MEMORANDUM

To: SFWMD and FDEP
From: Lisa Interlandi, Everglades Law Center
Re: Agency Comments on Proposed Sugar Hill Sector Plan
Date: September 26, 2014

INTRODUCTION

Earlier this month, I delivered to staff of the SFWMD the attached document which outlines the crucial issues that we believe must be addressed by the District and Florida Department of Environmental Protection (FDEP) in their comment letters to Hendry County and the Department of Economic Opportunity (DEO) under Chapter 163, Part II, Fla. Stat. relative to the proposed Sugar Hill Sector Plan. I am following up on that submittal with the following information to provide additional detail as to the specific documents that, at a minimum, constitute the best available data on these issues, as well as the key points of information which should be included in the agency comments to the County and the DEO. While the documents referenced below are created by or available to the agency, we hope this memorandum will help elaborate upon the points we had made previously, and assist the SFWMD and DEP in providing full comment and information to DEO on these issues.

The analysis of these issues in the Sector Planning documents was, in our opinion, inadequate, and the following information should be forwarded by SFWMD to DEP in support of a comment stating that the large area over which the Sector Plan would allow development to be approved is not suitable for the intensity or amount of development contemplated by the Sector Plan relative to state resources of regional significance including: water supply, flood protection and drainage, Everglades and estuary restoration and water management in general.

I. WATER STORAGE & LAND NEEDED FOR RESTORATION

Over the last decade, the District, State and Federal governments have invested significant resources to restore and improve the Everglades. Water supply for the Everglades and growing urban populations throughout South Florida depends on a restored Everglades that includes significant additional water storage. Substantial amounts of water are being lost to tide each year, causing significant harm to the estuaries and coastal economies.

To address restoration needs, the SFWMD identified and prioritized the U.S. Sugar-owned lands in Hendry and Palm Beach County for acquisition due to the "remarkable opportunity for constructing storage and treatment projects to benefit the Everglades, Lake Okeechobee and coastal estuaries."[1] The SFWMD described the environmental benefits of the land purchase to include[2]:

[1] Wehle, Carol. "Star Ranch Excavation Expansion and Limerock Mining Activities in the Everglades Agricultural Area." Letter to Palm Beach Board of Commissioners. 22 Oct. 2009.
[2] http://www.sfwmd.gov/portal/page/portal/common/newsr/rog_faqs.pdf

- Providing an opportunity to reestablish an historic connection between Lake Okeechobee and the remnant southern Everglades ecosystem through a massive, managed system of water storage and water quality treatment.
- Allowing for the delivery of cleaner water to the Everglades during wet times and greater water storage to protect the natural system during dry years.
- Reducing the potential for harmful freshwater discharges from Lake Okeechobee to the St. Lucie and Caloosahatchee rivers and estuaries through additional available storage.
- Preventing thousands of tons of phosphorus from entering the Everglades every year.
- Eliminating the need for back pumping water into Lake Okeechobee from the Everglades Agricultural Area to augment regional water supply needs.
- Providing additional water storage alternatives and relieving some pressures on the Herbert Hoover dike while the federal government undertakes repairs.

SFWMD engaged in a lengthy planning process with federal, state, and local agencies to evaluate restoration alternatives in light of the U.S. Sugar land acquisition. The scope of the River of Grass Phase I Planning Process was to, "[d]etermine the range and general location of acreage needed north of the Everglades Protection Area for storing, treating and delivering the water flows needed to restore the Everglades, while enhancing ecological values in Lake Okeechobee and the northern estuaries."[3]

SFWMD's March 18, 2010, River of Grass workshop presentation demonstrated that (1) More flow is needed to sustain the Everglades; (2) Current flows and depth cannot sustain the Everglades, and; (3) Neither the flow nor the depth can be fixed without de-compartmentalization, which in turn, relies upon storage and treatment upstream of the "red line", an area including much of eastern Hendry and western Palm Beach County owned by U.S. Sugar. The River of Grass workshops focused solely on the use of these lands, for which the state still has an option to buy.

The District developed various water management scenarios for portions of these lands, which identified critically important flow targets[4] and need for significant additional volumes of water to be moved through the central and southern Everglades.[5] The River of Grass Phase I configurations presented at the Reviving the River of Grass workshop on Dec. 18, 2009 identified substantial water storage needs and opportunities on lands that it now has under option contract to acquire from the U.S. Sugar Corporation[6], some of which being directly, and all of which could be indirectly impacted by the development approvals allowed by the Sector Plan.

SFWMD's initial concepts for the U.S. Sugar land acquisition "call for constructing a

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[3] https://my.sfwmd.gov/pls/portal/docs/PAGE/COMMON/NEWSR/ROG_CONFIG_DATA/2_instructions_configuration_exercise.pdf

[4] Reviving River of Grass Presentation March 18, 2010. Retrieved From http://www.sfwmd.gov/portal/page/portal/xrepository/sfwmd_repository_pdf/rog_science_summary_0318_2010.pdf

[5] Reviving River of Grass Presentation March 18, 2010. Video 1:03:31; Ibid. 1:28:14

[6] Reviving River of Grass Presentation December 18, 2009. Retrieved From http://www.sfwmd.gov/portal/page/portal/xrepository/sfwmd_repository_pdf/rog_planning_2009_1218_new_2.pdf

managed system of water storage and water quality treatment to reestablish an historic connection from Lake Okeechobee to the remnant Everglades. This requires the consolidation of strategically located agricultural land into large tracts."[7] Thus, conceptual project configurations presented on December 15, 2008, included facilities that are located on U.S. Sugar lands impacted by the proposed Sugar Hill Sector Plan as well as projects that utilize U.S. Sugar lands within the Sector Plan for to trade for other large tracts of consolidated agricultural land.[8]

No viable alternatives exist to meeting the water storage and flow requirements necessary to restore the Everglades and reduce the devastating Lake Okeechobee regulatory releases to the estuaries. Water storage in this area is necessary to reduce damaging estuary discharges while maximizing benefits from holding water in the system. Storage south of Lake Okeechobee is optimal for restoration success because simplicity of integration into the water management and water quality infrastructure, and land costs relative to other options. Large public investments have already been made, and a greater flow of water south is ecologically beneficial. Additional land acquisition in the EAA and of the adjacent lands under option represent the only feasible and cost effective solution to reconnect Lake Okeechobee to the Everglades ecosystems, often referred to as the "missing link," and move water south.

In recent wet years, including 2013, 2005, 2004, 2000, Lake Okeechobee water levels threatened the integrity of the Herbert Hoover Dike, resulting in harmful water discharges into the Caloosahatchee and St. Lucie Estuaries. High level releases washed estuary nurseries out into the Gulf/Atlantic, impacting "year classes" of fisheries, oysters, scallops and habitat, devastating coastal nature - based, tourism economies. The health and safety of residents was compromised with toxic algae blooms and health department advisories on both coasts. The storage needs to prevent or adequately reduce future releases cannot be fully met by CERP and the need for additional storage remains urgent. The benefits include:

- more natural timing and distribution of water to the Everglades ecosystem,
- greater water-supply certainty at less cost to users,
- fewer harmful discharges to estuaries,
- improved freshwater sheet flows into Florida Bay, and
- re-vitalization of Lake Okeechobee, its fisheries and rookeries.

Principal features of the CERP recommended plan included approximately 217,000 acres of new reservoirs and wetlands based water treatment areas[9], and much additional land acquisition

[7] http://www.sfwmd.gov/portal/page/portal/common/newsr/rog_faqs.pdf
[8] Reviving River of Grass Presentation December 18, 2009. Retrieved From http://www.sfwmd.gov/portal/page/portal/xrepository/sfwmd_repository_pdf/rog_planning_2009_1218_new_ Academies Press: Washington, DC. Retrieved from http://www.nap.edu/openbook.php?record_id=10061.
[9] National Research Council of the National Academies. Progress Towards Restoring the Everglades: The Second Biennial Review – 2008. National Academies Press: Washington, DC. P 26-27.

remains necessary to meet restoration objectives.[10] The US Sugar Corp. lands contemplated for acquisition under the SFWMD's current option contract comprise an important component of those needs.

Next, the state of Florida is under a mandate to meet water quality standards for water flowing through the Everglades. Stormwater Treatment Areas (STAs) must be expanded, and additional water-storing Flow Equalization Basins must be created to increase STA efficacy. Benefits include:

- storage and processing of additional water;
- expansion of highly successful periphyton-based treatments in combination with a variety of submerged aquatic vegetation;
- an opportunities to evaluate the flux of phosphorus vis-à-vis soil, ground water and inflow from canals;
- ability and flexibility to meet 10 ppb phosphorus under a variety of climatic conditions, and;
- emerging wildlife habitats on STA lands (though not a management goal for these lands).

The SFWMD has determined that the acquisition of up to 187,000 acres in the Everglades Agricultural Area will likely provide a significant amount of the additional lands needed to achieve the water storage and treatment goals.[11] That includes lands that could be impacted by the Sector Plan. On the other hand, urban and suburban development could effectively preclude restoration efforts in those areas, while, on the other hand, increasing storm water pollution. Significant development as proposed by the Sugarland Sector Plan on these lands is inconsistent with the SFWMD's regional ecosystem restoration efforts and water quality improvement requirements.

II. PUBLIC SAFETY & FLOOD CONTROL DEMANDS & COSTS

At the September 12, 2013, Legislative Budget Commission meeting, the DEP requested $2.7 million in funding authority to provide operational and structural changes to existing pump stations in order to move excess water in the WCAs south to Everglades National Park and to tide. These pumps are typically only used for flood protection. SFWMD should include in its comments to DEO the annual additional costs to operate existing pumps that may be affected by drainage plans associated with the SHSP or whether there is a need to add capacity for flood control operations given proposed development of the SHSP.

The Herbert Hoover Dike is among the six "most likely to fail" in the entire country with a 50/50 chance of failure by 2015.[12]. The projected date of completion of the necessary repairs is

[10] Margasak, Gabe. Email Communication. Media Relations Representative – Specialist. South Florida Water Management District. August 31, 2010 via Freechild, Aquene. "Sugar Barons and Stakeholders: The Impact of the U.S. Sugar Deal on Everglades Restoration." (2010). Web. http://www.nyu.edu/brademas/pdf/intern-research-papers-2010-freechild.pdf

[11] http://www.sfwmd.gov/portal/page/portal/common/newsr/rog_faqs.pdf

[12] http://www.palmbeachpost.com/news/weather/hurricanes/cash-strapped-corps-to-seek-cheaper-lake-okeechobe/nLqYG/

uncertain.[13]

III. WATER SUPPLY ISSUES IN THE LOWER WEST COAST

Given the water scarcity issues already facing the Lower West Coast Water Supply planning area region, the proposed Sector Plan raises the major question, raised by SFWMD staff at a pre-application meeting, of where the water supply will come from.

The SHSP is in the Lake Okeechobee Service Area, (LOSA) basin. The LOSA basin is designated by the SFWMD as a Restricted Allocation Area (RAA) with consumptive use permits (CUP) capped due to challenges and failure to meet MFL (harm) conditions for the Caloosahatchee and estuary in most years. The LOSA rule limits alternatives for water use.

Below are the URL addresses for the various planning documents relating to water-supply planning and treatment in the Lower West Coast region of the SFWMD. This memo lists the chapters of the each document and identifies by document page number where the most relevant data and analysis can be found. URL Addresses for the District's Lower West Coast Water Supply 2012 Plan, supporting reference documents, and 2014 amendment are provided, followed by a brief summary of key data and analysis from the documents.

1. Lower West Coast Water Supply Plan 2012:

http://www.sfwmd.gov/portal/page/portal/xrepository/sfwmd_repository_pdf/lwc_planning_doc_2012.pdf

This document updates the 2012 Water Supply Plan for the Lower West Coast. Appendices G and H cover limitations relative to water available for allocation. We note that the Water Supply Plan does not include or account for the water supply needs of natural systems, which suffer from chronic shortages during the dry season, and thus, the plan over - estimates water supplies and under-estimates environmental demand.

"This plan update concludes that 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." (P. iii). It identifies, as steps necessary to meet these demands, the completion of water-supply utility projects, evaluation of site specific refinement of groundwater availability, and completion of the Caloosahatchee River (C-43) West Basin Storage Reservoir Project. We note that these shortfalls were identified prior to the new demands that would be created by this Sector Plan, and that the issue of if and when they will be completed and available to supply water to any new users remains subject to many uncertainties.

In the Lake Okeechobee Service Area, the amount of "available fresh water" is limited. "The level of certainty is projected to decline from experiencing water shortage restrictions only every 1-in-10 years to experiencing restrictions every 1-in-6-years." (P. iii).

[13]http://www.saj.usace.army.mil/Portals/44/docs/FactSheets/HHD_FS_DamSafety_Spring2013_508.pdf

The Plan projects the LWC population to increase 51 percent over the 20-year planning horizon. While the 2010 average annual gross water demands for all categories totaled 971.1 MGD, by 2030, projected total average annual gross water demands are estimated to range from 1, 217.9 to 1, 262.9 MGD (an increase of 25 to 30 percent).

2. **Lower West Coast Water Supply Plan 2012 Appendices:**

http://www.sfwmd.gov/portal/page/portal/xrepository/sfwmd_repository_pdf/lwc_appendices_2012.pdf

3. **Final Order on 2014 Amendment to the 2012 Lower West Coast Water Supply Plan Update:**

http://www.sfwmd.gov/portal/page/portal/ver-STAGE/xrepository/sfwmd_repository_pdf/2014-023-dao-ws_2014_wrca_amendment_2012_lwc_wsp.pdf

The "Findings of Fact" state: "existing sources of water are not adequate to supply water for all existing and future reasonable-beneficial uses and to sustain the water resources and related natural systems for the planning period." The amendment identifies the LWC Planning Areas as "a water resource caution area."

Exhibit B is a series of passages from the 2012 LWC Water Supply Plan Update, with population projections and water demands, climate change outlook, and changes in gross water demands for region's public water supply and domestic self-supply of 256.1 MGD (a 46 percent increase from 175.2 MGD in 2010). Agricultural demand is projected to remain the "single largest water user category in 2030" at 696 to 741 MGD in 2030 (up from 630 MGD in 2010).

This amendment also explains the Restricted Allocation Area established in 2008, with permit criteria set out in Section 3.2.1 of Basis of Review for Water Use Permit Applications within the SFWMD, which limits withdrawals from Lake Okeechobee and "all surface water hydraulically connected to the lake…." "By limiting the availability of surface water for new consumptive use allocations, these criteria protect the rights of existing legal users, as well as the region's water resources." The document also refers to the 2012 Lower East Coast Water Supply Plan Update (SFWMD 2012b).

Finally, we note that, while non-environmental water needs are projected to increase, natural system water supply is not included or quantified. Since 2001 when the Caloosahatchee MFL was established, it has not been met in eight of thirteen years. Several consecutive years of exceedence have resulted in serious harm. Monitoring has clearly demonstrated that the established MFL is not sufficient to prevent serious harm and the resulting high salinity has caused the complete loss of tape grass habitat in the upper estuary.

4. **Reference Document 2011-2014 Lower West Coast Water Supply:**

http://www.sfwmd.gov/portal/page/portal/xrepository/sfwmd_repository_pdf/2011-2013_water_supply_plan_support_doc.pdf

The Caloosahatchee River and Lake Okeechobee are the region's most important surface water sources. Water flows west into the Caloosahatchee estuary and coastal waters that are dominated by aquatic preserves including Pine Island Sound, and Matlacha Pass that adjoin the J.N. "Ding" Darling National Wildlife Refuge on Sanibel Island. This coastal estuary consists of rich fishery habitat of mangroves, oyster bars, and seagrasses monitored as part of a national aquatic preserve program.

The C43 canal and Caloosahatchee River are key sources of fresh water for consumptive use and the estuary. Stored water is critically important to both the natural ecosystems and developed areas in the Planning Area. Management of surface water storage capacity involves balancing two conflicting conditions – (1) drought conditions in the dry seasons and (2) flooding in the wet season.

The Sugar Hill Sector Plan appears to cover S4, S236 and parts of the East Caloosahatchee Basin, which is noted only to be severely impacted by the canal (C-43) through the center. Pgs. 170, 172.

Three major aquifer systems lie beneath southwestern Florida. Surficial Aquifers are described and rated beginning on p 175. Table 30 on p 175 suggests that only the Lower Tamiami and Upper Floridan are "high flow" sources of water for Hendry County; the Lower Tamiami is absent under parts of the county. Quality of potable water varies and is determined by its intended use of water, i.e. high iron is not a problem used for "flood" irrigation of food crops but must be removed if irrigating ornamental crops. Iron precipitates will clog micro-irrigation systems. Calcium can clog equipment. Suspended solids and salinity levels cannot be so high as to build up scales or sediments in equipment. For safety's sake all reclaimed water is subject to wastewater treatment standards.

The high costs of water treatment and the high nutrient loads in reuse water, where nitrogen values can be 8 or more times higher than background, raises issues about the availability to supply water effectively and not increase pollution in an existing impaired water body.

Conclusion

Restoring the Everglades and the Estuaries on the east and west coast is the most momentous project undertaken in Florida since the construction of the Central and Southern Florida Flood Control Project. The Department of Economic Opportunity must be made fully aware of the potential implications – the additional costs and the compromises to the likelihood of success that may result from the approval of this Sector Plan and the development approvals it would allow to be issued. While Hendry County has recently adopted, without challenge, two prior Sector Plans (none of which so directly challenged the ability to effectively restore the Everglades and the Estuaries), the most appropriate use of the lands that would be impacted by the Sector Plan is to maintain them in their current and potential water management uses.