan (2005 – 2006 Update) – Planning Document 005.002 LEC Regional Water Supply Plan (2005 – 2006 Update) – Appendices 005.003 LEC Regional Water Supply Plan (2008) Final Order of Amendment to Appendix H
006	2013 LEC Water Supply Plan Documents 006.001 2013-10-10 LEC Water Supply Plan Update – Planning Document 006.002 2013-10-10 LEC Water Supply Plan Update – Appendices A through F

NO.	DESCRIPTION
007	2018 and 2019 LEC Water Supply Plan Update 007.001 2018-11-00 LEC Water Supply Plan Update – Planning Document 007.002 2018-11-00 LEC Water Supply Plan Updated – Appendices A through F 007.003 2019-01-14 LEC Water Supply Plan Updated – Final Order
008	2001-00-00 SFWMD The 2000-2001 Drought in South Florida
009	2001-08-00 TMDL for Total Phosphorus Lake Okeechobee
010	2003-00-00 Hodges, H., Economic Impacts of Drought on Florida Environmental Horticulture Industry
011	2004-05-00 MacVicar, Federico & Lamb, Inc., Economic Impact to Agriculture as Result of Water Use Restrictions in 2000-2001
012	2007-03-07 Lake Okeechobee Performance Measure Lake Stage
013	2007-06-14 FDACS Drought 2007 Report, The Economic Implications
014	2007-05-18 USFWS Letter to Corps on Lake Istokpoga Regulation Schedule Temporary Deviation Request
015	2007-08-14 FDACS Comment Letter to Corps
016	2007-08-20 SFWMD Comment Letter to Corps
017	2007-09-11 NOAA NMFS Letter to Corps on Draft EIS for LORS
018	2007-11-00 Appendix C, Final Biological Opinion and Fish and Wildlife Coordination Act Report
019	2007-11-30 Corps' Memorandum, J. Woodley
020	2008-03-00 C&SF Project Water Control Plan for Lake Okeechobee and EAA
021	2009-01-15 Declaration of James Hammond
022	2009-01-16 Declaration of Andrew Geller
023	2012-10-26 Declaration of Sean Smith
024	2013-09-17 Letter to Governor R. Scott Requesting Corps to Reassess the LORS2008

NO.	DESCRIPTION
025	2013-11-01 SFWMD Letter to Bonita Springs, Fort Myers Beach, Fort Myers, Sanibel and Cape Coral Regarding Lake Okeechobee
026	2013-12-17 USFWS Letter to Corps Regarding Preliminary Biological Opinion, CEPP
027	2013-12-31 Corps Incorporating Sea Level Change in Civil Works Programs
028	2014-04-10 SFWMD CEPP Resolution No. 2014-0410 and 2014-04-11 Letter of Support
029	2014-04-10 FDEP Final Order Approving the CERP CEPP; FDEP No. 14-0113; OGC No. 14-0185
030	2014-12-10 Final Lake Okeechobee BMAP
031	2014-12-24 USFWS Climate Change
032	2015-03-00 Graham, W., Options to Reduce High Volume Freshwater Flows to the St. Lucie and Caloosahatchee Estuaries and Move More Water from Lake Okeechobee to the Southern Everglades: An Independent Technical Review by the University of Florida Water Institute
033	2015-05-14 NMFS Letter to Corps - LORS Sawfish Critical Habitat MANLAA Concurrence
034	2015-06-00 Havens, K., Climate Change and Ecosystem Services of Florida's Largest Water Body: Lake Okeechobee
035	2015-09-00 A Look at Florida Agriculture
036	2015-11-23 Florida Senate SB 552, Bill Analysis and Fiscal Impact Statement
037	2016-00-00 Progress Toward Restoring the Everglades, Sixth Biennial Review Report
038	2016-02-23 Audubon Comment Letter to Corps on HHD
039	2016-06-00 Appendix C. Pertinent Correspondence, HHD FEIS
040	2016-11-30 SFWMD Letter to Corps Regarding Initiation of Section 7 Consultation for the Everglades Snail Kite
041	2017-04-00 Fletcher, R., Snail Kite Demography 2016 Annual Report
042	2017-09-28 Corps Biological Assessment - Lake Okeechobee

NO.	DESCRIPTION
043	2018-00-00 Progress Toward Restoring the Everglades, Seventh Biennial Review Report
044	2018-02-01 Changes to Water Management in the Southern Everglades
045	2018-02-00 Corps Fiscal Year 2018, Civil Works Budget
046	2018-04-00 Havens, K., Managing High Water Levels in Florida's Largest Lake: Lake Okeechobee
047	2018-06-04 USFWS Letter to Corps Regarding 2018 LORS Biological Opinion
048	2018-06-15 Kirk, Col. J., Corps Why We Release Water
049	2018-07-00 Corps Integrated Delivery Schedule Placemat
050	2018-07-05 Corps Letter to Congressman Mast on Lake Okeechobee
051	2018-08-07 Portable Forward Pumps Corps Permit
052	2018-09-19 Lapointe, B., Harmful Macroalgal Blooms in a Changing World
053	2018-10-16 USDA Florida Agricultural Facts
054	2018-10-26 Corps MFR and 2018 Operational Strategy
055	2019-00-00 Corps Congressional Fact Sheet - Lake Okeechobee and the Storage of Water in Conservation Areas 1, 2, and 3
056	2019-00-00 Mast Protect Florida Act
057	2019-01-04 Governor R. DeSantis Letter to President D. Trump on South Florida Water Infrastructure
058	2019-01-10 Executive Order 19-12
059	2019-01-11 SFWMD Navigation Notice - Close North Shore Locks
060	2019-01-14 Corps Navigation Notice 2019-001 Lake Okeechobee Low Water
061	2019-01-25 SFWMD Navigation Notice - Close North Shore Locks
062	2019-01-29 Corps Letter on Scoping Regarding LOSOM NEPA
063	2019-02-08 Governor R. DeSantis Letter to Corps Regarding LOSOM

NO.	DESCRIPTION
064	2019-02-08 LORS Performance Comparison Chart
065	2019-02-11 Corps Letter to Governor R. DeSantis and Memorandum Directive to Staff
066	2019-02-12 SFWMD Lake Okeechobee Water Level Comparison
067	2019-02-12 Governor R. DeSantis Letter to Corps Regarding LOSOM
068	2019-02-14 SFWMD Ecological Conditions Update
069	2019-02-22 Corps MFR and 2019 Operational Strategy
070	2019-02-28 Palm Beach Soil and Water Conservation District, Resolution No. 113-19
071	2019-03-00 Corps Fiscal Year 2020, Civil Works Budget
072	2019-03-05 Ashton, S., Help the Refuge, Solve the Problem of Septic Systems
073	2019-03-05 SFWMD Weekly Environmental Conditions for System Operations
074	2019-03-11 Remaining Items, Investigations Construction Operation and Maintenance, Harbor Maintenance Trust Fund, Mississippi River and Tributaries
075	2019-03-12 Lake Okeechobee Water Level Comparison
076	2019-03-12 Lake Okeechobee Water Level History and Projected Stages
077	2019-03-12 Palm Beach County, Resolution No. 2019-0379
078	2019-03-12 Hendry County, Resolution No. 2019-23
079	2019-03-13 Lake Worth Drainage District, Resolution No. 19-03
080	2019-03-14 Okeechobee County, Resolution No. 2019-07
081	2019-03-15 Letter to Corps and SFWMD Regarding Lake Okeechobee Discharges
082	2019-03-25 City of West Palm Beach, Resolution No. 118-19
083	2019-04-01 City of Clewiston, Resolution No. 2019-14
084	2019-04-17 LORS Performance Comparison Chart
085	2019-04-17 Table of Impact to Drought Years When the June 1st Target Stage is 11.0 Feet

NO.	DESCRIPTION
086	2019-04-17 Lake Worth Drainage District, Resolution No. 2019-04
087	2019-05-01 SFWMD Navigation Notice Closing Final North Shore Navigation Lock as Lake Okeechobee Levels Continue to Drop
088	2019-06-25 FDEP Order on Center for Biological Diversity's Petition Rulemaking to Establish Water Quality Criteria for Cyanotoxins
089	2019-06-27 Corps Presentation on Rivers Coalition Update
090	2019-07-18 Nicol, R., Florida Chamber touts science-based solutions to solve Florida's water problems
091	2019-08-01 <i>United States Sugar Corporation vs. U.S. Army Corps of Engineers, et. al., Case No. 9:19-cv-81086</i>
092	2019-08-06 Bullsugar.org, This is What Winning Looks Like
093	2019-08-06 Corps seek comments on proposed LORS deviation
094	2019-08-07 Elskan, K., Corps seeks lake level deviations
095	2019-08-08 SFWMD Governing Board Votes to Significantly Expand Water Quality Monitoring in Northern Everglades and Lake Okeechobee
096	2019-08-08 SFWMD Governing Board Ecological Conditions Update
097	2019-08-08 SFWMD Governing Board Water Conditions Summary
098	2019-08-08 Treadway, T., Bacteria alert, Stay out of N. Fork of St. Lucie River
099	2019-08-13 Corps Email Regarding LORS08 2019 Planned Deviation Request for Additional Time for Public Comment
100	Florida Agriculture Overview and Statistics
101	Fresh from Florida - Florida's Commodities at a Glance
102	Food USSC Grows on Its Farms

NO.	DESCRIPTION
103	<p>Corps' Fact Sheets</p> <p>103.001 2019-00-00 Fact Sheet - HHD Rehabilitation Project (Spring)</p> <p>103.002 2019-04-00 Fact Sheet - Loxahatchee River Watershed Restoration Project</p> <p>103.003 2019-06-00 Fact Sheet - LOSOM</p> <p>103.004 2019-07-00 Fact Sheet - Caloosahatchee River (C-43) West Basin Storage Reservoir</p>
104	<p>Corps' Webinar Presentations</p> <p>104.001 2019-05-20 Webinar 1 - Overview of the Central & Southern Florida (C&SF) Project, L. Alejandro</p> <p>104.002 2019-05-22 Webinar 2 - SFWMD's How Lake Okeechobee Water Levels Affect Lake Ecology, Z. Welch, Ph.D.</p> <p>104.003 2019-05-24 Webinar 3 - Dam Safety and Herbert Hoover Dike, A. Whiting</p> <p>104.004 2019-05-28 Webinar 4 - SFWMD's Estuarine Overview, P. Gorman</p> <p>104.005 2019-05-30 Webinar 5 - Lake Okeechobee Regulation Schedule (LORS 2008), S. Lacy</p> <p>104.006 2019-06-04 Webinar 6 - Kissimmee River Restoration, T. Gysan</p>
105	<p>Corps' LOSOM Scoping Meeting Transcripts</p> <ul style="list-style-type: none"> • 2019-02-05 Fort Myers, Florida • 2019-02-06 Okeechobee, Florida • 2019-02-11 Clewiston, Florida • 2019-02-19 Stuart, Florida • 2019-02-26 Fort Lauderdale, Florida (Broward) • 2019-02-27 West Palm Beach, Florida • 2019-02-28 Miami Gardens, Florida • 2019-03-20 Marathon, Florida
106	<p>Florida's Blue-Green Algae (BGA) Task Force's Supporting Documents</p> <ul style="list-style-type: none"> • June 12, 2019 BGA Task Force – Meeting 1 • July 1, 2019 BGA Task Force – Meeting 2 • August 1, 2019 BGA Task Force – Meeting 3 • August 30, 2019 BGA Task Force – Meeting 4 • Video Links to BGA Task Force Meetings 1, 2 and 3
107	<p>FDEP BGA Bloom Weekly Updates</p>

NO.	DESCRIPTION
108	SFWMD Weekly Environmental Conditions for Systems Operations Memorandums
109	Lake Okeechobee Comment Letters to the Corps
110	STA Permit, NPDES Permit and EFA Consent Order
111	1992-00-00 Settlement Agreement
112	1992-02-24 Consent Decree
113	1932-2017 SFWMD Rainfall and Lake Stage Anomalies Chart https://apps.sfwmd.gov/sfwmd/common/images/weather/district_monthly_rainfall_1932_2003.pdf
114	USSC Comment Letters
115	Corps HHD FEIS
116	East Lake Tohopekaliga 2019 Drawdown EIS and Related Materials
117	SFER 2018
118	SFER 2019
119	Lake Okeechobee MFL
120	LORS EIS 2008
121	Historical HHD Related Docs and Fact Sheets
122	Lake Okeechobee Graphics
123	Historical Lake Schedules
124	2018-07-10 Krinsky, L., A Response to Frequently Asked Questions about the 2018 Lake Okeechobee, Caloosahatchee and St. Lucie Rivers and Estuaries Algal Blooms
125	2019-09-04 Congressman W. G. Steube Letter to Corps
126	2019-08-30 Corps Email Notification Extending Public Comment to September 20, 2019
127	1999-06-00 C&SF Project Master Water Control Manual, Lake Okeechobee and EAA, Volume 3

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Index

Supplemental (Part 2) Continuation of Documents Submitted in Support of U.S. Sugar's Public Comment Letter Regarding the 2020 Planned Deviation to the Water Control Plan for Lake Okeechobee and Everglades Agricultural Area (LORS 2008)

July 30, 2020

*(Submitted to the U.S. Army Corps of Engineers, Jacksonville District
via FTP link [DoD Safe 2020 LORS HAB Planned Deviation Comments] upload
to the attention of Ms. Erica Skolte at 2020LORSHABEAComments@usace.army.mil)*

NO.	DESCRIPTION
136	1948-05-06 Comprehensive Report on Central and Southern Florida (C&SF) for Flood Control and Other Purposes, Letter from the Army (House Document No. 643, 80 th Congress)
137	1957-05-27 C&SF Project Local Cooperation in the Part of the Project Authorized by the Flood Control Act of 1954, Letter from the Secretary of the Army (House Document No. 186, 85 th Congress)
138	1968-07-29 Martin County, Florida - Letter from the Secretary of the Army (Senate Document No. 101, 90th Congress)
139	1968-07-30 Water Resources for C&SF 139.001 - 1968-07-30 Part I - Water Resources for C&SF - Letter from the Secretary of the Army (House Document No. 369, 90 th Congress) 139.002 - 1968-07-30 Part II - Water Resources for C&SF - Letter from the Secretary of the Army (House Document No. 369, 90th Congress)
140	1968-08-13 Flood Control Act, Public Law 90-483
141	1999-11-00 Lake Okeechobee Regulation Schedule Study, Final Environmental Statement and Annex A
142	2005-05-16 SFWMD Theory Manual, Regional Simulation Model (RSM)
143	2005-05-17 SFWMD Regional Simulation Model (RSM), Hydrologic Simulation Engine (HSE) User's Manual
144	2006-06-00 SFWMD Quick Facts on Regional Simulation Model (RSM)

NO.	DESCRIPTION
145	2010-05-27 Corps Memorandum for the Record (MFR) - USACE Position Statement on SFWMD Adaptive Protocols
146	2010-09-16 SFWMD Final Adaptive Protocols for Lake Okeechobee Operations
147	2012-04-27 SFWMD Restoration Strategies Regional Water Quality Plan, Final Version
148	2014-00-00 Broward County Estimated Position of Saltwater Interface, Surficial Aquifer System (March/April/May 2014)
149	2017 Chernoff, N. et al., A critical review of the postulated role of the non-essential amino acid
150	2017-02-00 SFWMD Quick Facts on Restoration Strategies for Clean Water for the Everglades
151	<p>Snail Kite Information</p> <p>151.001 2019 Presentation - Snail Kite Population and Trends 2019</p> <p>151.002 2020-04-00 Snail Kite Demography 5 Year Report and Update, 2019 Breeding Season, R. Fletcher</p>
152	2019-10-17 Economic Impacts Briefing Paper to South Florida from Low Lake Okeechobee Water Levels with Drought Years Chart
153	2019-10-18 SFWMD Broward County Water Advisory Board Presentation - Five-Year Saltwater Intrusion Mapping Update, J. Shaw

NO.	DESCRIPTION
154	<p>Additional Operational Flexibility (AOF) Information and Planned Deviation Information, Prepared by MacVicar Consulting, Inc.</p> <p>154.001 After Action Report AOF Summary Points - A Review of U.S. Army Corps of Engineers Actions to Lower the Level of the Lake Okeechobee (October 2018 to June 2019)</p> <p>154.002 2019-11-25 After Action Report AOF - A Review of U.S. Army Corps of Engineers Actions to Lower the Level of the Lake Okeechobee (October 2018- June 2019), MacVicar Consulting, Inc.</p> <p>154.003 2019-12-13 MacVicar Consulting, Inc. Presentation to the Corps' SAD - Briefing on Lake Okeechobee Operations, AOF and Planned Deviation</p> <p>154.004 Chart - AOF After Action Findings, Reduction in Lake stage entering 2019/2020 dry season</p> <p>154.005 Chart - Lake Okeechobee Stage Duration Curves</p>
155	2019-12-00 Restoration Strategies Program Update, December 2019
156	2020-01-31 Lake Okeechobee Basin Management Action Plan (BMAP)
157	2020-03-06 <i>Center for Biological Diversity, et al. vs. U.S. Army Corps of Engineers, et al., Case No. 2:19-cv-14199</i> - [DE 45] Updated Joint Status Report
158	2020-03-13 <i>Center for Biological Diversity, et al. vs. U.S. Army Corps of Engineers, et al., Case No. 2:19-cv-14199</i> - [DE 52] Federal Defendants' Combined Response to Plaintiffs' Motion for Partial Summary Judgement and Cross-Motion
159	2020-03-13 <i>Center for Biological Diversity, et al. vs. U.S. Army Corps of Engineers, et al., Case No. 2:19-cv-14199</i> - [DE 53] Federal Defendants' Response to Plaintiffs' Statement of Material Facts
160	2020-03-16 News Release - Corps Maintains Flows to Caloosahatchee
161	2020-03-19 SFWMD Navigation Notice - Lake Okeechobee Conditions May Require Temporary Navigational Lock Closures to Protect Public Safety
162	2020-03-30 SFWMD Navigation Notice - SFWMD Temporarily Closing Lake Okeechobee Navigational Locks to Protect Public Safety
163	2020-03-31 Slide (Annotated) Lake Okeechobee Water Level History and Projected Stages (July 2018 to July 2020)

NO.	DESCRIPTION
164	2020-05-07 SFWMD LOSA Water Users Forum Presentation - District Weather Summary, E. Swartz
165	2020-06-04 Corps Letter to Center for Biological Diversity re 60-day Notice of Intent
166	2020-06-04 LOSOM Water Quality Sub-team Meeting - Corps Draft Algal Bloom Risk Metric Approach (HAB), May 25, 2020 draft version
167	2020-07-10 SFWMD Navigation Notice - Locks Open on North Shore of Lake Okeechobee
168	2020-07-14 Amendment to H.R. _____, Offered by U.S. Representative Mucarsel Powell (Florida - 026)
169	2020-07-21 Corps Presentation - Proposed LORS HAB Deviation Webinar, S. Lacy, P.E.
170	2020-07-21 Corps Presentation Excerpts Pages 9-10 - Proposed LORS HAB Deviation Webinar, S. Lacy, P.E. <ul style="list-style-type: none"> • 2008 LORS - Part C Establish Allowable Lake O Releases to WCA • 2008 LORS - Part D Establish Allowable Lake O Releases to Tide
171	2020-07-21 2020-07-21 SFWMD Operational Planning Lake Okeechobee Water Level History and Projected Stages Annotated
172	SFWMD Harmful Nutrients in the Everglades Now Reduced by 90%, Infographic Improving Water Quality
173	SFWMD North Shore Lake Okeechobee Navigation Lock Operation Criteria
174	Historical Deviations and Related Documents
175	Newspaper Articles (2019- 2020)
176	Requests for Extension of Time for Commenting on 2020 Planned Deviation
177	South Florida Environmental Report (SFER) 2020
178	SFWMD Governing Board Presentations and Minutes
179	SFWMD Weekly Statements, Operation and Water Supply Memoranda
180	Stakeholder Letters Regarding C&SF Project and its Operations
181	System Updates for Lake Okeechobee and Related Canals

NO.	DESCRIPTION
182	2019-09-20 U.S. Sugar's Comment Letter to Corps, Exhibit Nos. 1 and 2 (Supporting Index Doc. Nos. 001-135) - Proposed Planned Deviation from LORS 2008
183	2020-06-25 LOSOM PDT Meeting Presentation - SFWMD and IMC Regional Modeling Period of Record (POR) Extension (1965-2016)
184	Notice to Users, 2010 Lake Okeechobee Operations Screening (LOOPS) Model
185	2020-07-30 MacVicar Consulting, Inc.'s Comment Letter to the Corps and Attachment A (Analysis of the Corps 2020 Planned Deviation to the Water Control Plan for Lake Okeechobee)