



MARTIN COUNTY

BOARD OF COUNTY COMMISSIONERS

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September 5, 2019

Via email: Melissa.A.Nasuti@usace.army.mil

Department of The Army
Jacksonville District Corps of Engineers
701 San Marco Boulevard
Jacksonville, FL 32207-8175

Planning and Policy Division
Environmental Branch

Re: Response to the LORS08 Deviation Environmental Assessment

To Whom It May Concern,

The Martin County Board of County Commissioners (the County), representing the residents of Martin County, as a stakeholder in the management of the Central and South Florida (C&SF) flood control project, appreciates the opportunity to provide comments and support concerning the proposed LORS08 Planned Deviation (Deviation) from the 2008 Lake Okeechobee Regulation Schedule (LORS08).

The strategy to maintain water levels in the lower parts of the Operational Band is to be commended. Its implementation during the dry season of 2019 has, to date, likely averted yet another long summer of toxic water discharges to the coastal estuaries. As a stakeholder, the County is extremely grateful for the proficient and appropriate use of this operational flexibility. To the extent that the Deviation has, and will significantly contribute to, lessening of the occurrence of toxic Blue-Green Algae in the coastal systems, the County is in full support of that effort. Its time has come.

FLEXIBILITY

One of the key principles of the Deviation appears to be added flexibility in making water management decisions. The County recognizes that flexibility can have enormous benefits when responding to changes in complex systems. Accountability, however, is equally important to ensure the wide-ranging goals are being met. This is a difficult balance to achieve. The proposed Deviation appears to err on the side of excessive flexibility without accountability.

While Martin County acknowledges the benefits, as well as the challenging aspects, of the Deviation, the County would be remiss not to emphasize the impacts to the coastal systems from past high-volume Lake discharges. While this added flexibility may help, accountability is absolutely essential. For decades the S-308 and S-80 have served as overflow valves on each end of the C-44 drainage conduit for high-volume, episodic Lake discharges composed of non-saline water, total suspended solids and nutrients in excess of what the natural systems of the St. Lucie Estuary, Indian River Lagoon and the nearshore reef have been able to absorb. These coastal systems have suffered as a consequence of being bombarded with non-saline water discharged into an estuarine environment. These management techniques have resulted in the loss of many components of the system such as fisheries, sea grass, oyster beds and submerged aquatic vegetation that had made the estuary resilient to naturally-occurring imbalances. This compromised condition has weakened the natural balance that would normally keep any single species from dominating the system. As a result, the coastal system has become an attractive host to opportunistic bacteria, plants and other organisms that are no longer controlled by an equilibrated state. This imbalance has led to a newer, and arguably more immediately threatening (to human health) condition in the estuaries – the occurrence of toxic Blue-Green Algae. While this bacteria would not typically out-compete other species and dominate estuarine systems on a regular basis, large discharges from Lake Okeechobee that transform the estuaries into freshwater systems allow cyanobacteria and other Harmful Algal Blooms (HABs) to flourish. The high-volume discharges from the Lake also push the bacteria-rich lake water through the estuary, the inlet and nearshore coral reef tract.

CHANGING PRECIPITATION PATTERNS RESULTING IN HIGHER VOLUME DISCHARGES

Precipitation patterns are changing, resulting in water management decisions to discharge higher volumes for prolonged periods. The LORS08 discharge protocol has resulted in a lack of needed time to rebalance the estuarine and coastal ecosystems. The flexibility built into the Deviation with no volumetric, water quality control or discharge time period limits will allow these detrimental impacts to reoccur. Even though the Deviation strategy this year has, to date, significantly reduced the occurrence of HABs in Martin County waterbodies, the County maintains that continued Lake discharges to the coastal estuary, the Indian River Lagoon and nearshore reef tract are counter-productive to a sustainable estuary and coral reef ecosystem, and are no longer warranted. The Lake water is simply too polluted and has damaged the coastal systems.

ANNUAL AVERAGES MASK THE HIGHER VOLUME DISCHARGES

Decisions regarding the timing and volume of discharges cannot be based on annual averages over a period of record. This point is significant because the triggers for discharge decisions can be easily masked by these annual averages. Specifically, annual averages do not show the infrequent, episodic discharge events that cause the most devastating estuarine and nearshore reef imbalances. Tidal movement can flush smaller volume discharges of Lake water through the system and allow the receiving water bodies to absorb the sediments and nutrients. Tidal movement cannot, however, flush billions of gallons a day for weeks or months on end. The latter events occur infrequently compared to the lower volume but more consistent discharges. Thus, the annual average over a 10-40-year record does not give due consideration to the extreme events that cause the worst impacts. The Deviation has to be based on an accurate representation of discharge events. The extreme discharge events must be considered in decision-making instead of annual averages that do not allow for correlation of impacts.

Comments on Specific Elements of the Deviation:

- Sending water south should be the primary operation during the Deviation. Additional volumes of water should be sent south if human health advisories have been issued for either of the estuaries but not south of the Lake. At these times operations for human health should be prioritized above operations for the Cape Sable Seaside Sparrow. Additionally, all Flow Equalization Basins (FEBs) and Stormwater Treatment Area (STA) components should be operated at full flow-through capacity, and the Holey Land and Rotenberger Wildlife Management Areas should be fully utilized to move water during these periods. Extant restrictions to flow, e.g., undersized outflow structures in these wildlife management areas, should be identified and resolved.
- When discharges to the east are absolutely necessary, they should always occur in pulses to minimize adverse impacts to estuarine flora and fauna.
- The proposed HAB operations should consider the crucial ability to move water from the C-44 into Lake Okeechobee.
- Time frames and minimum criteria described in the Environmental Assessment (EA) require better justification and definition. The conditions under which HAB operations are proposed to be authorized is overly broad and grants unlimited discretion. For example, no basis is provided for the recommendation for discharges up to 730 cubic feet per second (cfs) (measured at the S-80) to the east and 2,000 cfs (measured at the S-79) to the west. Beginning in late February 2019, discharges of 827 cfs were made for approximately 2 ½ weeks through the S-80. At the end of that time period, salinities dipped below 10. Approximately 11 days later, the discharges were scaled back to 200 cfs, and within 3 days, salinities returned to the low, but acceptable range.

- What documentation exists to show that 730 cfs will not have a similar, detrimental effect on the estuaries as those seen during the 827 cfs discharges? With the knowledge that acceptable salinity levels are especially critical during oyster spawning season, could the additional discharges proposed in this EA occur outside of this sensitive time frame? During discharges covered by this Deviation, daily salinity readings need to be taken in the estuary and a swift, effective response must be established to ensure that healthy salinity ranges are maintained.
- Prediction of HAB occurrence, in fact even the quantification of existing HAB coverage, has proved difficult at best. During the Ecological Conditions Report presented at the SFWMD Governing Board meeting held on August 8, 2019, data presented concerning HABs showed conflicts between satellite readings, visual observations and water quality testing. In discussing the link between data and predicting HAB conditions, South Florida Water Management District (SFWMD) staff stated that they still are not sure why it [HAB conditions] occurs. How is there any support for condition 6-a.3 that is based on being able to predict HAB conditions? What exact predictive tool will be used to satisfy the condition that HABs are expected? On what time frame is that expectation based? What is the benefit of the condition that allows these discharges to be made if HABs have been observed in the preceding 12 months? Given that HABs are typically noted in the Lake to some extent during the summer months, this condition would allow the discharges to occur any time and push HABs into the St. Lucie River and Estuary. There is no clear, scientific basis provided for this operational strategy. Potential detrimental effects include causing HAB conditions in the estuaries, causing or exacerbating HAB conditions in the marine environment (Gulf of Mexico or Atlantic Ocean) and adverse impacts to salinity levels for fisheries, oysters and submerged aquatic vegetation.
- While a stated objective for the proposed Deviation is "...to reach a net zero balance such that the total volume discharged between 1 February and 31 January each year is unchanged from the discharges that would have taken place under the existing schedule," there is no actual mechanism to ensure this occurs. The result will be unnecessary discharges to the coastal estuaries that would otherwise not have occurred.
- The parameters for the proposed Deviation to be implemented are confusing. The EA states that the Deviation will be in place for a minimum of 1 year, but can be suspended or discontinued at any time if impacts exceed those outlined in the EA. How is this determined, by whom, and on what type of reactive time frame? There is no published metric by which HAB conditions are considered to cause adverse environmental, economic or health effects. What are the controlling criteria? In the EA, the U.S. Army Corps of Engineers acknowledges that they are not HAB experts and will rely on state and federal agencies each and every time this proposed Deviation is implemented. Were the same state and federal agencies involved in the development of this protocol? Shouldn't these agencies weigh in with metrics or standards before continuing with the Deviation? The EA goes on to say that the Deviation may also be extended after 1 year of implementation. Is it the intention for this Deviation, if not suspended or discontinued

as discussed above, to remain in place through the adoption of a new water control plan (to be called the Lake Okeechobee System Operation Manual (LOSOM) anticipated in 2022)? In any case, the one-year proposed duration is insufficient to make a determination of success. Discharges made this year were followed by sustained rain events and may not be indicative of future years.

- Although the stated purpose for this Deviation is management to reduce or eliminate the occurrence of HABs, the focus seems to be on cyanobacteria occurring in Lake Okeechobee. Is this regulation meant to apply to all HABs, regardless of human toxicity? Although Red Tide is mentioned early in the EA, there are no management strategies for HAB blooms in coastal marine systems that may be fed by nutrient rich discharges. The occurrence and explosion of a Red Tide bloom in the Gulf of Mexico caused a Declaration of Emergency in 2017. The bloom later spread to the Atlantic coast of Florida. The occurrence of new HABs in the Lake and estuaries is also a very real possibility.
- It is unclear what operational steps will be taken if HAB conditions are occurring or are predicted to occur within downstream estuaries. While the EA states that additional discharges under this proposed Deviation could occur if a HAB is anticipated in the C-43, C-44, Caloosahatchee or St. Lucie estuaries, that seems counterintuitive. Why would discharges be triggered when they could, potentially, feed a downstream bloom? There does not appear to be a clear, scientific basis for such a risky operational strategy.
- The EA references a current performance measure for the St. Lucie Estuary, stating that discharges between 350 and 2,000 cfs at S-80, S-49, S-49 and Gordy Road (combined) produce salinity in the tolerable range. This performance measure is being revised, and a placeholder should be inserted until the new performance measure is completed.
- The EA states that nutrient loading to the estuaries on the east and west coasts from Lake Okeechobee is overshadowed by local runoff in most all conditions. This statement does not accurately represent conditions as recorded, and appears to be a consequence of long-term averaging, which masks the impact of year to year fluctuations. In fact, as recently as Water Year 2017, the tidal basins retained the highest water quality while Lake Okeechobee was the highest contributor of nutrients.
- In Section 4.4 Conflicts and Controversy, the discussion is limited to conflicts and controversy on HABs and never mentions the conflicts and controversy that result from salinity reductions and the resulting impacts to the estuarine and nearshore marine habitat.

In summary, while this Planned Deviation seeks to implement additional flexibility with the aim of further improving water quality conditions in the estuaries, we feel it needs further refinement before a comprehensive analysis of impacts can be made. This proposal lacks the

detail required to understand the benefits and consequences of the proposed actions. Martin County continues to advocate for:

- The use of all available management techniques to eliminate the need for discharges to the St. Lucie Estuary.
- A scientifically-defensible, science-based protocol to identify, predict and effectively control and ultimately eliminate Harmful Algal Blooms of all kinds.
- Incorporating the salinity performance measure for the St. Lucie Estuary that is being finalized, and employing a placeholder until it is completed, to be used in any management decisions.
- Providing additional detail regarding statements on nutrient loading from local run-off vs. Lake Okeechobee discharges.
- Acknowledging the current degraded condition of the St. Lucie Estuary that makes it unable to continue accepting the devastating blows delivered by continued fresh, nutrient-enriched water discharges.

The St. Lucie Estuary needs time to rebound and heal. While the intention of the Deviation is admirable, it is our firm belief that the planned Deviation presented here does not result in an improved ability to manage HABS or restore the estuarine environment.

Sincerely,



Don Donaldson
Deputy County Administrator