

**Audubon Florida • Audubon of Southwest Florida
Collier County Audubon Society • Hendry-Glades
Audubon Society • Peace River Audubon Society**

September 27, 2012

Linda Hoppes, AICP, Lead Planner
LWC & LEC Water Supply Plan Manager
SFWMD Water Resources Division
Water Supply Planning
Via email: lhoppes@sfwmd.gov

RE: Audubon comments on the Lower West Coast Water Supply Plan 2012 Update

Dear Ms. Hoppes:

On behalf of Audubon Florida and its 14,000 acre Corkscrew Swamp Sanctuary in Lee and Collier Counties, and the Southwest Florida Audubon chapters, including Peace River Audubon Society, Audubon of Southwest Florida, Hendry-Glades Audubon Society, and Collier County Audubon Society (collectively, “Audubon”), we write to share our joint comments and recommendations on the August 15, 2012 draft of the 2012 update of the Lower West Coast Water Supply Plan. Audubon has participated in the public workshops, for which we appreciate the opportunity, and we have reviewed the updated plan in detail.

Audubon recognizes water supply planning is critical to achieving the necessary balance between water supply of urban and agricultural needs without harming the primary obligations to sustaining the natural ecosystems on which all other water uses depend. Another facet of balance is the often conflicting goals of water supply and flood protection. Perhaps most significantly, these balancing efforts are made most challenging and vital by the contexts of greater Everglades restoration, and the foreseeable impacts of climate change and its consequent sea level rise and shifts in weather patterns (droughts, storms, evaporation, etc.). In response, Audubon recommends proactive water supply planning strategies and tools which seek landscape restoration and water conservation benefits en route to sustainable water supplies for the full spectrum of users, including the natural system.

Audubon’s specific comments and recommendations include:

- **Lake Okeechobee is not a future source of increased water supply:** Throughout the Lower West Coast Water Supply Plan (LWCWSP), there are repeated references to anticipation of additional water supply options from Lake Okeechobee once Hoover Dike repairs are completed, possibly as early as 2022. Audubon strongly objects to this suggestion that Dike repairs will allow storage of significantly greater water volumes. While there may be some additional flexibility once the repairs are complete, the Lake must be managed as the treasured ecosystem it is, and not a water supply reservoir. The Central and Southern Florida Project Comprehensive Review Study (“Restudy”, 1999) determined the ideal Lake stage envelope as between 12.5 feet and 15.5 feet, for many vital ecological reasons. Additionally, the Army Corps of Engineers has firmly objected to any requests to raise Lake levels, even hypothetically after Dike repairs.

Therefore, Audubon recommends deletion of anticipation of significant additional water supply capability from the Lake on the many pages it is found, using the following standard edit to page 77 (similar references and edits are also found on pages iii, xi, xii, and 165):

Summary of Water Source Options

Overall, this plan update reconfirms the recommendation of the 2005–2006 LWC Plan Update to continue the diversification of water supply source options, such as use of the FAS, ASR, reclaimed water, and appropriate water conservation, which is discussed in the following section. The future water demands of the LWC Planning Area can continue to be met through the 2030 planning horizon with appropriate management and continued diversification of water supply sources ~~and completion of the necessary repairs to the Lake Okeechobee Herbert Hoover Dike. Additional storage may become available after the completion of necessary repairs to the Lake Okeechobee Herbert Hoover Dike, as long as Lake Okeechobee lake levels are effectively managed to support the Lake's ecosystem.~~

Additional language should be inserted that explains the role of Lake Okeechobee as an ecosystem rather than a reservoir. We offer the following suggestions:

Appendix H, pg 271:

2008 LAKE OKEECHOBEE REGULATION SCHEDULE

Lake Okeechobee is a central component of the Central and Southern Florida Flood Control Project (C&SF Project) and an interconnected regional aquatic ecosystem. It serves multiple functions including flood control, agricultural and urban water supply, fulfilling Seminole Tribe of Florida water rights, navigation, recreation, and fish and wildlife preservation and enhancement. As such, operation of the lake affects a wide range of environmental and economic issues. Lake operations must carefully consider the entire and sometimes conflicting purposes of the C&SF Project. In 2008, the USACE implemented an interim regulation schedule for Lake Okeechobee that addressed concerns about the integrity of the Herbert Hoover Dike and protecting the ecology of Lake Okeechobee by reducing the frequency of high water events.

The dike provides key flood control for developed areas around the lake. The 2008 Lake Okeechobee Regulation Schedule (2008 LORS) regulates the lake approximately one foot lower than previous regulation schedules. Additional information regarding 2008 LORS can be found in the *Central and Southern Florida Project Water Control Plan for Lake Okeechobee and Everglades Agricultural Area* (USACE 2008a) and the *Draft Supplemental Environmental Impact Statement on the Lake Okeechobee Regulation Schedule, Lake Okeechobee, Florida* (USACE 2008b).

As treasure of our ecosystem, Lake must be managed as a lake and not a reservoir. The Restudy (1999; the Central and Southern Florida Project Comprehensive Review Study) identified five performance measures for Lake Okeechobee hydrology, of which one was a spring water level recession

declining from ~15 feet to ~12 feetⁱ. The authors noted that the spring recession, "...is the only [performance measure] that relates to seasonal variation in lake levels and that variation is...critical for a healthy ecosystem" (page IV-11). The Restudy's spring recession was further refined into a performance measure now termed the "Stage Envelope," that describes the ecologically-preferred zone that is within six inches of the graphed line between 15.5 feet to 12.5 feet from annual wet to dry seasons, respectively.

Stages between 15.5 and 12.5 feet were selected because this range creates the most benefit to Okeechobee's littoral zone (the marsh community where rooted plants grow). The single most important factor in determining the character of the marsh community is water level fluctuations. Shallower parts of marsh systems thrive with annual drydowns whereas plants in deeper marsh zones are adapted to very infrequent drydowns. Thus, the Stage Envelope between 12.5 to 15.5 feet matches the contours of Okeechobee's marshⁱⁱ. And although the Stage Envelope is a desirable average, it is beneficial to have inter-annual variationⁱⁱⁱ, and occasional excursions, especially drawdowns near 11 feet once a decade or so^{iv}.

● **Caloosahatchee River and Estuary Minimum Flows and Levels, and Water Reservation:**

The River's Minimum Flows and Levels (MFL) Recovery Plan needs expansion beyond just the C-43 Reservoir – the LWCWSP needs to identify this important objective of adding contributing elements of the Caloosahatchee River Watershed Protection Plan, Aquifer Storage and Recovery exploration where geology and budget priorities support it, and dispersed water management and wetland restoration projects. Also:

- Audubon agrees that data collection is necessary to determine whether to update the River's MFL, including due to sea level rise and better quantified basin flows, but the LWCWSP, on page 61, should also include the anticipated outcome of an overdue update of the MFL as allowed by Florida Statute 373.0421(3).

- Audubon also supports an effective Water Reservation for the C-43 West Reservoir CERP project now, and as better data and more basin storage options become available, a future wider basin Water Reservation for the Caloosahatchee River and Estuary. We believe the 2012 LWC update should include a timetable to institute this second phase of a water reservation that protects Caloosahatchee River and Basin water beyond the water protected for the C-43 Reservoir CERP project.

● **Water Conservation Strategies Must Be More Proactive:** There is no good technical reason for permitting any utilities or local governments to allow more than one day per week of landscaping irrigation year round. Citing vague re-use water technical issues confuses the public and sends a very mixed message on water conservation.

● **Climate Change and Consequent Sea Level Rise and Weather Adversity:** LWCWSP does not address sea level rise adaptation planning and strategies adequately – utility infrastructure vulnerability and flooding risks will increase greatly, with corresponding budget impacts that don't appear sufficiently considered. Adaptation strategies to consider: 1) wetland restoration with reestablishment of overland flows; 2) wellfields move inland; 3) elimination of coastal public and private wells; 4) coordination with Army Corps and Regional and Local Planning Agencies using appropriate modeling and land use strategies to retard saltwater intrusion, use

flood control infrastructure to its fullest advantages, and allow for natural coastal ecosystems to migrate inland.

Again, Audubon appreciates the opportunity to participate in the workshops and planning process for this update of the LWCWSP. We recognize the significant work and planning that has gone into this effort. We ask for your consideration of our comments and recommendations as the District revises the Plan in response to public input and review. Comprehensive water supply planning is integrally tied to natural resource protection and restoration, which is fundamental to the sustainability of both human communities and greater Everglades ecosystems.

Sincerely,

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ⁱ [Havens, K., L. Manners, and R. Pace. 1999. Priority hydrologic performance measures for Lake Okeechobee. Pages IV-9 to 15. In Central and Southern Florida Project: Comprehensive Review Study, Vol. II. USACE, Jacksonville.](#)

ⁱⁱ [Havens, K. E., and D. E. Gawlik. 2005. Lake Okeechobee conceptual ecological model. Wetlands 25: 908-925. a detailed peer-reviewed document of water levels and marsh plant and animal communities on Lake Okeechobee.](#)

ⁱⁱⁱ [Florida Fish and Wildlife Conservation Commission. 2003. Management of Lake Okeechobee and Associated Estuaries. Lake Okeechobee and Associated Estuary Issue Team.](#)

^{iv} [Havens, K. E., D. Fox, S. Gornak, and C. Hanlon. 2005. Aquatic vegetation and largemouth bass population responses to water-level variations in Lake Okeechobee, Florida \(USA\). Hydrobiologia 539:225–237; LORS 2007 Biological Opinion. USFWS.](#)