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April 5, 2019

Colonel Andrew Kelly
District Commander
United States Army Corps of Engineers
701 San Marco Boulevard
Jacksonville, Florida 32207

Mr. Drew Bartlett
Executive Director
South Florida Water Management District
3301 Gun Club Road
West Palm Beach, Florida 33406

VIA E-MAIL:
Andrew.D.Kelly@USACE.Army.Mil
DBartlett@sfwmd.gov

Subject: Lake Okeechobee Discharges

Dear Colonel Kelly and Mr. Bartlett:

This letter is in response to a letter you received on March 15, 2019 signed by 17 entities expressing concern about recent and current Lake Okeechobee releases. A copy of the letter is attached for your convenience. The point of the letter is made clear in the second sentence which states "we are stakeholders interested in . . . water supply." The authors express concerns about Okeechobee releases and assert that the Corps and the South Florida Water Management District are taking a "politically-concocted approach, lacking scientific support." To support their position, the letter makes arguments we consider inaccurate and/or misleading. We take this opportunity to set the record straight.

Paraphrasing, the principal arguments in the letter are: 1) that the discharges depart from balancing *all* authorized C&SF purposes and that lowering the lake in the dry season in the past has resulted in severe economic and environmental consequences, especially from water shortages, 2) the discharges do not follow prior modeling, and 3) the agencies should store more water in the lake, not less.

1) **Discharges depart from balancing *all* authorized C&SF purposes + Lowering the lake in the dry season in the past has resulted in severe economic and environmental consequences, especially from water shortages.**

Water supply is one C&SF authorized purpose, but the letter omits that Lake Okeechobee, the Caloosahatchee and St. Lucie Estuaries, the Everglades and their fish and wildlife are authorized purposes that have suffered extreme harm from the lake reaching 16 or more feet in depth in 6 of the last 7 years. The submerged aquatic vegetation (SAV) zone is arguably the most important plant zone in the lake and the recent chronic deep water has reduced its coverage from 44,000 acres in 2012 to only about 5,000 acres in 2018. The high water degradation to the lake's SAV has been accompanied by repeated catastrophic estuary releases that reduced their seagrass, oysters and other biota. In many years, the releases also contained toxin-forming cyanobacteria. The estuary communities have experienced repeated severe economic, ecological, and probable human health impacts.

In contrast to the letter's assertion of high risk of low water harm, since 1965, Lake Okeechobee has been kept harmfully deep in 25 years as compared to only 8 water supply cutback years.[1] Yet, the letter implies management focus should be on drought years over a fear of water cutbacks, which are uncommon compared with high water years. At this point, the lake and estuary communities urgently need hydrological conditions conducive to the recovery of their ecosystems and economies and the management focus should be on them.

In order for lake managers to resuscitate the lake's SAV community, sunlight must reach the seeds lying on the bottom in the SAV zone (primarily the 9-11 foot contour). This would require the lake dropping to about 11 feet for roughly the next 2 – 3 months. This year we appear to have a 1-in-10 year opportunity to drop lake levels to the 11-foot range to allow SAV seed banks to receive the sunlight they need to germinate and grow. The estuaries in turn, need relief from harmful releases to allow their grasses and biota a chance to regrow, and low lake levels this year will make that recovery condition more likely. The El Nino pattern's wetter-than-normal dry season may preclude getting the lake down to 11 feet, but even so, releases now can help the estuaries by lowering the lake before the upcoming wet season. Given the past seven years of high water events and the loss of so much lake and estuary habitat, the Corps' approach is prudent and timely. The efficacy of this approach is based on recovery experiences of the late 1980s, late 1990s, and after the 2004-05 storms. We support the efforts to manage these ecosystems for recovery.

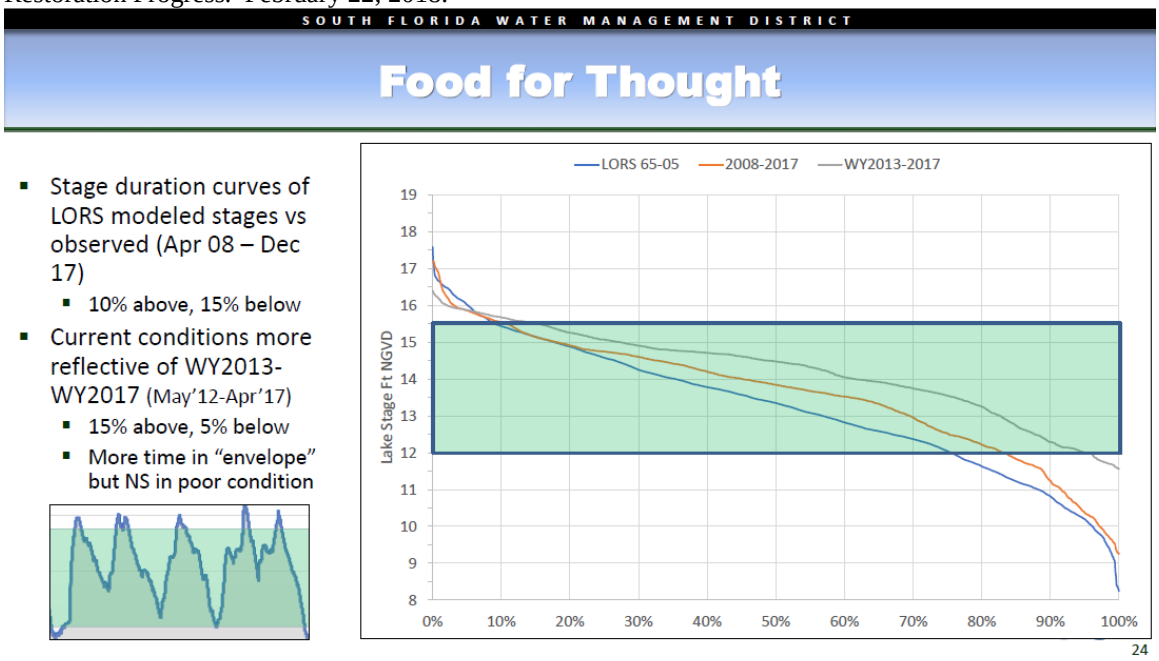
2) **The discharges do not follow prior modeling.**

The letter goes on to assert that the discharges "exceed the volumes analyzed in the LORS08 Supplemental Environmental Impact Statement or the LORS08 2018 (sic) Biological Opinion." The LORS08 decision tree makes release recommendations phrased as releases *"up to"* a certain amount. When modeling, the agencies tend to use the maximum "up to" values in simulations. In reality, the agencies end up using less than the recommended "up to" amounts, thus keeping Lake Okeechobee deeper than what the model predicted. Figure 1 shows that observed lake stages have been deeper than predicted in LORS08. For example, the LORS08 model predicted Lake Okeechobee would be below 12 feet about 25% of the time,

[1] Harmfully deep is defined as the lake staying above 12.5 feet for an entire year which prevents restorative drawdowns. The 8 drought years cited are 1971, 1981, 1991, 2001, 2007, 2008, 2009, and 2011.

but from 2008-2017 the lake was lower than that only about 16% of the time, and from 2013-2017 it was below 12 feet only about 5% of the time. We consider the releases the Corps is making now to be fully within this "make-up" zone.

Figure 1. Projected lake levels from LORS08 compared with actual lake levels in recent years. Source: SFWMD. 2018. Lake Okeechobee stage effects on lake ecology. Presentation to Committee on Independent Scientific Review of Everglades Restoration Progress. February 22, 2018.



3) The agencies should "store more water in the lake, not less".

The authors of the letter state "the prudent approach, supported by sound independent science, is to . . . store more water in the lake, not less." This is out of touch with the reality of a fragile Herbert Hoover Dike and the families, businesses and wildlife that had to endure years of deep water and harmful, and at times toxic, releases. Alarmingly, reaching or exceeding 16 feet in 6 out of the last 7 years has made the Herbert Hoover Dike a source of significant risk. The occurrence of an extreme weather event while at or above 16 feet could have put the lake at dangerous levels. Storms routinely raise lake levels 3-5 feet, as evidenced by Tropical Systems Fay and Irma that elevated lake levels by 4 and 3.5 feet in one month, respectively.

The ongoing dike rehabilitation project is only partially finished and the dike remains far from safe. Culvert replacements are ongoing and only about half of the cutoff wall designed to reduce piping (leaks through the dike that are the greatest threat of dike failure) has been finished. The Corps deemed the reach from Belle Glade to Clewiston an "Intolerable Risk Area" (Fig. 2) and cutoff wall installation for this long stretch has barely begun. Recommending storing more water in the lake now is irresponsible. Suggesting that sound independent science supports doing so is misleading at best. Advocating for storing more water in the lake once repairs are fully finished, is ignoring the history of lake management. History has shown time and again that a deeper Lake Okeechobee is a dirtier, more dangerous, unhealthy lake and a source

of harm to the estuaries. Conversely, a deeper lake only benefits water users to the detriment of Florida's wildlife, families, and our multi-billion tourism-based economy. A deeper lake represents no shared adversity.

Figure 2. The blue line below is yet to have a cutoff wall installed and is rated by the USACE as an Intolerable Risk Area (USACE 2016[2]). Raising lake levels at this time would be dangerous to this 20 plus-mile stretch of dike. (Source: USACE 2016. Herbert Hoover Dike rehabilitation project. Public meeting presentation in Clewiston, FL.)

In summary, the fact is that LORS08 keeps the lake too deep causing harm to the lake and the estuaries, and the Herbert Hoover Dike remains unsafe posing a real and present danger to human health and safety. Lowering Lake Okeechobee at this juncture meets the purpose of flood control, has a low chance of contributing to water shortages, and can start the healing process for beleaguered ecosystems and the fish and wildlife resources therein.

Conversely, the letter almost singularly focused on water supply and downplayed the other purposes of the C&SF project, to the point of prioritizing their water supply interests over others under the guise of "balance." We urge you to continue to weigh experience-based knowledge into the current process and continue managing the lake to balance the genuine interests of all stakeholders, including the lake, estuaries, and the Everglades, for the benefit of all Floridians.

[2] USACE 2016. Herbert Hoover Dike rehabilitation project. Public meeting presentation in Clewiston, FL.

On a final note, we applaud and thank the agencies for trying to recover these damaged ecosystems and economies by facilitating hydrological conditions suitable for recovery. We look forward to working with your agencies and supporting your efforts to improve lake management.

Sincerely,

Celeste De Palma
Director of Everglades Policy
Audubon Florida

cc: Secretary Noah Valenstein, Florida Department of Environmental Protection
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March 15, 2019

VIA E-MAIL: ANDREW.D.KELLY@USACE.ARMY.MIL AND DREW.BARTLETT@DEP.STATE.FL.US

Colonel Andrew Kelly
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United States Army Corps of Engineers
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Jacksonville, Florida 32207

Mr. Drew Bartlett
Executive Director
South Florida Water Management District
3301 Gun Club Road
West Palm Beach, Florida 33406

Subject: Lake Okeechobee Discharges

Dear Colonel Kelly and Mr. Bartlett:

The undersigned represent a large cross-section of south Florida's economy and communities, both private and public, that rely on Lake Okeechobee (Lake) and predictable functioning of the Central and Southern Florida Flood Control Project (C&SF Project). We are stakeholders interested in the decisions that affect water supply in the Lake and have engaged extensively in water management decisions and the operation of the C&SF Project for decades.

We write to express our grave concerns with the decisions currently being made by the United States Army Corps of Engineers (Corps), with the South Florida Water Management District's (SFWMD) support, that could drive the Lake to extreme low levels. The south Florida region has lived through prior agency decisions to lower the Lake in the dry season in anticipation of wet season rain that never came. Severe economic and environmental consequences resulted from those decisions. Many have experienced the harsh reality of gambling on Mother Nature and being wrong.

These lessons were unforgettable. Yet, despite this well-known history, the Corps, along with the SFWMD, appear on track to repeat the mistakes of the past. Your plan to drive the Lake down, as noted in the Corps' Memoranda for the Record (MFR) dated October 2018 and February 2019, is even more aggressive than these past drawdown decisions.

The Lake stage is already low for this time of year, approximately one foot below the bottom of the Lake's preferred ecological operating range. The Lake stage recently entered the "Beneficial Use Band." In this band, the operating schedule calls for the Corps and SFWMD to conserve water, but discharges continue. The current release rates are unprecedented, at a combined rate of **2,300 cfs (up from 1000 cfs in the October 2018 MFR)**, plus the unquantified volume sent south, per the MFR dated February 22, 2019. These releases, being made in the absence of any

extreme weather conditions, exceed the volumes analyzed in the LORS08 Supplemental Environmental Impact Statement or the LORS08 2018 Biological Opinion. Already vegetation is stressed in the stormwater treatment areas, which may affect water quality; water conservation areas above their regulation schedules; increased discharges to the northern estuaries; and unwanted discharges to the Lake Worth Lagoon. All of these impacts currently exist, yet the discharges continue, jeopardizing the environment and water supplies for municipalities (representing millions of residents), business, and agriculture.

Congress spoke clearly when it stated that the Lake was to serve multiple purposes and the Lake's regulation schedule was to balance *all* authorized C&SF Project purposes. The current discharges have significantly departed from this mandate. Under the so-called "Additional Operational Flexibility" (AOF), a tool to be used "infrequently" and for "unique" occurrences, the Corps has made discharges for months, with no end in sight. The prudent approach, supported by sound independent science, is to take advantage of the billions of dollars spent to date to repair the Herbert Hoover Dike, and store *more* water in the Lake, not *less*.

With no opportunity for stakeholder engagement, and no meaningful analysis of the adverse effects to our communities and the environment, we must strenuously request the Corps and the SFWMD halt these current discharges. We ask the Corps to return to typical operations under the approved water control plan, while we, as a community, work together to develop the new Lake Okeechobee System Operating Manual (LOSOM).

We look forward to partnering with the SFWMD and the Corps in the management of the system, within the approved schedules, not a politically-concocted approach, lacking scientific support. Our water resources are too precious to gamble with anything less.

Sincerely,

Lake Worth Drainage District
Okeechobee County
City of Okeechobee
City of West Palm Beach
Southeast Florida Utilities Council
Associated Industries of Florida
Okeechobee Economic Council
Florida Land Council
H2O Coalition
Florida Fruit and Vegetable Association
Florida Nursery, Growers and Landscape Association
Florida Farm Bureau Federation
Indian River County Farm Bureau
Richard Budell, Executive Director, Florida Agribusiness Council and Former Director of Water Policy, Florida Department of Agriculture and Consumer Services
Russ Frydenborg, President, Frydenborg EcoLogic and Former Program Administrator, Division of Environmental Assessment and Restoration, Florida Department of Environmental Protection

Frank Nearhoof, President, Nearhoof Environmental Consulting and Former Program Administrator, Division of Environmental Assessment and Restoration, Florida Department of Environmental Protection
Henry Dean, Former Executive Director of the South Florida Water Management District

cc: Secretary Noah Valenstein, Florida Department of Environmental Protection (noah.valenstein@dep.state.fl.us)
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