

**1000 Friends of Florida * Audubon Florida * Audubon Society of the Everglades
Audubon of Southwest Florida * Biscayne Bay Waterkeepers * Caloosahatchee
River Citizens Association/Riverwatch * Collier County Audubon Society
Everglades Law Center * Florida Wildlife Federation * Friends of Biscayne Bay
National Parks Conservation Association * Natural Resources Defense Council
Sierra Club, Loxahatchee Group South Florida Audubon Society
Tropical Audubon Society * Urban Environment League**

July 30, 2013

Ms. Brenda Mills
South Florida Water Management District
3301 Gun Club Road
West Palm Beach, FL 33406

Dear Ms. Mills:

We appreciate the opportunity to engage in the 2013 Lower East Coast Water Supply Plan Update 2013 (2013 LEC Update) process, as provided by Florida law, to plan for meeting the water needs for our region.

The 2013 LEC Update should provide clear protections for current and future water needs of our treasured natural systems, within this region or dependent on this region. Two national parks receive their lifeblood from water sources within the lower east coast - Everglades National Park and Biscayne National Park. In addition, the region includes Lake Okeechobee, the largest freshwater lake in the Southeastern United States, the Water Conservation Areas, the Loxahatchee River - Florida's first Wild and Scenic River, the Loxahatchee National Wildlife Refuge, Biscayne Bay - comprised of two state aquatic preserves, and Florida Bay. Although the Caloosahatchee and St. Lucie rivers and estuaries are not directly within the boundaries of the 2013 LEC Update, these resources are heavily influenced by water management decisions within the lower east coast and their health must also be considered.

The undersigned organizations offer the following comments for the 2013 LEC Update:

- I. **We object to the inclusion of the broad and unsubstantiated statement that meeting the region's future water needs is dependent on implementation of a new Lake Okeechobee regulation schedule.**

The 2013 LEC Update states that "meeting future water needs is dependent" on "completion of the Herbert Hoover Dike repairs and implementation of a new Lake Okeechobee regulation schedule." See pgs. vii and 235. See also pgs. 47 and 93.

We are supportive of the Herbert Hoover Dike (HHD) Repair project and understand the importance of its completion for public health and safety. However, the undersigned organizations object to the suggestion that the HHD repair sets the stage for storing significantly greater volumes of water. There may be some additional water management flexibility once the repairs are complete, however Lake Okeechobee must be managed as the treasured ecosystem it is, and not relegated to becoming a water-supply reservoir. The Central and Southern Florida Project Comprehensive Review Study (“Restudy”, 1999) determined the ideal Lake stage envelope to be between 12.5 feet and 15.5 feet, for many vital ecological reasons. These considerations, as well as public safety, should preclude the Lake from being considered a significantly increased source for future water supply demands.

Development of a water resource component of a regional water supply plan must include:

1. An estimate of the amount of water to become available through the project
2. The timeframe in which it will be implemented
3. A planning-level estimate of capital construction costs and for operating and maintaining any proposed component/project. See *Fla. Stat.* 373.709(2) (b)(2)(a-b).

Because full discussion of changing the Lake Okeechobee Regulation Schedule (LORS) has not occurred, there is no information or way to determine what quantity of water might be available. The timeline, costs, and outcome of regulation schedule changes are also completely unpredictable and beyond the South Florida Water Management District’s (SFWMD) control. It is thus inappropriate to consider potential future modifications to LORS as a water resource component of the water supply plan. Moreover, should additional water storage become available within the Lake as a result of dike rehabilitation and / or regulation schedule revisions, primary consideration should be given for Lake Okeechobee and Caloosahatchee River MFL recoveries and to support other environmental objectives.

Therefore, the following language on pgs vii and 235 should be stricken and other water supply development projects should be identified if necessary to meet future demand:

“Meeting the future water needs is dependent on the following: ...

~~Completion of USACE’s Herbert Hoover Dike Rehabilitation Project and implementation of a new Lake Okeechobee regulation schedule”~~

II. The LEC 2013 Update must include a commitment and timeline for developing rules to protect water for the environment.

Florida’s water supply planning process has a broad goal of sustaining natural systems. Regional water supply plans are designed to sustain all regional water resources, including (but not limited to) those for which minimum flows and levels (MFLs) or reservations have been established (*e.g.*, Fla. Stat. § 373.709(2)(a)2. (planning “shall take into account . . . water resources constraints, *including* adopted MFLs and water

reservations” (emphasis added)). They provide a framework with which to evaluate water resource protections as part of efforts to ensure adequate water supplies both for all current and projected water use demands and “to sustain the water resources and related natural systems” (see Fla. Stat. § 373.709(1)). By taking a long view and looking at the sustainable yields of resources and impacts of cumulative uses on regional water resources, the water supply planning process must ensure that human *and* environmental needs can be met over the long term.

We urge the SFWMD to demonstrate its willingness and ability to protect the water supply of natural systems by including the following information:

A. Include a list of Minimum Flows and Levels (MFLs) and water reservations to be completed during the planning period with a timeline for completion and implementation on pg. 45 of the LEC 2013 Update.

One of the goals of a regional water supply plan is the identification of a schedule for minimum flows and levels to be adopted. Florida Statutes 373.709(2) (a) (3) (i). Prior LEC Water Supply Plans had robust descriptions and timelines for rule development to protect water for the natural system. The LEC Water Supply Plan of 2005-2006 designated specific water bodies and establishment years in its "Minimum Flows and Level Activities," which is notably absent from the 2013 LEC Update. (See pages 87-88, LEC Water Supply Plan 2005-2006). Many water bodies selected for development of MFLs have not been completed and have subsequently been dropped from priority water body lists. This includes Loxahatchee River Tributary MFLs (not completed, dropped from priority water body list in 2008), and Biscayne Bay MFL (not completed). This information should not have been removed from the latest draft. This document should include more analysis on the protections afforded to water bodies previously identified for development of MFL or reservations, and how these water bodies will be protected into the future.

B. Suggest an updated list of recovery strategies for water bodies where MFL violations have been found, including a timeline for addressing the problems and sources of funding.

Table B-3 in Appendix B should be updated to reflect the current status of capital projects with phasing and a timetable.¹ For example, the 2013 LEC Update reports only that recovery strategies for the Lake Okeechobee Watershed are “to be determined.” The draft must include a statement of when the strategies will be developed and

¹ 373.0421(2), F.S. provides the following in part: The recovery or prevention strategy shall include phasing or a timetable which will allow for the provision of sufficient water supplies for all existing and projected reasonable-beneficial uses, including development of additional water supplies and implementation of conservation and other efficiency measures concurrent with, to the extent practical, and to offset, reductions in permitted withdrawals, consistent with the provisions of this chapter.

implemented and identify a source of funding. Reference should be made to implementation of Central Everglades Planning Project to meet the needs of the Everglades; the acquisition of Mecca Farms should be explicitly mentioned as part of the Loxahatchee River Restoration Project. The table should also list projects such as Dispersed Water Management, which may provide cumulative water storage benefits. The plan should also identify the land acquired from the U.S. Sugar Purchase as well as the option to acquire additional lands and discuss the land's potential for use in future recovery strategies and restoration efforts.

C. Suggest changes to the Lake Okeechobee recovery strategy with proposals to expedite implementation.

When the Lake Okeechobee MFL was in violation for the first time in 2011, endangered birds such as Everglade Snail Kites suffered greatly from excessively low water levels during their nesting season. Likewise, the Caloosahatchee River, which relies on Lake Okeechobee for flow during drought has also seen multiple exceedances and violations of its MFL. Extended periods of low water levels in these water bodies have caused significant and serious harm to the natural system, water resources, and local economies. We urge the SFWMD to update Lake Okeechobee's recovery strategy as part of the 2013 LEC Plan to emphasize solutions that protect this ecosystem in the shorter term.

The water supply planning process provides an opportunity to review water management rules and strategies with a view toward sustaining regional water resources. Chapter 373.0421 requires the water management district to expeditiously implement recovery strategies to achieve recovery of these MFL water bodies as soon as practicable. Florida law allows MFL recovery and prevention strategies to be revised as needed, in accordance with 373.0421(3). Below are specific suggestions:

- Currently, the capital projects listed in Appendix B are not expedient or realistic. The Lake Okeechobee Watershed CERP project is not moving forward. It is unclear whether or not the HHD repair will lead to significant water supply benefits for the Lake. The text in the 2013 LEC Update should be updated to reflect this.
- The 2013 LEC Update should include further discussion on page 80 of Appendix B, and elsewhere, of the "third prong" of the Lake's recovery strategy, i.e. "water shortage restrictions as described in 40e-22 (40E-8.421(2)(e)(3)." The document should make it clear that water use is a significant contributor to the Lake's MFL violations and that water shortage restrictions are one of the most important tools for protecting the Lake's ecology during drought. In order to be effective as part of a recovery strategy, restrictions should result in significant and measurable water savings that have a quantifiable benefit to Lake Okeechobee. This intent should be clearly reflected in the document, and in implementation of the recovery strategy. Additionally, opportunities for increased year round water conservation by agricultural users should be further explored and quantified.

- The Lake Okeechobee Habitat enhancement list in Table B-4 on pg. 81 should identify the necessary funding to complete these projects.

D. A list of Initial Water Reservations to be developed on pg. 45 of the LEC 2013 Update:

The 2005 LEC Update includes a “Table 3” listing Initial Water Reservations that were scheduled to be developed in 2007 or 2008. These reservations include the Everglades, NW Fork of the Loxahatchee River, Biscayne Bay, Caloosahatchee River, St. Lucie River and Estuary, and Kissimmee River. (Pg. 88, LEC 2005 Plan). The 2013 LEC Update does not have a similar table but should include one to ensure that initial reservations are made for these water bodies and that it is not just CERP projects that are prioritized to be provided water reservations. The 2013 LEC Update should include a description of the distinction between an “initial water reservation,” which “focuses on determining the volume, duration, and timing of existing flows to protect fish and wildlife resources,” and a “project water reservation,” which is “used in the implementation of CERP related projects” (See 2005 LEC Update, pg. 49).

E. An explicit commitment to protect Biscayne Bay Water Resources through rulemaking.

The undersigned organizations have been supportive of the recently passed Biscayne Bay Coastal Wetlands (BBCW) Phase 1 Water Reservation for cost-share purposes. However, we continue to urge the SFWMD staff and the Governing Board to commit to a second phase of rulemaking to protect the broader reaches of Biscayne Bay. The 2005 LEC plan prescribed development of MFLs for Biscayne Bay South in 2008, and an initial Biscayne Bay water reservation in 2008 (2005 LEC 88). We are concerned that that information has been removed from the 2013 LEC Update, and urge that the LEC 2013 Update explicitly plans a path forward for rule development to protect Biscayne Bay on pg. 45.

F. Quantify the water needs of regional natural resources and clarify that regional water resources continue to suffer harm.

Chapter 3 discusses water resources in the LEC planning area and details significant ongoing threats to these resources. Although this discussion makes it clear that water resources are suffering real harm as a result of water use despite existing protections, the 2013 LEC Update does not clearly quantify the water needed to sustain these natural resources. Without this information, is it difficult to conclude whether proposed water supplies suffice to meet projected human needs while sustaining water resources. We suggest that Chapter 3 be revised to include more detailed information about the quantity of water both needed and available to sustain listed water resources. Only with this information can the Update provide assurance that water supplies are sufficient to meet human *and* natural system needs.

We suggest that the 2013 LEC Update needs to be clearer that natural system needs are currently *not* being met in many locations and projects proposed for the planning period will *not* offset water deficits to all resources (*e.g.*, groundwater flows into Biscayne Bay fall significantly below the “target flows” set forth in the Project Implementation Report for the BBCW Phase I Project; that project is not projected to remedy the shortfall nor are other projects proposed for implementation in the planning period that would allow groundwater flows to Biscayne Bay to reach the target). To that end, we suggest removing the sentence on page 126 of Chapter 5 (first paragraph of the Fresh Groundwater section) that reads: “Typically, enough water is available to meet urban demand during dry seasons, and support the hydrology of natural systems at the land surface.”

We also suggest adding a sentence at the end of Chapter 5, pg. 157 to make it clear that meeting natural system needs while providing for current and projected demands is contingent on the implementation of water resource projects, many of which have not yet even entered the planning phase.

III. The Update should emphasize the ability to enhance operations to protect ecosystems

While we await construction of capital projects to restore the valued ecosystems of the Lower East Coast, there are opportunities to help stave off continued ecological degradation by making interim operational changes. Below are several suggestions:

A. Continue those operational changes that enhanced and maximized environmental benefits of structures and features of Biscayne Bay Coastal Wetlands project.

We appreciate the SFWMD’s tests with low-level water releases to increase the flow of water to Biscayne Bay to nourish the ecosystem, as referenced on pg. 67, and urge the SFWMD and its federal partners to continue on this track. We would like to see this listed as a formal recommendation for future actions in this plan.

B. Offer a path forward on the South Dade Seasonal Agricultural Drawdown debate.

The undersigned organizations remain concerned about the impacts of the South-Dade Seasonal Agricultural Drawdown on the ecology of Biscayne Bay. While the 2013 LEC Update pays lip service to the discussions on this issue, it offers no solution. We recommend that the LEC 2013 Update includes the following suggestions on pg. 67:

- Utilize intermediate canal levels at S-21A and S-20F structures as frequently and for as long as possible,
- Consistently consider data from downstream ecosystems when making water-management decisions,

- Conduct an impact analysis of seasonal drawdown on BBCW project features built and added in the future,
- Release data and results from statistical analysis of WMD drawdown study, and
- Pursue a collaborative effort with agricultural community to test permanent modifications for future drawdowns.

C. Develop criteria for temporary forward pump operations from Lake Okeechobee during the dry season that take into account environmental impacts on the lake, estuaries, Biscayne Bay and other natural systems.

We suggest the SFWMD develop criteria for the operation of temporary forward pumps on Lake Okeechobee during the dry season. On pg. 136 of the 2013 LEC Update, it explains that forward pumps deliver water from Lake Okeechobee to the Miami Canal at lower stages, which “remains a part of drought management alternatives.” The operation of the pumps continues to deliver water to some users despite the Lake levels falling below the MFL trigger line of 11 feet. The frequency, duration, and extent of temporary forward-pumping remain unrestricted to the detriment of the natural system. We recommend that the SFWMD coordinates with the U.S. Army Corps of Engineers (ACOE) and United States Fish and Wildlife Service to develop parameters to guide the installation and operation of temporary forward pumps. Among the possible guidelines to be developed include:

1. The frequency, duration, and extent of the pump usage
2. A floor for the lowest point forward pumps can take the Lake in relation to biota, in particular the endangered Everglade Snail Kite, and multiple-year water deficiencies,
3. Coordinating the use of temporary forward pumps with adequate water restrictions, and
4. Managing pumps in conjunction with natural systems, so that if water deliveries occur to the Everglades Agricultural Area (EAA), the SFWMD should make deliveries to accommodate the Caloosahatchee Estuary, the Stormwater Treatment Areas, and Everglades National Park to balance the SFWMD’s core missions.

IV. Water Conservation

We urge the SFWMD to amend the water conservation discussion to make reductions more quantifiable and goal-based. Below are several specific suggestions.

A. Set real goals for Water Conservation Planning

The 2013 LEC Update states on pg. 149 that the “overarching vision” of the Comprehensive Water Conservation Plan is “to achieve a measurable reduction in

water use.” We appreciate that Miami-Dade County’s Goal Based plan and the Broward County Water partnership are mentioned, as they are concrete examples of successful programs. However, the SFWMD needs to take additional steps. It should define its vision, plan programs, and set goals for those programs. The SFWMD should also explain what “demonstrable savings” means. We suggest that it be defined as reducing per capita water use by at least 20%-30% from a verified “baseline,” which is reported and monitored.

B. Review the 2008 Water Conservation Plan and add quantifiable goals to achieve by water conservation.

The SFWMD should revisit the Comprehensive Water Conservation Plan to add specific numerical goals for water conservation. It has been five years since the plan’s adoption, and it is important to review its successes and challenges in order to move to the next steps. The 2013 LEC Update should address the effectiveness of conservation-rate structures and seek regional consistency.

C. Increase funding and enforcement of landscape-irrigation conservation programs and seek regional consistency in planning and regulatory standards.

The Year-Round Landscape Irrigation Conservation Measures rule, as referenced on pg. 14, is a good start, but more must be done to alleviate the increased pressure on our region’s water supplies. The SFWMD should partner with the LEC’s four counties to institute one-day a week landscape irrigation ordinances. We would welcome a clearer explanation of how the SFWMD will partner with local governments to enforce conservation restrictions.

We also urge additional funding for mobile irrigation labs, the Water Savings Incentive Program, and outreach. These changes should be made on pgs. 151-152 of the 2013 LEC Update. Mobile irrigation labs permit trained technicians to test and correct leaks in irrigation systems and prevent water loss. These labs greatly reduce the waste of water from irrigation systems not being properly maintained. The district should also fully fund Water Savings Incentive Programs, of which funding has been deeply cut in the last few years.

Also, the 2013 LEC Update mentions programs in many areas that could be suggested for broader application, such as Monroe County’s reliance on cisterns for part of its nursery irrigation on pg. 167. The 2013 LEC Update should explain what concrete actions the SFWMD is taking to encourage the expansion of these programs.

Finally, the SFWMD should require enforcement of rules regarding irrigation systems. For example, the SFWMD should provide support for enforcement

mechanisms set up by local governments that issue warnings and sanctions when irrigation systems are found running during heavy rains.

D. Increase standards and better monitor the quality of reclaimed water used for landscape irrigation.

The 2013 LEC Update should insert language on pg. 137 that fully and more clearly explains the water quality issues associated with nutrients in reclaimed water. The plan should promote limits on the use of fertilizer on lawns utilizing reclaimed water.

E. The 2013 LEC Update should provide more information and guidance on per capita use rates.

Florida's consumptive use permitting criteria - both the reasonable-beneficial use requirement and the public interest test - ask water managers to evaluate users' conservation efforts when determining appropriate permitted quantities (in determining what use is "necessary," "reasonable" and "in the public interest," Fla. Stat. §§ 373.223(1), 373.019(16)). Table 14 (Chapter 5, pg. 150) is helpful in showing the variety of per capita use rates (PCURs) and variations in trends across counties in the LEC Planning Area. The factors the 2013 LEC Update mentions in the text accompanying Table 14 are relevant to determining appropriate PCURs in different locations. Without additional information about how those factors vary across counties and time, it is hard to understand the variations in trends. We request that the LEC 2013 Update include more discussion about how the factors mentioned vary across the counties in the SFWMD and thus how they inform the varied trends across those counties.

F. The 2013 LEC Update should provide a vision for increased agricultural water conservation on pg.154.

According to the 2013 LEC Update on pg. 154, agriculture is the second largest water user in the LEC planning area. However, there is only a superficial discussion of current agricultural water conservation practices and no mention of a clear vision for increasing agricultural water conservation in the future. In regard to agricultural demand management, it states on pg. 154 without any reference or citation "Generally, these types of changes are expensive and require extensive planning and consideration. " This is insufficient, and the plan should include specific examples of the types of possible changes, the quantity of water that can be saved, and the cost of implementing these changes. Likewise, the discussion of agricultural Best Management Practices (BMPs) should have more information regarding specific practices and quantities of water conserved, as well as a discussion of how widely they are currently being implemented and implementation goals for the future.

- V. **Within the Climate Change sections of the LEC 2013 Update, acknowledge the development by local governments of the Southeast Florida Regional Climate Change Compact and include recommendations of its Regional Climate Change Action Plan that are pertinent to the protection of water resources and flood protection.**

We appreciate the detail in the LEC 2013 Update about climate change. To enhance the SFWMD's vision through action, the SFWMD should incorporate a list in the 2013 LEC Update of its own planning and regulatory programs, establish a timeline and estimate of the cost of coping with the immediate and long-term challenges of the rise in sea-level, and further describe the threat of additional saltwater intrusion of coastal canals and surficial aquifers.

The "Working Group" recommendations of the Southeast Florida Regional Climate Change Compact include a number of specific strategies to address the long-term adequacy of surface water management systems, water supplies and wastewater infrastructure. The LEC 2013 Update should affirm the SFWMD's support for those recommendations and collaborate with local government to ensure timely implementation. These recommendations include:

Risk Assessment:

- Identifying and developing baseline hydrologic conditions to use to assess and monitor potential impacts of climate change.
- Using inundation maps, variable density models, water management models to infrastructure and areas of greatest risk.
- Identifying vulnerable wellfields, water-distribution and wastewater collection and treatment infrastructure, and drainage systems at greatest risk and devising protection strategies, including relocation of structures. *Note: We suggest that the location of future water utilities should be outside of areas predicted to be vulnerable to storm surges or within areas likely to be inundated.

Reuse and Aquifer Recharge:

- Evaluate impacts of rising sea and groundwater levels, infiltration rates and inflow to stormwater and wastewater collection and conveyance systems.
- Identify potential sites for use in providing stormwater storage and mechanisms to increase aquifer recharge as a means for managing saltwater intrusion and enhancing water supplies.

Integrated Water Resource Planning

- Multi-stakeholder involvement, including but not limited to the local water utilities, wastewater service providers, water managers, and partners to the Southeast Florida Regional Climate Change Compact.

Drainage and Flood Control

- Coordinate Drainage/Water Control Districts, public works officials to identify flood control and stormwater management infrastructure already operating below design capacity.
- Develop and apply appropriate hydrologic and hydraulic models to further evaluate efficacy of existing water management systems and flood control/drainage infrastructure under variable climate conditions.
- Incorporate and prioritize preferred improvement projects in capital improvement plans and pursue funding.

VI. We also have some general concerns and suggestions:

A. The description of Lake Okeechobee’s hydrology and nutrient problems

On pg. 51, the description of Lake Okeechobee’s nutrient problems states, “The main driver for annual phosphorus load continues to be volume and source of inflow to the lake..., which is directly related to annual rainfall in the watershed.” Additionally, the plan states that “the overarching driver for lake ecology continues to be stochastic or naturally occurring events like droughts and hurricanes.” These statements point out the obvious fact that short-term rainfall, drought and storms, beyond the SFWMD’s control, affect the lake strongly. However, the statement glosses over the important point that, over the long term, human-induced forces have had, and continue to have, more dramatic impacts, which agencies, such as the SFWMD, were created to ameliorate. We suggest the following rewording to better reflect the historic and current drivers:

“The main driver of phosphorus loads in the lake is human inputs in the watershed that cumulatively are now estimated at 190,000 metric tons, which will contribute to and account for excessive loading in lake for decades.² Additionally, Soil and Water Engineering Technology Inc. estimates that approximately 78% of the annual variability in phosphorus runoff) can be explained by net phosphorus *import*.³ The 2013 LEC Update could mention the

² Soil and Water Engineering Technology, Inc. 2010. Nutrient budget analysis for the Lake Okeechobee Watershed. Final comprehensive report. SFWMD, West Palm Beach, FL.

³ Id.

important role of cost-share agricultural BMPs in nutrient reduction in Lake Okeechobee.

In a similar vein, it should to be noted that water levels in Lake Okeechobee fluctuated over an estimated range of 4-5 feet in pre-impact conditions, but have fluctuated more than 9 feet under the human-dominated system.⁴ Thus, to cite only nature's hand disregards the importance of human impacts on Lake Okeechobee and minimizes the SFWMD's responsibilities.

B. The use of the phrase "legal users" throughout the 2013 LEC Plan

We understand that the term "existing legal users" applies to permitted users in the legal context. Yet the phrase "existing legal users" has not only become a code to exclude consideration of the amount and quality of water needed (and used) by Florida's ecosystems, but also reason to ignore, deny and impede the establishment of water reservations and similar protections and to delay developing needed recovery plans. We urge the SFWMD to clarify throughout the 2013 LEC Update that under Florida water law, water for the environment must protected as well- and assure the reader that it will be implemented as such.

C. The following maps/figures would be helpful in understanding the information presented in the 2013 LEC Update:

1. A map of the seven utilities that the 2013 LEC Update indicates need to complete water supply projects to meet projected 2030 water use demands,
2. A map of the 22 proposed public water supply (PWS) potable water projects and the 38 overall PWS projects, perhaps with a key to identify different types of projects and different size dots to represent the potential quantity provided by each project, and
3. A summary chart of the 50 PWS utilities with columns for types of proposed water supply projects. The 2013 LEC Update includes a sheet for each utility; a summary chart would be helpful to make it clear (1) which utilities are proposing projects, (2) which need them done by 2030 to meet projected demands, and (3) the types of projects being proposed (listed in separate columns or together in one column).

⁴ Lodge, T. E. 2010. The Everglades Handbook: understanding the ecosystem. 3rd ed. CRC Press, Boca Raton, FL.

As our comments show, significant sections and relevant points are missing in the draft of the LEC 2013 Water Supply Plan Update. We would like to work with you to include these revisions. Thank you for your consideration.

Sincerely, (signatures waived to expedite delivery)

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ENVIRONMENTAL PROTECTION and GROWTH MANAGEMENT DEPARTMENT

NATURAL RESOURCES PLANNING & MANAGEMENT DIVISION

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Date: July 26, 2013

Attention: – Lower East Cost Water Supply Plan Update 2013

To Whom It May Concern,

This correspondence is provided to the South Florida Water Management District by Broward County's Natural Resources Planning and Management Division and Broward County Water and Wastewater Services regarding the recently released Lower East Cost Water Supply Plan Update 2013 (June 5, 2013).

General Comments

Broward County recognizes and appreciates the significant amount of coordination, planning and technical assessment that is required in this effort. This important water resources management framework will impact across all sectors of our urban and environmental community and will initiate a number of regulatory and planning responses from all local governments and water providers that serve a population of over 6 million.

For these reasons, it is imperative that this Lower East Coast Water Supply Plan Update articulate specific water supply and water resource development projects (inclusive of costs, schedules, and funding strategies), and resource protection measures such as Minimum Flows and Levels and Reservations, as specified in Chapter 373, F.S., together with robust technical analyses to support the recommended plan. Overall, the updates to the water demands, water supply projects and sources, and wastewater treatments set up very a useful and helpful format for the responses from local governments and water providers. The review of water sources, options, current activities, and the status of projects is also a very thorough review of current conditions.

The following comments will be organized to the specific statutory requirements underlined in Chapter 373,F.S. below (further detailed comments by page reference will be attached later).

Water Resources Development

The area of water resources development and quantifiable linkages to the overall water supply planning of the region is yet to be addressed by this plan. Rather than providing the **'formulation and implementation of resource management strategies'**, the stated plan's goals is to, " ... to seek

compatibility and linkage with other efforts such as restoration (CERP), the Lake Okeechobee operational schedule, minimum flow and level (MFL) criteria and water reservations...”.

Given the uncertainty, lack of project schedules, and funding strategies that continue to be inherent in these mentioned projects, it is recommended the District provide a leading role in the development and implementation of specific regional water resource projects. Without this, the bulk of water supply development will fall wholly to the utility providers. Further, the 2013 LEC Update states that, “meeting future water needs is dependent on completion of the Herbert Hoover Dike repairs and implementation of a new Lake Okeechobee regulation schedule.” (See pg. vii and 235. See also pgs 47, 93). Given the planned re-evaluation of the Herbert Hoover Dam Safety Modification Study initiated earlier this year that may impact on the scope of the remaining repairs, this cannot be a reasonable expectation and certainly not one that can be quantifiably linked to future water supplies.

C-51 Reservoir

The C-51 Reservoir is recommended as a specific water resources development project that can provide a multitude of regional benefits. While the C-51 Reservoir was originally focused on environmental enhancements and alternative water supply development, there is an increasing appreciation of the potential to preserve existing water supplies, especially in light of climate change pressures and rising sea levels that are predicted to increase drought severity and saltwater intrusion of the coastal wellfields. The added storage provided in the C-51 can help to mitigate for these impacts while also providing stormwater and flood control protection during extreme storm events in an area that has been prone to these adverse impacts.

Broward County supports the development of funding strategies and a governance structure that will allow for the project to advance.

Technical Analysis/Water Demands and Population Projections

This LEC Plan Update provides a significant level of information and data based on the consumptive use permits and providers. However, it is our concern that the future demand projections for the 20-year horizon were based upon use rates from a single year (2010) in which there were distinct water demand anomalies. In 2010, the dry season was unusually wet which resulted in below normal demands (less irrigation) coupled with the region’s very high vacancies rate due to the economic downturn. While it is clear that a portion of the decreasing per capita use rate over time is a result of consistent and wide-spread conservation efforts, regulatory approaches (2-day/week irrigation ordinance in Broward County, higher water rates, and improved transmissions, etc.) planning efforts for future water demands should include a more robust analysis to include recent economic development, permitted use rates, expected future land uses, and the potential need to offset wellfield impacts from saltwater intrusion and/or sea level rise, requiring a higher water quality treatment levels.

The other variable in estimating long-term projects is the population growth rate. This can be very challenging as witnessed over the past years and near impossible to have been correctly predicted. However, this disconnect will be of extreme importance as the local governments amend their comprehensive plans to be ‘consistent’ to the regional water supply plans. The anticipated amendments

(18 months after SFWMD Governing Board approval) will be in March, 2014. This is a full four years after the estimated population referenced University of Florida's Bureau of Economic and Business Research.

To address these issues it is recommended that the District provide the local governments with an opportunity to collectively revise their population estimates within this 18 month time period (as requested by Water and Wastewater Services in their comments). In this way, the planners, working with their water providers through technical guidance from the District, can consistently develop the necessary water facility work plans, projects, and capital improvement plans based on current population growth rates and use rates that will meet their 'water consistency' requirements. If the District provides the outreach, coordination and assistance, the outcomes will likely be much more consistent, transparent, and overall will require less time at the agency review level.

Climate Change/Sea Level Rise

Climate change and sea level rise pose significant threats to water supplies. Local impacts are accelerated by urban growth and historical drainage of the Everglades that add additional pressures on our highly valued water resources. Municipalities, water utilities, and individual communities are grappling with balancing the planning and financial challenges of necessary infrastructure improvements.

Broward County supports any increased efforts that the District can provide for the region's effort to build resilience. These efforts must be comprehensively integrated into our water resource management strategies. The numerical models being developed in Broward County are discussed but briefly in the Plan. This modeling effort could have been more fully discussed in the Plan recognizing it as the starting point to a better understanding of the potential impacts and the water management strategies needed area-wide to address these issues.

Climate/Inundation Model: Broward County, in cooperation with USGS, is building upon on-going saltwater intrusion modeling to assess the influence of changing climatic conditions on the urban water resources and infrastructure. The current effort integrates bias-corrected, dynamically-downscaled data into the updated surface/groundwater model that will be used for predictions county-wide. The ultimate goal is to determine planning level costs for assessing long-term, cost-effective strategies that may be pursued in the future.

Hydrologic Modeling

Upper Floridan Modeling: Broward supports the current refinements to the Phase II of the FAS model initiated from the 2011 peer review process. The completion of this effort will provide useful analysis on future Floridan water supply sustainability.

Broward County's ongoing modeling effort includes the development of Phase II of the Upper Floridan Feasibility Study that includes the collection of seismic survey lines along several primary canals in Broward County. Once this analysis is complete (Dec 2015), a more robust picture of the aquifer's regional faults and fractures should emerge which can augment any future iterations of the SFWMD FAS model.

Saltwater Intrusion: Broward County supports the recent efforts to revise the region’s saltwater encroachment mapping. The North, Central and Southern Broward County Saltwater Intrusion Models can be expected to significantly add to a better understanding of the interaction of this migration with groundwater flow dynamics. In 2006, the Broward County’s Natural Resources Planning and Management Division contracted with the USGS to develop a numerical model tracking the movement of saltwater intrusion and traditional groundwater flow dynamics and transport of chlorides due to the intrusion of saline water for the northern portion of the County. It was shown that this tool could aid in planning for future water resources projects and for the development of resilience strategies. Development of the central and southern saltwater intrusion models to complete the coverage of the entire county are scheduled for completion late 2014.

Water Conservation

Reducing demand on our existing water resources is vital for ensuring sustainability of our existing supplies. The recent initiative of the Consumptive Use Permit/Consistency and Rule changes in 2012 specifically addressed conservation planning requirements. However, what is critical for this objective to be met is the development of permitting, compliance and planning forms that translate this policy language into plans and programs at the local level. While the 2013 LEC Plan Updates makes reference to the SFWMD 2008 Water Conservation Plan as supporting this effort, this plan pre-dates the rule changes and language and lacks the necessary details for implementation. For example, the definition of “goal-based” conservation is lacking.

The County recommends that this effort be advanced quickly and that the process be incorporated into the water supply planning and technical assessment efforts of the local governments that the water supply entities will be undertaking within the 18 months following the finalization of the 2013 LEC Plan Update.

Thank you for your careful consideration of our comments and recommendations. Should you have any questions please feel free to contact Dr. Jennifer Jurado at 954-519-1464 or jjurado@broward.org.

Thank you for your consideration.

Sincerely,



For

Dr. Jennifer Jurado

Director of Natural Resources Planning and Management Division

Broward County

Cc: Cynthia Chambers, Director, Environmental Protection and Growth Management Department

Alan Garcia, Director, Broward County Water and Wastewater Services

Barbara Powell, Water Resources Manager, Broward County

BROWARD COUNTY WATER AND WASTEWATER SERVICES COMMENTS JUNE 13, 2013 DRAFT SFWMD LOWER EAST COAST WATER SUPPLY PLAN

General

Broward County Water and Wastewater Services (WWS) is providing the following comments on the June 2013 Draft Lower East Coast Water Supply Plan (LECWSP) Planning Document and Appendices. WWS used different estimation procedures in its December 2011 "Alternative Water Supply Conceptual Master Plan" and in additional projected population and demand studies compared to procedures SFWMD used for the LECWSP. Therefore, there are some differences in the resulting projected population and raw water demand estimates.

WWS is currently or will shortly be reviewing such key water supply parameters as projected population and projected water demands for consumptive use permits (CUP) for District 1A, District 2A, and the South Regional Wellfield (SRW). Renewal of the SRW CUP has been delayed until large users of the SRW raw water such as the City of Hallandale Beach make decisions concerning the amounts of raw water they will obtain from their wells versus their demands satisfied by the SRW. A modification of the District 1A CUP is in progress to transfer raw water from the Cities of Plantation and Fort Lauderdale CUPs used to serve the Broadview Park and North Andrews Gardens areas to the District 1A CUP. Also, projected population and resulting demands for District 2A will be reviewed in the near future and may result in changes to the projected raw water needed to serve District 2A. WWS will provide additional comments during the 18-month review period after the final LECWSP is released.

Specific Comments on Planning Document

Page 197, District 1A – Successful completion of the current modification for the District 1A CUP will increase the projected permitted allocation from 9.2 mgd to 10.04 mgd.

Page 199, SRW – Remove next to last sentence in Description paragraph. Current proposed changes are being discussed with SFWMD CUP staff and will not be 10.04 mgd.

Specific Comments on Appendices

Page 12, Table A-5 – WWS finished to raw water ratio is combined for Districts 1A and 2A but is separate in the Table A-4 raw to finished water ratio.

Page 14, Table A-6 – Per capita use rates (PCUR) are based on one year, 2010. PCURs calculated over a longer period will yield more representative values. Also, the District 1A service area map on page 217 does not include the Broadview Park and North Andrews Gardens areas now served by District 1A, which may change the PCUR number.

Page 131 – The FDEP permitted capacity for the North Regional Wastewater Treatment Plant capacity is now 95 mgd instead of 84 mgd.

Page 176, Table D-1 – WWS received SFWMD WaterSIP funding outside of the BCNRPMD amounts shown.

Page 217, Figure E-3 – Remove Broadview Park from Plantation and add to WWS District 1A. Modify delineation of North Andrews Gardens in District 1A. Note: Coconut Creek is shown as a portion of WWS District 1A but is a separate utility. Same for Figure E-4 on page 218.

Comments on the Draft 2013 Lower East Coast Water Supply Plan Update

Earl King, Assistant Director of Utilities, City of Hallandale Beach, FL

Comments pertaining to Page 207 – City of Hallandale Beach.

1) Population growth figures appear small. The City has worked together with Broward County using a different methodology than that used in this Update for estimating population growth. However, there is a realization that differing methodologies will produce differing estimates, all of which include a level of uncertainty.

2) Footnote should be included to the chart explaining that the City has a 6.2 MGD permitted allocation from the Broward County Water and Wastewater Services' South Regional Wellfield.

3) The description of the City's water supply may require revision after August 21, 2013, as explained below:

The City of Hallandale Beach has been and continues to be especially vulnerable to the threat of saltwater intrusion. In addition to sharing the same threat to its water supply as that faced by other coastal cities and utilities in Florida, this City has the additional constraint posed by its boundaries, in light of the fact that the area within the City inland of the saltwater intrusion line is very limited.

The City is appreciative of the active and effective cooperation of the South Florida Water Management District, Broward County and the U.S. Geological Survey to work together with the City to meet the challenge of saltwater intrusion. Over the past five years, the City has actively pursued planning based upon the strategy of wellfield relocation westward of the City's borders as a long-term solution to the threat of saltwater intrusion. This strategy is currently identified in the description of the City of Hallandale Beach. More recently, however, the City has been contemplating not relocating its wellfield and utilizing a number of alternative strategies both to combat the threat of saltwater intrusion and to treat the water, should the City's wellfield eventually succumb to saltwater intrusion.

In its August 21, 2013 Commission meeting, the City Commission will make a determination as to whether or not it will continue its wellfield relocation strategy. I trust that the description of the City's water supply will be revised in accordance with the City Commission's decision on that date.

I would personally like to commend the South Florida Water Management District for its exemplary cooperation with the City over the past five years, during which time the City has been exploring alternatives and contemplating the most beneficial course of action both for the City and for the region.

From: Todd Hiteshew [THiteshew@fortlauderdale.gov]

Sent: Friday, July 26, 2013 1:38 PM

To: Mills, Brenda

Subject: LEC Comments - City of Fort Lauderdale

Ms. Mills,

Please accept the comments below. Thank you.

- 1) Appendix C – page 90, table C-1. Potable water treatment facilities in the LEC Planning Area.
 - a. Actual 2010 Daily Average (MGD) raw for Fort Lauderdale should read 41.70, not 44.95
 - b. Withdrawal Sources (MGD) under SAS for Fort Lauderdale should read 41.70, not 44.95

- 2) Appendix C – page 101, table C-3. Summary of capacities and flows for WWTFs with flow greater than 0.1 MGF
 - a. 2010 Average Daily Reuse Flow (MGD) for Fort Lauderdale – George T. Lohmeyer should read 4.0.
 - i. The GTL plant further processes the disinfected effluent via a set of 250 micron strainers. The volume of water treated is 4 MGD on an average annual daily flow and this water is utilized throughout the plant to offset the need to use potable water in uses like:
 1. Seal water
 2. Non-potable water in process maintenance
 3. Chlorine injection
 4. Air scrubbers
 5. Scum/foam reduction on clarifiers and reactors
 6. Initial startup of tank/reactor
 7. Cleaning of process tanks
 8. Washwater used in dewatering belt presses
 - b. 2010 Reuse percentage (%) for Fort Lauderdale – George T Lohmeyer should read 11%.

- 3) Appendix C – page 105, table C-7. Disposal and reuse methods of WWTFs with flow greater than 0.1 MGD in Broward County.
 - a. 2010 Other Reuse Types (MGD) for Fort Lauderdale – George T. Lohmeyer should read 4.0

- 4) Appendix C – page 138 titled Fort Lauderdale George T. Lohmeyer Wastewater Treatment Facility
 - a. In the Facility Summary for 2010
 - i. Total Reuse should read 4.00 MGD
 - ii. Reuse Percentage should read 11%

- 5) Appendix D – page 189, table D-9. Single family residential water rates in the LEC Planning Area by dollars per each 1,000 gallons
 - a. Please find attached an updated rate structure for the City of Fort Lauderdale

Todd Hiteshew
Environmental Services Manager, Public Works Department
City of Fort Lauderdale
100 N Andrews Ave, 4th Floor
Fort Lauderdale, FL 33301
(954) 828-7807, Fax: (954) 828-4745
toddhi@fortlauderdale.gov

City of Fort Lauderdale
100 North Andrews Avenue
Fort Lauderdale, FL 33301
Fiscal Year 2012/2013 Water-Sewer- Stormwater Rates
Effective 10/1/2012

Applicable Fees

Connect and/or Disconnect.....	\$10.00 each
Set Meter Current Account Holder & Balance on Account.....	\$35.00 All Cash Only
Meter Test.....	\$16.00 1 st request/\$70 each additional request within a twelve month period
Account Turned off/on for Non Payment.....	\$20.00/\$20.00
Illegal Water Connection or Stolen Meter.....	\$360.00
Returned Checks (based on amount of check).....	\$25.00 - \$40.00

All bills are due within twenty-five (25) days.

A one-percent (1%) late payment penalty will be assessed on all outstanding balances.

Account holders (New or Reconnects) are required to provide lease or settlement papers, appropriate deposit and picture identification. For deposits \$250.00 or more, the tax identification number is required.

Residential account deposits will be refunded after one (1) year for owner and two (2) years for tenant **IF** all payments are received on or before payment due date printed on the bill.

Service and Billing Inquiries

Water Billing, Connects/Disconnects.....	828-5150
Sanitation Cart Service.....	828-8000
Trash, Recycling, Bulk Pick-up, and Storm drains.....	828-8000

Office hours at City Hall: 8:00am to 4:30pm Monday - Friday

Drive Thru hours: 8:00am to 5:00pm Monday & Friday

8:00am to 4:30pm Tuesday – Thursday

24 hour Night Drop is located on the west side of the Drive-Thru Facility

WATER COMMODITY CHARGE

		CONSUMPTION	RATE
SINGLE FAMILY	BLOCK 1	0 – 3,000	\$1.72
	BLOCK 2	4,000-8,000	\$3.83
	BLOCK 3	9,000-12,000	\$4.78
	BLOCK 4	13,000-20,000	\$6.45
	BLOCK 5	>20,000	\$9.35
MULTI FAMILY RESIDENTIAL	(1,000 gallons per month X number of dwelling units)		
	BLOCK 1	0-1,000	\$1.72
	BLOCK 2	2,000-3,000	\$3.83
	BLOCK 3	4,000-5,000	\$4.78
	BLOCK 4	6,000-8,000	\$6.45
	BLOCK 5	>8,000	\$9.35
COMMERCIAL		>1,000	\$3.94
MASTER METER		>1,000	\$3.59

SEWER COMMODITY CHARGE

		CONSUMPTION	RATE
SINGLE FAMILY	BLOCK 1	0 – 3,000	\$3.05
	BLOCK 2	4,000-20,000	\$6.76
	BLOCK 3	>20,000	N/A
Single Family residences will not be charged a commodity charge for usage in excess of Twenty thousand (20,000) gallons per month per unit.			
MULTI FAMILY RESIDENTIAL	(1,000 gallons per month X number of dwelling units)		
	BLOCK 1	0-1,000	\$3.05
	BLOCK 2	2,000-8,000	\$6.76
	BLOCK 3	>8,000	N/A
Multifamily residences will not be charged a commodity charge for usage in excess of eight thousand (8,000) gallons per month per unit.			
COMMERCIAL		>1,000	\$5.43

SPRINKLER METER COMMODITY CHARGE

	CONSUMPTION	RATE
BLOCK RANGES	(1,000 gallons per month X the Meter Equivalency Factor)	
BLOCK 1	0-12,000	\$4.78
BLOCK 2	13,000-20,000	\$6.45
BLOCK 3	>20,000	\$9.35

Meter Equivalency Factor	
Meter Size (inches)	Factor
5/8	1
3/4	1.5
1	2.5
1 1/2	5
2	8
3	15
4	25
6	50
8	80
10	115
12	215

Water Service Availability Monthly Charges

Meter Size (inches)	
5/8	\$5.64
3/4	\$7.82
1	\$12.21
1.5	\$23.20
2	\$36.36
3	\$67.08
4	\$110.98
6	\$220.71
8	\$352.39
10	\$506.02
12	\$944.95
16	\$1,537.51

Wastewater Service Availability Monthly Charges

Meter Size (inches)	
5/8	\$8.28
3/4	\$11.80
1	\$18.85
1.5	\$36.43
2	\$57.56
3	\$106.82
4	\$177.27
6	\$353.18
8	\$564.34
10	\$810.70
12	\$1,514.57
16	\$2,464.81

Service Availability Reconnection Charge - \$157.50

STORMWATER CHARGES

CATEGORY I - RESIDENTIAL LOTS/PARCELS (3OR LESS UNITS)	\$3.71/UNIT
CATEGORY II - LOTS/PARCELS OTHER THAN CATEGORY I	\$37.49/ACRE
CATEGORY III - UNIMPROVED LAND	\$11.89/ACRE

CITY OF MIRAMAR

County: Broward County

Service Area: City of Miramar

Description: The water supply for the City of Miramar is obtained from the SAS and Floridan aquifer. The city obtained an SAS allocation above its 11.68-MGD base condition water use by providing reclaimed water to golf courses that were using groundwater for irrigation. As a result, the city has a SAS allocation of 13.33 MGD. The city also constructed an RO treatment plant and Floridan aquifer wells. All future demands will come from the Floridan aquifer and the expansion of the RO plant. This city is a contributing member of the Broward Water Partnership conservation program, which has the goal of saving a total of 30 MGD countywide .

POPULATION AND FINISHED WATER DEMAND			
	Existing	Projected	
	2010	2020	2030
Population	116,715	125,225	133,734
Per Capita (gallons per day finished water)	97	97	97
Potable Water Demands (daily average annual finished water in MGD)	11.32	12.15	12.97
SFWMD WATER USE PERMITTED (06-00054-W) ALLOCATION (MGD)			
	Existing	Projected	
Potable Water Source	2010	2020	2030
Fresh Water	13.33	13.33	13.33
Brackish Water	2.67	2.67	2.67
Total Allocation	16.00	16.00	16.00
POTABLE WATER TREATMENT CAPACITY			
	Cumulative Facility & Project Capacity (MGD)		
	Existing	Projected	
FDEP Permitted Capacity	2012	2020	2030
Fresh Water	15.25	15.25	15.25
Brackish Water	2.50	2.50	2.50
Planned Project Capacity	0.00	0.00	0.00
Total Capacity	17.75	17.75	17.75
NONPOTABLE WATER TREATMENT CAPACITY			
Reclaimed Water	2.00	4.00	4.00

Handwritten annotations on the table:

- 116,819 (circled) pointing to the 2010 Existing Population value.
- 130,150 pointing to the 2020 Projected Population value.
- 145,748 pointing to the 2030 Projected Population value.
- 14.1 pointing to the 2020 Potable Water Demands value.
- 12.6 pointing to the 2020 Fresh Water allocation value.
- 15.7 pointing to the 2020 Brackish Water allocation value.
- 13.7 pointing to the 2020 Total Capacity value.



Utilities Administration
Maria Loucraft, Utility Compliance & Efficiency Manager

City of Pompano Beach, Florida
1205 NE 5th Avenue, Pompano Beach, Florida 33060 | p: 954.545.7004 | f: 954.545.7046

June 25, 2013

Lower East Coast Plan Comments

bmills@sfwmd.gov

To: Ms. Brenda Mills

Thank you for the opportunity to provide comments on the draft 2013 Lower East Coast Plan and Appendices. Our numbers are correct based on our discussions last year. We have the following comments:

There was no mention of Reuse Water as a Potable Source. This plan is looking at the future up to 2030 and should provide a look at some realistic possibilities (Texas is already in final testing).

There was no estimate of reduction in water demand due to conservation in the Lower East Coast Plan. This amount should be calculated and provided in the document.

On page 25, the per capita use rate (PCUR) is calculated as the total water use divided by the permanent resident population. The LEC is consistent with using the finished water for this calculation. The draft Applicant's Handbook uses the raw usage for per capita calculations.

Page 160 (Water Conservation versus Alternative Water Supply Options) compares water conservation savings to cost of expanding Nanofiltration facilities. There was no comparison to cost of expanding Lime treatment facilities.

Page 170 (Funding) states that "Funding of water supply development and water conservation projects at the local level is the shared responsibility of water suppliers and users." For Public Water Suppliers the water supplier money and the user money is the same, as the water supplier makes all its money from user rates. This does bring up an interesting point. The users will be installing low flow devices and changing water usage behaviors over time. They do not tell the water supplier when they purchase these devices or change habits. The CUPCon draft rules state that a Utility can only keep conservation savings if they have a goal based plan and can attribute the lowering of demand to conservation. How will a Utility be able to attribute the decrease in demand to conservation when the activities are not known?

Thank you again for the opportunity to provide comments.

Sincerely,

A handwritten signature in black ink that reads "Maria Loucraft".

Maria Loucraft
Utility Compliance & Efficiency Manager

-----Original Message-----

From: Sangeeta Dhulashia [<mailto:Sangeeta.P.Dhulashia@mwhglobal.com>]

Sent: Friday, July 12, 2013 8:29 AM

To: Mills, Brenda

Cc: Petrides, Ted

Subject: City of Sunrise - Draft LEC WSPU 2013

Good Morning Brenda,

As we had discussed yesterday regarding some discrepancy of data/information in Appendix C for the City of Sunrise Wastewater treatment facilities and summary tables, I have marked those up and are attached to this email.

Please let me know if you have any concerns regarding these and please feel free to call me. If you need written comments on this matter, please let me know.

Thank you and Best Regards

Sangeeta

Sangeeta Dhulashia, P.E., PMP

Principal Project Manager

MWH Americas, Inc.	Direct:	954 851 1572
490 Sawgrass Corporate Parkway	Office:	954 846 0401
Suite 300	Mobile:	954 618 9813
Sunrise, Florida, 33325	Facsimile:	954 846 0424

Sunrise Wastewater Treatment Facilities

Existing Treatment, Disposal, and Reuse

The City of Sunrise Utilities Department operates and maintains three WWTFs, serving the cities of Sunrise and Weston, the Town of Southwest Ranches, and about 60 percent of the Town of Davie. The Sawgrass and Springtree WWTFs do not currently provide reclaimed water for reuse. These facilities dispose of treated effluent using deep well injection. The Sawgrass WWTP has an FDEP-permitted capacity of 20.00 MGD and had an average daily flow of 18.26 MGD in 2010. The Springtree WWTP has an FDEP-permitted capacity of 10.00 MGD and had an average daily flow of 7.19 MGD in 2010. The Southwest WWTF treats effluent through four percolation ponds. The Southwest WWTF has an FDEP-permitted capacity of 0.45 MGD, and in 2010, the annual average daily wastewater flow was 0.37 MGD.

In 2007, the City of Sunrise conducted a pilot test using a select group of emerging advanced wastewater treatment technologies for possible future application to meet reuse initiatives. The study concluded that nutrient removal to county standards is possible, and recommended the city investigate the possibility of using the highly treated water for aquifer recharge.

Future Treatment, Disposal, and Reuse

The City of Sunrise intends to pursue additional water reuse opportunities at the Southwest and Sawgrass WWTFs in an effort to reduce irrigation demands from potable water. Irrigation will be the primary focus of reclaimed water reuse in the future at both locations. At the Southwest WWTF, irrigation of the facility's grounds will be the initial focus followed by expansion to surrounding tracts. ~~A deep injection well might be added to the Southwest WWTF for disposal during peak flows, with use of the existing percolation ponds as an emergency backup.~~ The Sawgrass WWTF is expected to expand to provide reclaimed water for irrigation in an effort to offset withdrawals from the Biscayne aquifer.

Information Sources

The 2010 information is from the *2010 Reuse Inventory* (FDEP 2011). The City of Sunrise provided the 2030 information in April 2012.

FACILITY SUMMARY – SOUTHWEST WWTF			
<u>2010</u>		<u>Projected 2030</u>	
FDEP-Permitted Treatment Capacity	0.45 MGD	FDEP-Permitted Treatment Capacity	0.99 MGD
Total Wastewater Effluent	0.37 MGD	Total Wastewater Effluent	0.99 MGD
<u>Reuse</u>		<u>Reuse</u>	
Percolation Ponds	0.37 MGD	Groundwater recharge	0.99 MGD
Reuse Percentage	100%	Reuse Percentage	100%

If this is maybe ok. But if this item is show capacity then the capacity is 56.1 mgd AAF. actual, 25.45 mgd the intent of the capacity is 56.1 mgd AAF.

FACILITY SUMMARY – SAWGRASS WWTF			
<u>2010</u>		<u>Projected 2030</u>	
FDEP-Permitted Treatment Capacity	20.00 MGD	FDEP-Permitted Treatment Capacity	25.00 MGD
Total Wastewater Effluent	18.26 MGD	Total Wastewater Effluent	22.00 MGD
<u>Disposal</u>		<u>Disposal</u>	
Deep well injection ^a	56.1 MGD 25.45 MGD	Deep well injection	18.0 14.00 MGD
<u>Reuse</u>		<u>Reuse</u>	
Total	0.00 MGD	Irrigation	4.0 8.0 MGD
Reuse Percentage	0%	Reuse Percentage	18% -36%

a. Effluent from the Springtree WWTF is transferred to the Sawgrass WWTF for disposal through deep injection wells.

FACILITY SUMMARY – SPRINGTREE WWTF			
<u>2010</u>		<u>Projected 2030</u>	
FDEP-Permitted Treatment Capacity	10.00 MGD	FDEP-Permitted Treatment Capacity	16.00 MGD
Total Wastewater Effluent	7.19 MGD	Total Wastewater Effluent	12.00 MGD
<u>Disposal</u>		<u>Disposal</u>	
Deep well injection ^a	0.00 MGD	Deep well injection ^a	0.00 MGD
<u>Reuse</u>		<u>Reuse</u>	
Total	0.00 MGD	Irrigation	0.00 7.00 MGD
Reuse Percentage	0%	Reuse Percentage	0% -58%

a. Effluent from the Springtree WWTF is transferred to the Sawgrass WWTF for disposal through deep injection wells.

DRAFT

Date: July 26, 2013

To: Brenda Mills
South Florida Water Management District

From: Rebecca Elliott
Florida Department of Agriculture and Consumer Services

RE: 2013 Lower East Coast Water Supply Plan Update Final Draft Comments

Dear Ms Mills,

The opportunity to provide comments on the Final Draft of the 2013 Lower East Coast Water Supply Plan Update (2013 LEC WSP Update) is appreciated. The time and support SFWMD staff provided during numerous agricultural demand projection meetings, technical information follow-ups, and the review of previous LEC WSP drafts is also appreciated. The final product reflects the extraordinary amount of information gathering and synthesis required for the Lower East Coast water supply planning region.

There are still some areas of concern regarding future water supply in the Lower East Coast (LEC) region and the Lake Okeechobee Service Area (LOSA) in particular which are broadly based. These topics are described below for your consideration.

1) Dependencies for Meeting Future Water Supply

The Lake Okeechobee sections in the Executive Summary and throughout the planning document describe the impact the 2008 Lake Okeechobee Regulation Schedule (LORS08) had in reducing the level of service (LOS) for existing permitted users to a 1 in 6 years LOS and requiring a recovery plan for the Lake Okeechobee Minimum Flows and Level exceedences. The Herbert Hoover Dike (HHD) rehabilitation and a new regulation schedule do have the potential to enhance the LOS for LOSA water users and provide additional environmental benefits. However, agricultural water supply, particularly for LOSA, will not meet the water supply plan goal of a 1 in 10 years LOS for the foreseeable future. Due to the nature of the interrelationships of LEC water supply, the HHD Rehabilitation Project and Comprehensive Everglades Restoration Plan (CERP) projects; addressing LEC water supply for both the built and natural systems is a work in progress. Achieving a 1 in 10 years LOS region wide requires the implementation of numerous CERP projects, including substantial year round storage projects in watersheds other than the Lake Okeechobee Watershed.

2013 LEC WSP Update readers may surmise that LOSA agricultural water supply is close to achieving the water supply plan goal of a 1 in 10 years LOS due to the statement “construction of a 21.4-mile cutoff wall component in Reach 1 is scheduled for completion in 2013 and satisfies the majority of the risk reduction goals.” In reality, water users with a reliance on Lake Okeechobee are faced with a high degree of uncertainty regarding water availability which will not be alleviated until the HHD rehabilitation project is sufficient to allow a new regulation

schedule for Lake Okeechobee at some indeterminate time decades into the future. Not only are water shortages expected to be more frequent and severe under LORS08, using the forward pumps effectively reduces water supply to many LOSA water users by 45% despite whatever water shortage phase may have been declared region wide. The Plan should be more direct in pointing out that realistically, the level of service for the LOSA area will remain at 1:6 for the foreseeable future.

The 2013 LEC WSP Update should be clear on the status of water use projects in the LEC region. In the Executive Summary page vii and Chapter 7 Future Directions page 235, the dependencies for meeting future water supply in the 20 year planning horizon are given. A concluding statement added after the dependency bullets describing the long term partnership aspect of the 2013 LEC WSP Update is recommended. A possible concluding paragraph is provided below.

Existing Text:

This update provides an assessment of the water supply demand and available sources for the LEC Planning Area through 2030. It concludes that the future water needs of the LEC Planning Area can continue to be met through the 2030 planning horizon with appropriate management, conservation, and implementation of projects identified in this plan. Meeting the future water needs is dependent on the following:

- * Completion of seven water supply development projects by PWS utilities.
- * Completion of USACE's Herbert Hoover Dike Rehabilitation Project and implementation of a new Lake Okeechobee regulation schedule
- * Implementation of CERP and other projects identified in MFL prevention and recovery strategies

Possible concluding paragraph:

Meeting the one in ten level of service for all water users in the LEC WSP region is not possible within the next five years due to the interrelationship of the Federal Projects outlined in the plan. Future LEC water supply plans will address the progress of these water resource development project components based on project sequencing, project funding, and implementation partnerships as applicable. Until this occurs, this Plan continues to rely upon the existing programs and regulations, along with the identified public water supply development projects, and their correlation with water supply demands and available sources.

2) Chapter 2 - Water Resource Development Project Differentiation

The Water Resource Development Chapter does not distinguish between water resource projects with tangible water supply benefits and water resource projects that do not provide such benefits. Most of the projects described in this chapter fall into categories other than projects that directly increase the volume of water available to meet the planning goal of a 1 in 10 year LOS for existing and future reasonable beneficial uses. Some categorization to distinguish water resource development projects that have water supply benefits and those that do not would be helpful.

3) Tailwater recovery –

Main document Chapter 5 – Evaluation of Water Source Options page 154
and Chapter 6 – Water Supply Development Status and Projects page 168

Tailwater recovery is included in the plan as a way supplement agricultural water supply. For the LEC, this may work in some farm scale hydrological conditions but it is not likely to be a widespread viable option. FDACS has previously commented on the use of tailwater recovery and suggests that the concept be more fully explained. Tailwater recovery uses surface water that has previously been mixed with flood water and possibly irrigation water. The use of this water as an irrigation source is not acceptable for many crops such as soft fruit and vegetables due to public health concerns or market restrictions. While supporting the use of tailwater recovery where feasible, we recommend that its ability to contribute substantial additional water for agricultural use not be overstated in the LEC WSP and that constraints on its use be fully explained.

4) Everglades Agricultural Area (EAA) Water Efficiency

Main document Chapter 5 – Evaluation of Water Source Options page 154
and Chapter 6 – Water Supply Development Status and Projects page 168

Conservation sections of the 2013 LEC WSP Update refer to the water savings potential of more efficient agricultural irrigation system as appropriate given cultivation and economic conditions. Seepage irrigation is typically described as one of the most inefficient irrigation methods. This is the case in many areas but not in the EAA where unique water management activities within the EAA Basin result in a more efficient use of water when compared to other agricultural areas using similar seepage systems. The conservation sections of the plan should include the information based on a review of the historical EAA operations during a 1 in 10 year drought. Growers in the EAA employing a flood irrigation system achieve an efficiency of 75% rather than the typical 50%. The inclusion of the increased irrigation efficiencies during EAA permit renewals resulted in a 33 percent decrease in allocation for the basin.

Specific staff technical comments are attached. If you would like additional information or discussion please contact me at (561) 682-6040.

Sincerely,

Rebecca Elliott
Water Policy Liaison
Office of Agricultural Water Policy
Florida Department of Agriculture and Consumer Services

Main Document

Chap. 2 – Demand Estimates and Projections

Page 28 – Number for the increase in agricultural acres from 2010 to 2030 differs from Executive Summary which states a 404 acre increase vs. 581acre increase in Chapter 2.

Page 28 - Conversion of the EAA for SFWMD projects – First paragraph last sentence is inconsistent with rest of paragraph. Probably not needed.

Page 29 - Conversion of the EAA for SFWMD projects – last sentence in section probably needs a qualifier like “within the planning horizon.”

Page 29 – Western Basins located in Hendry County -
Citrus projections use the high recovery scenario to provide a water use projection in the LEC WSP Update. This is a good strategy to assure a projection will not fall short of the potential future agricultural use needed to sustain citrus production. Adding that a rationale for using the high number is the likelihood that an alternative crop will be produced on the same acres if citrus is not successful would provide more comprehensive information . The way it reads now, the low scenario appears to assume the acreage in question goes out of production for 10 – 15 years if a citrus crop is not viable.

Chapter 5 – Evaluation of Water Source Options

Page 132 – Brackish Groundwater section

Recommend adding that “Brackish groundwater is generally not suitable for agricultural water supply” at the end of the first paragraph of this section or at end of section itself.

Page 134- Lake Okeechobee and Water Conservation Areas section - first paragraph:
Recommend adding “at a less than 1 in 10 year level of service.” at the end of the last sentence of paragraph one which currently ends with “...consistent with existing water use permits.”

Page 137 - Limits On Availability - First paragraph:

Thanks for including the EAA irrigation efficiency information.

Page 137 – Reclaimed Water

The end of the second paragraph in this section states “other potable use activities”. Do you really mean other *non-potable* use activities?

Page 154 – Water Conservation – Agricultural Water Use

The end of the second paragraph of this section states “tailwater recovery, which is considered a water use efficiency measure, is used in many areas and does provide some recharge to the SAS.” For the LEC, this may work in some farm scale hydrological conditions but it is not likely to be a widespread viable option. FDACS has previously commented on the use of tailwater recovery and suggest that the concept be more fully explained. Tailwater recovery uses surface water that has previously been mixed with flood water and possible irrigation water. The use of this water as an irrigation source is not acceptable for many crops such as soft fruit and vegetables due to public health concerns or market restrictions. While supporting the use of tailwater recovery where feasible, we recommend that its ability to contribute substantial additional water for agricultural use not be overstated in the LEC WSP and that constraints on its use be fully explained.

Page 154 and 155 – Water Conservation – Agricultural Water Use

Consider adding a paragraph on EAA irrigation efficiency in this section.

Page 155 – Water Conservation – Agricultural Water Use

The Agricultural Mobile Irrigation Lab paragraph states “Three agricultural mobile irrigation labs service the LEC Planning Area and are managed and administered by the Soil Water Conservation Services in Palm Beach, Broward, Miami-Dade, and Hendry counties.” I believe you mean Soil and Water Conservation Districts rather than Soil and Water Conservation Services.

Chapter 6 – Water Supply Development Status and Projects

Page 167 and 168 Agricultural Self Supply

Consider adding a paragraph on EAA irrigation efficiency in this section.

Page 168 – Agricultural Self Supply

The second paragraph of this page states “For instance, tailwater recovery could capture some of the water not effectively delivered to the root zone. By recapturing and recycling this water, withdrawals from the water resource could ultimately be reduced under average rainfall conditions.” While supporting the use of tailwater recovery where economically and physically feasible, we recommend that its ability to contribute substantial additional water for agricultural use not be overstated. Use of tailwater recovery to reduce withdrawals during an average rainfall

year might be beneficial to the source in some way but it is unlikely to increase the water available for permit allocations based on a 1 in 10 yr drought event.

Chapter 7 – “Future Direction” title “Water Supply Development Projects” footer

Page 235 Last paragraph

Recommend adding “and benefit other water related needs.” to the end of the paragraph.

Page 245 Coordination Section - Third bullet from the top.

Recommend describing FDACS’s role in future water supply plan projections for agricultural demands.

Appendix A

Page 33 - Citrus Water Demand Projections

Citrus projections use the high recovery scenario to provide a water use projection for use in the LEC WSP Update. This is a good strategy to assure a projection will not fall short of the potential future agricultural use needed to sustain citrus production. Adding that a rationale for using the high number is the likelihood that an alternative crop will be produced on the same acres if citrus is not successful would provide more comprehensive information. The way it reads now, the low scenario appears to assume the acreage in question goes out of production for 10 – 15 years if a citrus crop is not viable.

Page 49 - Other Ag Uses

This short paragraph states that "This update does not present estimates for cattle watering because the volume is insignificant" We understand the rationale for not including it in the water volume accounting as long as it is included and recognized as a reasonable and beneficial need for existing legal water use.

Appendix B

Page 82 – Everglades Capital Element – Third paragraph

This paragraph states that CEPP is an integrated formulation of components that includes the CERP EAA Reservoir Project. This is not a correct characterization of the impact CEPP is projected to have on the public land footprint previously purchased for the EAA Reservoir Project. CEPP actually omits the CERP EAA Reservoir water supply benefits while using the resources previously allotted to the EAA Reservoir project. Please change the description of CEPP’s relationship to the EAA Reservoir Project or at least take it off the list of CERP components included in CEPP.

From: Jolynn Reynolds [joreynolds@fkaa.com]

Sent: Friday, July 26, 2013 1:47 PM

To: Mills, Brenda

Subject: Comments on draft 2013 Lower East Coast Water Supply Plan Update

Dear Ms. Mills:

The FKAA appreciates the time and effort that SFWMD puts forth in updating the Lower East Coast (LEC) Water Supply Plan. The FKAA offers the following comments on the draft 2013 Lower East Coast (LEC) Water Supply Plan Update:

1. Based on CDM's Water Supply Protection Study – Phase 2 performed on behalf of the FKAA, the documented water level, chloride, pumpage data from multiple sources indicates that there is a very high level of influence that the District's canal control operations have on the salt water interface and that planned improvements associated with the CERP/CEPP projects to raise upgradient water levels, reduce groundwater outflows, and reconnect historic flowways will likely have a positive impact on the salt water front to the point that additional groundwater from the Biscayne Aquifer may be available in the future as we start to see a new equilibrium established under the new flow regimes. It is our understanding that these improvements are not included in the LEC update but will be included in the next update.
2. Since 1987, it does not appear that the sea level datum has been adjusted for sea level rise. Are there plans in the near future to adopt a new sea level datum and apply the update to the canal guidance historically practiced by the operations group in DRE 239 (see attached).
3. According to the modeling assumptions table below, it shows the mean annual pumpage from the SAD for the FKAA to decrease from 15.69 to 14.88 MGD. However, the FKAA's 20-year permit allows annual average withdrawal from the SAS of 17.79 MGD. Please include the FKAA's annual average allocation in the model.

LECSA2 (Ka/yr):	243.14	264.50	
13-0005-W	15.69	14.88	Florida Keys Aqueduct Authority
13-0017-W	279.69	329.37	Miami-Dade Water and Sewer Authority
13-0029-W	1.78	2.10	Florida City, City of
13-0046-W	10.33	10.55	Homestead, City of
13-0059-W	7.86	8.30	North Miami, City of
13-0080-W	17.00	20.11	North Miami Beach, City of
LECSA3 (MGD):	332.54	395.30	
LECSA3 (MGY):	121,489.11	141,095.50	
LECSA3 (Ka/yr)	372.73	432.38	

4. On page 150 of the Planning Document, Table 14 show per capita use drops from 211 to 109. It does not provide an explanation that is similar to the statement provided in the FKAA's profile on page 232. There should be a footnote that the FKAA service area seasonal population in Monroe County now exceeds the permanent population on annual basis and, therefore, is included in the 2010 per capita use rate (gallons) calculation.

utilities in the LEC Planning Area.

Table 14. Per capita use rates in gallons in the LEC Planning Area for PWS finished water.

County	Per Capita Use Rates (gallons)		
	2000	2005	2010
Palm Beach	219	203	166
Broward	153	139	123
Miami-Dade	168	157	140
Monroe	216	211	109
LEC Planning Area Weighted Average	176	163	142

5. In Appendix E, it did not appear that there was a service area map for the FKA.

If you have any questions or need additional information, please contact me.

Thank you,
Jolynn Reynolds, P.E.
Manager of Compliance and Planning
Florida Keys Aqueduct Authority
(305)295-2141

From: Shea, Eric M [<mailto:Eric.M.Shea@fpl.com>]
Sent: Thursday, June 20, 2013 3:54 PM
To: Mills, Brenda
Subject: (FPL) Lower East Coast Water Supply Plan Comments

Hi Brenda,

FPL submits the following comments on the Draft Plan and Appendices:

- 1) **Draft Plan, Page 189, Palm Beach County Utilities Department, Description Section** states “between 22 and 29 MGD to the FPL West County Energy Center.” FPL is only contracted up to 27 MGD of reclaimed water delivery as stated in the rest of the document. Please strike 29 MGD and replace with 27 MGD.
- 2) **Draft Plan, Page 169, Power Generation Self-Supply Section, Last Paragraph** states “In addition, FPL plants also used alternative water sources. Several power generation plants used seawater: Cutler, Lauderdale, Port Everglades, and Riviera Beach. The FPL West County Energy Center, located in northwestern Palm Beach County, utilized reclaimed water...” This may be a matter of minor Symantec’s, but the plants are currently and will continue to use and utilize seawater and reclaimed water as identified. It may read more clearly if the present tense of use and utilize is inserted in the sentences.
- 3) **Draft Appendices, Page 59, First Paragraph** States “In 2010, three FPL power generation facilities were located within the LEC Planning Area and permitted to withdraw water: FPL West County Energy Center in Palm Beach County, FPL Turkey Point Plant in Miami-Dade County, and Homestead Municipal Power Plant in Miami-Dade County.” The Homestead Municipal Power Plant in Miami-Dade County is neither owned nor operated by FPL. This plant is accurately identified as a municipal plant in the Draft Plan document. Please revise the sentence to reflect independent ownership of the facility so it is not associated as an FPL asset.
- 4) **Draft Appendices, Page 59, Second Paragraph** States “However, in 2010, Palm Beach County began providing reclaimed water (approximately 22 to 29 MGD contracted) to this facility for cooling purposes.” The facility of reference is the West County Energy Center. FPL is only contracted up to 27 MGD of reclaimed water delivery as stated in the rest of the document. Please strike 29 MGD and replace with 27 MGD.
- 5) **Draft Appendices, Page 60, Projection Results, Table A-28. PWR Self-Supply water demand projections.** Under the Miami-Dade County Facility Name Column it states “FPL Homestead Municipal”. The Homestead Municipal Power Plant in Miami-Dade County is neither owned nor operated by FPL. Please remove FPL from the facility name for the Homestead Municipal Plant in the table.

Thank you,

Eric M. Shea
Florida Power & Light Company
Juno Environmental Services
Office (561) 691-2993
Cell (561) 354-8907
Eric.M.Shea@fpl.com

From: Valdes, Maria A. (WASD) [<mailto:MAVALD@miamidade.gov>]

Sent: Friday, July 26, 2013 1:57 PM

To: Verrastro, Robert; Wanvestraut, Robert

Cc: Goldenberg, Bertha M. (WASD); Fallon Jr., Howard J. (WASD)

Subject: RE: LEC Plan update

Good Afternoon:

Attached please find Miami-Dade Water and Sewer Department's comments for the LEC Plan.

Please let us know if you have any questions,

Regards,

Maria A. Valdes, Chief, LEED® Green Associate

Comprehensive Planning & Water Supply Certification Section

Miami-Dade Water and Sewer Department

3071 SW 38 Ave., Suite 554-7 - Miami, FL 33146

(786) 552-8198 Phone (786) 552-8640 Fax

www.miamidade.gov/water

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Table E-1. Continued.

Local Government	Utility/Entity Serving Local Government
Tamarac, City of	City of Tamarac, City of Fort Lauderdale, and Broward County Water & Wastewater Services
Weston, City of	Sunrise Utilities Department
West Park, City of	Broward County Water & Wastewater Services
Wilton Manors, City of	City of Fort Lauderdale
Miami-Dade County	
Miami-Dade County (unincorporated)	City of Homestead, City of North Miami Beach, City of North Miami, and Miami-Dade Water & Sewer Department
Aventura, City of	City of North Miami Beach and Miami-Dade Water & Sewer Department ✓
Bal Harbour Village, City of	Miami-Dade Water & Sewer Department ✓
Bay Harbor Islands, Town of	Miami-Dade Water & Sewer Department ✓
Biscayne Park, Village of	City of North Miami ✓
Coral Gables, City of	Miami-Dade Water & Sewer Department ✓
Cutler Bay, Town of	Miami-Dade Water & Sewer Department ✓
Doral, City of	Miami-Dade Water & Sewer Department ✓
El Portal, Village of	Miami-Dade Water & Sewer Department ✓
Florida City, City of	Florida City Water and Sewer Department and <u>City of Homestead</u>
Golden Beach, Town of	City of North Miami Beach ✓
Hialeah, City of	Miami-Dade Water & Sewer Department ✓
Hialeah Gardens, City of	Miami-Dade Water & Sewer Department ✓
Homestead, City of	City of Homestead and Miami-Dade Water & Sewer Department ✓
Indian Creek, Village of	Miami-Dade Water & Sewer Department ✓
Key Biscayne, Village of	Miami-Dade Water & Sewer Department ✓
Medley, Town of	Miami-Dade Water & Sewer Department ✓
Miami, City of	Miami-Dade Water & Sewer Department ✓
Miami Beach, City of	Miami-Dade Water & Sewer Department ✓
Miami Gardens, City of	City of North Miami Beach and Miami-Dade Water & Sewer Department ✓
Miami Lakes, Town of	Miami-Dade Water & Sewer Department ✓
Miami Shores, Village of	City of North Miami and Miami-Dade Water & Sewer Department
Miami Springs, City of	Miami-Dade Water & Sewer Department ✓
North Bay Village, City of	Miami-Dade Water & Sewer Department ✓
North Miami, City of	City of North Miami and Miami-Dade Water & Sewer Department ✓
North Miami Beach, City of	City of North Miami Beach ✓
Opa-Locka, City of	Miami-Dade Water & Sewer Department ✓
Palmetto Bay, Village of	Miami-Dade Water & Sewer Department ✓
Pinecrest, Village of	Miami-Dade Water & Sewer Department ✓
South Miami, City of	Miami-Dade Water & Sewer Department ✓
Sunny Isles Beach, City of	City of North Miami Beach ✓
Surfside, Town of	Miami-Dade Water & Sewer Department ✓
Sweetwater, City of	Miami-Dade Water & Sewer Department
Virginia Gardens, Village of	Miami-Dade Water & Sewer Department ✓
West Miami, City of	Miami-Dade Water & Sewer Department ✓
Monroe County	
Monroe County (unincorporated)	Florida Keys Aqueduct Authority
Islamorada, Village of	Florida Keys Aqueduct Authority
Key Colony Beach, City of	Florida Keys Aqueduct Authority
Key West, City of	Florida Keys Aqueduct Authority
Layton, City of	Florida Keys Aqueduct Authority
Marathon, City of	Florida Keys Aqueduct Authority

MV check

?

Conversely, **Table E-2** identifies the utilities providing raw or finished water. The first column of **Table E-2** lists the name of the utility or entity. The second column identifies whether the utility is part of a special district such as 298, privately owned, or part of the local government. The third column identifies the incorporated and unincorporated areas of the LEC Planning Area served by the utility or entity. In addition to the PWS utilities that serve communities, the AG Holley State Hospital in the Town of Lantana in Palm Beach County has its own utility; however, the hospital closed in July 2012.

Table E-2. Utilities and local governments that serve the LEC Planning Area.

Utility/Entity Name	Utility Type	Local Governments Served (Raw or Finished)
Palm Beach County		
Boca Raton, City of	local government	City of Boca Raton
Boynton Beach, City of	local government	City of Boynton Beach, Town of Briny Breezes, Town of Hypoluxo, Town of Ocean Ridge, and unincorporated Palm Beach County
Delray Beach, City of	local government	City of Delray Beach, Town of Gulf Stream, and unincorporated Palm Beach County
Glades Utility Authority ^a	local government	City of Belle Glade, City of Pahokee, and City of South Bay
Golf, Village of	local government	Village of Golf and unincorporated Palm Beach County
Highland Beach, Town of	local government	Town of Highland Beach
Jupiter, Town of	local government	Town of Jupiter, Town of Juno Beach, and unincorporated Martin ^b and Palm Beach counties
Lake Worth, City of	local government	City of Lake Worth, Town of Lake Clarke Shores, and unincorporated Palm Beach County
Lantana, Town of	local government	Town of Lantana
Manalapan, Town of	local government	Town of Manalapan and Town of Hypoluxo
Mangonia Park, Town of	local government	Town of Mangonia Park
Maralago Cay	privately owned	Unincorporated Palm Beach County
Palm Beach County Water Utilities Department	local government	City of Atlantis, City of Boynton Beach, Town of Cloud Lake, Town of Glen Ridge, City of Greenacres, Town of Haverhill, Town of Lake Clarke Shores, City of Lake Worth, Town of Loxahatchee Groves, Village of Palm Springs, Village of Royal Palm Beach, Village of Wellington, City of West Palm Beach, and unincorporated Palm Beach County
Palm Springs, Village of	local government	Village of Palm Springs, Town of Lake Clarke Shores, and unincorporated Palm Beach County
Riviera Beach, City of	local government	City of Riviera Beach and Town of Palm Beach Shores
Seacoast Utility Authority	special district	Town of Juno Beach, Town of Lake Park, Village of North Palm Beach, City of Palm Beach Gardens, and unincorporated Palm Beach County
Seminole Improvement District	special district	Unincorporated Palm Beach County
Tequesta, Village of	local government	Village of Tequesta and Town of Jupiter Inlet Colony
Tropical Breeze Estates	privately owned	Unincorporated Palm Beach County
Wellington, Village of	local government	Village of Royal Palm Beach, Village of Wellington, and unincorporated Palm Beach County
West Palm Beach Public Utilities, City of	local government	City of West Palm Beach, Town of Palm Beach, and Town of South Palm Beach

a. Glades Utility Authority was absorbed into the Palm Beach County Water Utility Department effective April 2013.

b. Unincorporated Martin County is outside of the LEC Planning Area.

Table E-2. Continued.

Utility/Entity Name	Utility Type	Local Governments Served (raw & finished)
Broward County		
Broward County Water and Wastewater Services	local government	City of Coconut Creek (Coconut Creek distributes to the City of Parkland and Seminole Tribe Coconut Creek Reservation), City of Dania Beach, Town of Davie, City of Deerfield Beach, City of Hallandale Beach, City of Hollywood, City of Lauderdale Lakes, City of Lighthouse Point, City of North Lauderdale, City of Oakland Park, City of Parkland, City of Pembroke Park, City of Pembroke Pines, City of Pompano Beach, City of Tamarac, City of West Park, and unincorporated Broward County
Cooper City Utilities Department	local government	City of Cooper City
Coral Springs, City of	local government	City of Coral Springs
Coral Springs Improvement District	special district	City of Coral Springs
Dania Beach, City of	local government	City of Dania Beach
Davie, Town of	local government	Town of Davie and Seminole Reservation (Hard Rock Casino)
Deerfield Beach, City of	local government	City of Deerfield Beach
Fort Lauderdale, City of	local government	Town of Davie, City of Fort Lauderdale, City of Hollywood, Town of Lauderdale-by-the-Sea, Village of Lazy Lake, City of Oakland Park, Village of Sea Ranch Lakes, City of Tamarac, and City of Wilton Manors
Hallandale Beach, City of	local government	City of Hallandale Beach
Hillsboro Beach, Town of	local government	Town of Hillsboro Beach
Hollywood, City of	local government	City of Hollywood, City of Dania Beach, Seminole Hollywood Reservation, City of West Park, and unincorporated Broward County
Lauderhill, City of	local government	City of Lauderhill
Margate, City of	local government	City of Margate and City of Coconut Creek
Miramar, City of	local government	City of Miramar
North Lauderdale, City of	local government	City of North Lauderdale
North Springs Improvement District	special district	City of Parkland and City of Coral Springs
Parkland Utilities, Inc.	privately owned	City of Parkland
Pembroke Pines, City of	local government	City of Pembroke Pines and Town of Southwest Ranches
Plantation, City of	local government	City of Plantation
Pompano Beach Utilities Department, City of	local government	City of Pompano Beach, City of Lighthouse Point, and Town of Lauderdale-By-The-Sea
Royal Utility Corporation	privately owned	City of Coral Springs
Seminole Tribe of Florida Utility	not applicable	Seminole Hollywood Reservation
Sunrise Utilities Department	local government	City of Sunrise, Town of Davie, Town of Southwest Ranches, City of Weston, and unincorporated Broward County
Tamarac, City of	local government	City of Tamarac
Tindall Hammock	special district	Town of Davie
Miami-Dade County		
Americana Village	privately owned	Unincorporated Miami-Dade County
Florida City Water & Sewer Department	local government	City of Florida City
Homestead, City of	local government	City of Florida City, City of Homestead, and unincorporated Miami-Dade County

Table E-2. Continued.

Utility/Entity Name	Utility Type	Local Governments Served (raw & finished)
Miami-Dade Water and Sewer Department	local government	City of Aventura, Village of Bal Harbour, Town of Bay Harbour Islands, City of Coral Gables, Town of Cutler Bay, City of Doral, Village of El Portal, City of Hialeah Gardens, City of Hialeah, City of Homestead, Village of Indian Creek, Village of Key Biscayne, Town of Medley, City of Miami Beach, City of Miami Gardens, Town of Miami Lakes, Village of Miami Shores, City of Miami, City of Miami Springs, City of North Bay Village, City of North Miami, City of Opa-Locka, Village of Palmetto Bay, Village of Pinecrest, City of South Miami, Town of Surfside, City of Sweetwater, Village of Virginia Gardens, City of West Miami, and unincorporated Miami-Dade County
North Miami, City of	local government	City of North Miami, Village of Biscayne Park, Village of Miami Shores, and unincorporated Miami-Dade County
North Miami Beach, City of	local government	City of North Miami Beach, City of Aventura, Town of Golden Beach, City of Miami Gardens, City of Sunny Isles Beach, and unincorporated Miami-Dade County
Monroe County		
Florida Keys Aqueduct Authority	special district	Village of Islamorada, City of Key Colony Beach, City of Key West, City of Layton, City of Marathon, and unincorporated Monroe County

check

4. MAPS OF UTILITY AREAS CURRENTLY SERVED (2010) AND FUTURE UTILITY AREA SERVICE (2030)

Figure E-1 is a map of the 2010 utility service areas in Palm Beach County. Figure E-2 is a map of the projected 2030 utility service area maps in Palm Beach County. Figures E-3 and E-4 provide this same information for Broward County and Figures E-5 and E-6 provide this information for Miami-Dade County. The portion of Monroe County within the LEC Planning Area has only one PWS utility, Florida Keys Aqueduct Authority; therefore, no service area map is provided. The portion of Hendry County within the LEC Planning Area is not served by any PWS utility.

MV check

Table F-2. Proposed water supply development projects utilizing a brackish water source.^a

County	Utility/Entity	Project Count	Project	Completion Date	Total Capital Costs (\$M)	Cumulative Treatment Capacity (MGD)	
						2020	2030
Palm Beach	Seacoast Utility Authority	1.	Hood Road RO System (three Floridan wells and one disposal well)	underway	\$59.00	3.00	3.00
Broward	Broward County Water & Wastewater Services	2.	District 1A Treatment Plant Expansion (RO WTP, Floridan wells, and a disposal well)	2017	\$41.10	1.50	2.50
	Davie, Town of	3.	RO Addition to WTP	2012	\$16.00	6.00	12.00
	Deerfield Beach, City of	4.	West WTP Brackish Water RO Treatment Improvements Phase 1	underway	\$5.00	1.50	1.50
		5.	West WTP Brackish Water RO Treatment Improvements Phase 2	underway	\$2.50	0.00	1.50
	Fort Lauderdale, City of	6.	Dixie Floridan Water Supply/WTP	2030	\$22.90	0.00	6.00
	Hollywood, City of	7.	RO Expansion (one train and two Floridan wells)	2027	\$7.10	0.00	2.00
	Lauderhill, City of	8.	Floridan Well and RO WTP Phase 1 (Disposal well and RO WTP)	2017	\$27.50	1.00	1.00
		9.	Floridan Well and RO WTP Phase 2 (Expansion of RO WTP)	2018	\$5.50	0.00	2.00
	Sunrise, City of	10.	Sawgrass RO WTP Expansion Phases 1 and 2	2019-2024	\$21.60	3.00	6.00
		11.	Springtree RO WTP Expansion	2021	\$9.60	0.00	3.00
Tamarac, City of	12.	RO WTP	2022	\$19.00	0.00	2.00	
Miami-Dade	Florida City Water and Sewer Department, City of	13.	RO Plant/Brine Treatment	planned	\$25.60	0.00	4.50
	Miami-Dade Water & Sewer Department	14.	South Miami Heights RO WTP	2014 2015	\$194.70	17.45	17.45
		15.	Hialeah Floridan Aquifer RO WTP Phase 1 (including concentrate disposal)	underway	\$112.30	10.00	10.00 ✓
		16.	Hialeah Floridan Aquifer RO WTP Phase 2 (including concentrate disposal)	2026	\$25.60	0.00	5.00 ✓
		17.	Hialeah Floridan Aquifer RO WTP Phase 3 (including concentrate disposal)	2026	\$12.20	0.00	2.50 ✓
	North Miami Beach, City of	18.	Floridan Wells, Lines, Mains, and RO WTP Phases 2-3	planned	\$8.21	12.50	12.50
19.		Floridan Wells, Lines, Mains, and RO WTP Phase 4	planned	\$37.50	0.00	5.00	
Totals					\$652.91	55.95	99.45

a. Key to abbreviations: \$M – millions of dollars; MGD – million gallons per day; RO – reverse osmosis; WTP – water treatment plant.

Table F-3. Proposed stormwater and surface water capture projects.^a

County	Utility/Entity	Project Count	Project	Water Source Type	Completion Date	Total Capital Costs (\$M)	Cumulative Project Capacity (MGD)	
							2020	2030
Palm Beach	West Palm Beach Public Utilities, City of	1.	ASR Well Reactivation at Clear Lake	surface water	2020	\$10.00	10.00	10.00
		2.	C-17 Pump Station	stormwater	2020	\$2.50	8.00	8.00
Miami-Dade	Florida City Water and Sewer Department, City of	3.	Stormwater Reuse Program	stormwater	planned	\$13.50	0.35	0.35
		4.	Friedland Manor Stormwater for Indirect Potable Use	stormwater	planned	\$30.30	0.65	0.65
Totals						\$56.30	19.00	19.00

a. Key to abbreviations: ASR – aquifer storage and recovery; \$M – millions of dollars; MGD – million gallons per day.

Miami-Dade Central District Wastewater Treatment Plant

*service water:
Miami Shores,
Medley,
Sudler Creek,
El Portal,
Bay Harbor Is.,
Sunrise*

Existing Treatment, Disposal, and Reuse

The Miami-Dade Central District WWTP services the area from Northwest 79th Street to the Tamiami Canal and includes a portion of the City of Coral Gables to Southwest 156th Street. This district services the unincorporated areas inside its boundary and the municipalities of Doral, Miami, Miami Beach, Miami Springs, Medley, Coral Gables, South Miami, Bal Harbor, and Key Biscayne. The facility has an FDEP-permitted capacity of 143 MGD, and in 2010 had an annual average daily flow of 101 MGD. In 2010, an average rate of 114.1 MGD of treated wastewater was discharged through the Central District ocean outfall, and 6.22 MGD was reused. The water reuse was for in-plant processes at the facility.

Primary End User

In-plant processes at the Central District WWTP (e.g., flushing, wash downs, and pump seal lubrication)

MDWASD installed reclaimed water piping in the Village of Key Biscayne. However, the connection to the Central District WWTP has not been made. The purpose of the project was to replace potable water irrigation at Crandon Park and areas of Key Biscayne. The future of this project is uncertain at this time.

Future Treatment, Disposal, and Reuse

for diversion of central flow

To meet the 2018 deadline for reducing nutrients from the ocean outfall, MDWASD is considering installing deep injection wells at the Central District WWTP and/or recharge wells on Virginia Key. Wastewater not disposed through the Central District ocean outfall could be sent south and/or west for reuse at other locations. MDWASD is currently evaluating the options to meet the reuse requirements. MDWASD, as part of the ocean outfall implementation plan, submitted the information below for 2030 is in accordance w/ plan.

has evaluated

Information Sources

The 2010 information is from the 2010 Reuse Inventory (FDEP 2011). MDWASD provided the 2030 information in April 2012. *July 2013*

CDDWTP

FACILITY SUMMARY			
2010		Projected 2030	
FDEP-Permitted Treatment Capacity	143.00 MGD	FDEP-Permitted Treatment Capacity	83.00 MGD
Total Wastewater Effluent	101.00 MGD	Total Wastewater Effluent	80.00 MGD
<u>Disposal</u>		<u>Disposal</u>	
Ocean outfall	114.10 MGD	Deep well injection	72.00 MGD
<u>Reuse</u>		<u>Reuse</u>	
At the facility	6.22 MGD	At the facility	57.80 MGD
Reuse Percentage	6%	total	14.20 MGD
		Reuse Percentage	7%

19%

Monidan Aguirre Recharge 9.2 MGD

Miami-Dade North District Wastewater Treatment Plant

*Town of Golden Beach
Aventura*

Existing Treatment, Disposal, and Reuse

120

The Miami-Dade North District WWTP services from the north county boundary line to near Northwest 79th Street and includes unincorporated areas, and the municipalities of Hialeah, Hialeah Gardens, North Miami, Miami Gardens, Miami Lakes, Miami Shores, Opa-Locka, and North Miami Beach. The facility has three independent process trains: one to treat lower-chlorides wastewater from the western part of the district and two to treat high chlorides from a mixture of wastewaters from the western and coastal areas. The facility has an FDEP-permitted capacity of 112.50 MGD, and had an annual average daily flow of 87.15 MGD in 2010. In 2010, a total of 64.58 MGD of treated wastewater was discharged through ocean outfall, 19.29 MGD was disposed through four deep injection wells, and 3.25 MGD of sludge was transferred to the Miami-Dade Central District WWTP. On average, in 2010, approximately 2.08 MGD of water was reused.

Primary End Users

Florida International University - Biscayne Bay
Miami-Dade North District WWTP (in-plant processes)

MDWASD was considering water reuse opportunities with the cities of North Miami and North Miami Beach, but those cities have been unable to provide the needed reclaimed water distribution facilities. Those opportunities are currently on hold.

Future Treatment, Disposal, and Reuse

has evaluated

To meet the 2018 deadline for reducing nutrients from the ocean outfall, ~~MDWASD is considering installing additional deep injection wells at the North District WWTP. Wastewater not disposed at the North District WWTP could be sent south and/or west for reuse at other locations. MDWASD is evaluating options, such as groundwater recharge, to meet reuse requirements. The scope of water reuse at the North District WWTP will be determined as part of the ocean outfall implementation plan that is due to FDEP by July 1, 2013. MDWASD is currently diverting flows from the ocean outfall to four injection wells to meet the advanced wastewater treatment equivalent requirement.~~

MDWASD has submitted

Information Sources

The 2010 information is from the 2010 Reuse Inventory (FDEP 2011) and MDWASD in April 2012. MDWASD provided the 2030 information in April 2012.

July 2013

The Plan doesn't include any additional reuse at the NDWWTP.

NDAWTP

FACILITY SUMMARY				
	<u>2010</u>	120	<u>Projected 2030</u>	85.00
FDEP-Permitted Treatment Capacity		112.50 MGD	FDEP-Permitted Treatment Capacity	80.00 MGD
Total Wastewater Effluent		87.15 MGD	Total Wastewater Effluent	60.00 MGD
<u>Disposal</u>			<u>Disposal</u>	
Total		87.12 MGD	Total	70.4 58.39 MGD
Ocean outfall		64.58 MGD	Deep well injection	70.4 58.39 MGD
Deep well injection		19.29 MGD		
Sludge transfer to Central District WWTP		3.25 MGD		
<u>Reuse</u>			<u>Reuse</u>	
Total		2.08 MGD	Total	1.61 MGD ✓
At the facility		1.97 MGD	Irrigation	0.11 MGD ✓
Irrigation		0.11 MGD	At the facility	1.50 MGD ✓
Reuse Percentage		2%	Reuse Percentage	3% ✓

206

Miami-Dade Northwest District Wastewater Treatment Plant (Proposed)

Future Treatment, Disposal, and Reuse

Reclaimed water from the proposed West Water Reclamation Plant could be used to meet the ocean outfall requirements. MDWASD developed a preliminary plan to construct a WWTP in northwestern Miami-Dade County to satisfy the remaining reuse requirement that can be used if reclaimed water is not sent to the Comprehensive Everglades Restoration Plan Biscayne Bay Coastal Wetlands Project. Reclaimed water produced at the Northwest District WWTP would be used as an offset in compliance with the LEC regional water availability criteria, to avoid impacts to the water resource from groundwater withdrawals at MDWASD's Northwest Wellfield. The scope of water reuse at the proposed Northwest WWTP will be determined as part of the ocean outfall implementation plan due to FDEP by July 1, 2013.

Information Sources

MDWASD provided the 2030 information in April 2012.

FACILITY SUMMARY			
<u>2010^a</u>		<u>Projected 2030</u>	
FDEP-Permitted Treatment Capacity	0.00 MGD	FDEP-Permitted Treatment Capacity	62.00 MGD
Total Wastewater Effluent	0.00 MGD	Total Wastewater Effluent	56.00 MGD
<u>Reuse</u>		<u>Reuse</u>	
Total	0.00 MGD	Aquifer recharge	56.00 MGD
Reuse Percentage		Reuse Percentage	100%

a. The facility was not built in 2010.



Miami-Dade South District Wastewater Treatment Plant

Existing Treatment, Disposal, and Reuse

Homestead, Cutler Bay, South Miami

The Miami-Dade South District WWTP services unincorporated areas located between the Tamiami Canal and Southwest 360th Street and the municipalities of Pinecrest, Palmetto Bay, and Florida City, and the Homestead Air Force Base. The facility has an FDEP-permitted capacity of 112.50 MGD, and in 2010 had an annual average daily flow of 93.18 MGD. In 2010, treated wastewater was disposed through deep well injection an average rate of 94.82 MGD, while 4.54 MGD was reused. The water reuse was for in-plant processes at the facility.

Primary End User

In-plant processes at South District WWTP (e.g., flushing, wash downs, and pump seal lubrication)

Future Treatment, Disposal, and Reuse

evaluated reuse options for the

The South District WWTP does not include an ocean outfall. Wastewater is disposed of through deep well injection. MDWASD ~~is currently evaluating options, including groundwater recharge, to meet the reuse requirements of the ocean outfall amendments. The scope of water reuse at the South District WWTP will be determined as part of the ocean outfall implementation plan~~ *submitted* to FDEP by July 1, 2013.

The implementation plan ~~will likely include~~ the reuse of reclaimed water by FPL. To ensure their commitment to reclaimed water supplies, MDWASD and FPL signed a joint participation agreement for the delivery of reclaimed water from the South District Water Reclamation Plant to the FPL Turkey Point Energy Facility. This project would provide up to 90 MGD of reclaimed water for FPL use. The construction of the treated water pipeline is scheduled to be completed in 2021.

~~Miami-Dade County approved the design of the new South District Water Reclamation Plant in 2007. In February 2011, the project was put on hold. Due to lower demands and updated population projections, along with additional reuse opportunities, MDWASD is reevaluating its water supply demands before proceeding with construction.~~

Miami-Dade County had committed to reclaimed water reuse as part of the Comprehensive Everglades Restoration Plan. MDWASD conducted a pilot project to test different treatment technologies and gain insights into the biological and ecological response of typical wetlands to highly treated effluent. The results of the pilot project will help to optimize the treatment system and the preferred areas for rehydration to maximize the benefits to wetlands and Biscayne Bay. FDEP, SFWMD, and Biscayne National Park are currently evaluating the final report's results and conclusions.

Potential End User

FPL Turkey Point Energy Facility

Information Sources

The 2010 information is from the 2010 Reuse Inventory (FDEP 2011). MDWASD provided the 2030 information in April 2012.

July 2013 SDWWT P

FACILITY SUMMARY			
<u>2010</u>		<u>Projected 2030</u>	
FDEP-Permitted Treatment Capacity	112.50 MGD	FDEP-Permitted Treatment Capacity	120.00 121.00 MGD
Total Wastewater Effluent	93.18 MGD	Total Wastewater Effluent	120.00 112.00 MGD
<u>Disposal</u>		<u>Disposal</u>	
Deep well injection	94.82 MGD	Deep well injection	30.00 18.00 MGD
<u>Reuse</u>		<u>Reuse</u>	
At the facility	4.54 MGD	Cooling water for FPL	<i>total</i> 99.20 MGD
		Turkey Point Energy Facility	90.00 MGD
Reuse Percentage	5%	Reuse Percentage	75% 89%

Florida Aquifer Recharge 9.2

Miami-Dade West District Water Reclamation Plant (Proposed)

Proposed Treatment, Disposal, and Reuse

The Miami-Dade Water and Sewer Department Reuse Feasibility Update (MDWASD 2007) recommended the addition of the West District Water Reclamation Plant. The facility would include wastewater treatment with storage facilities for peak wet weather conditions in the central-west area of the county. MDWASD evaluated potential sites for the proposed plant. Various alternatives, including plant capacity associated with reclaimed water opportunities, are being developed in conjunction with systemwide wastewater transmission and treatment facilities. Reclaimed water produced at this plant could be used as an offset to avoid impacts created by additional groundwater withdrawals at MDWASD's Southwest Wellfield and comply with the LEC regional water availability criteria. MDWASD tentatively scheduled this plant to come on line by 2026. *2024*

Reclaimed water from the proposed plant could be used to meet the ocean outfall requirements. The scope of water reuse at the proposed plant will be determined as part of the ocean outfall implementation plan ~~to~~ *will* to FDEP by July 1, 2013.

*MDWASD
Submitted*

Information Source

MDWASD provided this information in April 2012.

FACILITY SUMMARY			
<u>2010^a</u>		<u>Projected 2030</u>	
FDEP-Permitted Treatment Capacity	0.00 MGD	FDEP-Permitted Treatment Capacity	50.00 <i>102.00</i> MGD
Total Wastewater Effluent	0.00 MGD	Total Wastewater Effluent	50.00 <i>87.00</i> MGD
<u>Reuse</u>		<u>Reuse</u>	
Total	0.00 MGD	FL Aquifer recharge	<i>9.2</i> 50.00 MGD
Reuse Percentage		Reuse Percentage	100% <i>11%</i>

a. The facility was not built in 2010.

Dup well disposal 77.8 MGD

Profile of Monroe County Facilities

Big Coppitt Regional Wastewater Treatment Facility

Existing Treatment, Disposal, and Reuse

The Florida Keys Aqueduct Authority (FKAA) operates and maintains the Big Coppitt Regional WWTF. The facility, located on Rockland Key, provides service to Big Coppitt, Rockland, Geiger, and Shark keys. The facility has an FDEP-permitted capacity of 0.32 MGD, with an annual average daily flow of 0.08 MGD in 2010. Currently, treated wastewater is disposed through shallow injection wells.

Future Treatment, Disposal, and Reuse

Although the *Monroe County Sanitary Wastewater Master Plan* (CH2MHILL 2000) concluded that reclaimed water was not feasible to install, operate, and maintain in the Florida Keys/Monroe County, FKAA plans to evaluate each of its wastewater service areas to determine ways to implement and feasibly provide reclaimed water for its customers. FKAA is installing a reclaimed water distribution system. The reclaimed water will be utilized for nonpotable water uses to reduce disposal through shallow injection wells. Potential nonpotable uses include irrigation and boat washing.

Information Sources

The 2010 information is from the *2010 Reuse Inventory* (FDEP 2011). FKAA provided the 2030 information in April 2012.

FACILITY SUMMARY			
<u>2010</u>		<u>Projected 2030</u>	
FDEP-Permitted Treatment Capacity	0.32 MGD	FDEP-Permitted Treatment Capacity	0.40 MGD
Total Wastewater Effluent	0.08 MGD	Total Wastewater Effluent	0.40 MGD
<u>Disposal</u>		<u>Disposal</u>	
Shallow well injection	0.08 MGD	Shallow well injection	0.05 MGD
<u>Reuse</u>		<u>Reuse</u>	
Total	0.00 MGD	Total	0.35 MGD
		Irrigation	0.30 MGD
		Other (e.g., concrete mix, equipment wash down)	0.05 MGD
Reuse Percentage	0%	Reuse Percentage	88%

Table C-4. Summary of capacities and flows for WWTFs with flow greater than 0.1 MGD in Miami-Dade County. ^a

Wastewater Treatment Facility	Permit Number	2010			2030				
		FDEP-Rated WWTF Capacity (MGD)	Average Daily WWTF Flow (MGD)	Average Daily Reuse Flow (MGD)	Reuse Percentage (%)	FDEP-Rated WWTF Capacity (MGD)	Average Daily WWTF Flow (MGD)	Average Daily Reuse Flow (MGD)	Reuse Percentage (%)
Americana Village Condominium	FLA013641	0.20	0.15	0.00	0%	0.20 ^c	0.18 ^d	0.00	0%
Cricket Club Condominium	FLA013637	0.11	0.07	0.00	0%	0.11 ^c	0.08 ^d	0.00	0%
Homestead	FLA013609	6.00	5.30	5.30	100%	10.00	10.00	10.00	100%
Miami-Dade Central District (MDWASD ^e)	FLA024805	143.00	101.00	6.22	6%	80.00 83	69.00 72	5.00 4.2	7% 2
Miami-Dade North District (MDWASD)	FL0032182	172.50	87.15	2.08	2%	8000 45	5000 72	1.61 1.61	3% 19
Miami-Dade Northwest-District (proposed) (MDWASD)						62.00	56.00	56.00	100%
Miami-Dade South District (MDWASD)	FLA042137	112.50	93.18	4.54	5%	120.00	112.00	99.2	75% 89
Miami-Dade West District (proposed) (MDWASD)						50.00	50.00	50.00	100%
Miami-Dade County Total		374.31	286.85	18.14	6%	402.31	365.26	212.61	58%

a. Historic (2010) data are from the 2010 Reuse Inventory (FDEP 2011). Projected (2030) data are provided by the utilities unless otherwise noted.

b. Reuse percentage is calculated by dividing "Average Daily Reuse Flow" by "Average Daily WWTF Flow."

c. The utility did not provide the projected 2030 capacity. SFWMD assumes it will remain at the current level unless the projected flow exceeded capacity. In that case, capacity is increased to equal projected flow.

d. The utility did not provide the projected 2030 flow. It is estimated based on the percentage change in potable water flow for the utility from 2010 to 2030.

e. MDWASD – Miami-Dade Water and Sewer Department

Table C-8. Disposal and reuse methods of WWTFs with flow greater than 0.1 MGD in Miami-Dade County. ^a

Wastewater Treatment Facility	2010					2030				
	Disposal		Reuse			Disposal		Reuse		
	Open Outfall (MGD)	Deep Injection Well (MGD)	Public Access Irrigation ^b (MGD)	Groundwater Recharge ^c (MGD)	Other Reuse Types ^d (MGD)	Open Outfall (MGD)	Deep Injection Well (MGD)	Public Access Irrigation ^b (MGD)	Groundwater Recharge ^c (MGD)	Other Reuse Types ^d (MGD)
Americana Village Condominium ^e	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Cricket Club Condominium ^e	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Homestead	0.00	0.00	0.00	5.30	0.00	0.00	0.00	0.00	10.00	0.00
Miami-Dade Central District (MDWASD ^f)	114.10	0.00	0.00	0.00	6.22	0.00	0.00	0.00	0.00	5.00
Miami-Dade North District (MDWASD)	64.58	19.29	0.11	0.00	1.97	0.00	58.59	0.11	0.00	1.50
Miami-Dade Northwest District (proposed) (MDWASD)	--	--	--	--	--	0.00	0.00	0.00	56.00	0.00
Miami-Dade South District (MDWASD)	0.00	94.82	0.00	0.00	4.54	0.00	30.00	0.00	0.00	90.00 ^g
Miami-Dade West District (proposed) (MDWASD)	--	--	--	--	--	0.00	0.00	0.00	50.00	0.00
Miami-Dade County Total	178.68	114.11	0.11	5.30	12.73	0.00	157.39	0.11	116.00	96.50

a. Historic (2010) data are from the 2010 Reuse Inventory (FDEP 2011). Projected (2030) data are provided by the utilities unless otherwise noted.

b. Public access irrigation includes golf courses, parks, schools, common areas, etc.

c. Groundwater recharge includes percolation ponds/pits.

d. Other reuse types include other permitted uses, such as for cooling water, processes at the treatment plant, toilet flushing, etc.

e. Treated wastewater from this facility is disposed to on-site soakage pits.

f. MDWASD – Miami-Dade Water and Sewer Department.

g. This water is used as cooling water for the Florida Power & Light Turkey Point Energy Facility.

57.80

9.2

9.2

18

70.4

77.8



**Water Utilities Department
Administration**

P.O. Box 16097
West Palm Beach, FL 33416-6097
(561) 493-6000
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Board of County
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Hal R. Valeche
Paulette Burdick
Shelley Vana
Mary Lou Berger
Jess R. Santamaria

County Administrator

Robert Weisman

*"An Equal Opportunity
Affirmative Action Employer"*

July 26, 2013

By email (bmills@sfwmd.gov)

Brenda Mills
South Florida Water Management District
3301 Gun Club Road
West Palm Beach, FL 33406

RE: SFWMD Lower East Coast Water Supply Plan Update

Dear Ms. Mills,

The Palm Beach County Water Utilities Department (PBCWUD) appreciates the opportunity to comment on the South Florida Water Management District's (SFWMD) June 2013 draft of the Lower East Coast Water Supply Plan Update (LECWSP). Overall, PBCWUD supports many of the concepts contained within the LECWSP, and is satisfied with the core statistical figures provided for PBCWUD. Additionally, PBCWUD respectfully submits the following comments regarding the LECWSP.

General Comment

Section 373.709, Florida Statutes, requires the water management districts to undertake regional water supply planning and to include in the development of those plans specific information regarding water supply needs, the planning and implementation of water resource development projects, details regarding how minimum flow and level recovery and prevention strategies are to be achieved, funding strategies for projects, and technical assistance for stakeholders. The regional water supply planning process therefore provides SFWMD the opportunity to actively plan water resource development actions to meet regulatory responsibilities and address the myriad of challenges being tackled by SFWMD and its stakeholders and constituents. Unfortunately, the LECWSP continues to be a "state of the union" document that relies on information primarily supplied by the stakeholders. Considering the steps necessary to adapt to the impacts of climate change and sea level rise, as well as the adjustments to Central Everglades Restoration Project (CERP) water supply planning necessitated by the implementation of the Central Everglades Planning Project (CEPP), long term planning commitments have taken on heightened importance. SFWMD should takes the steps necessary to bolster the LECWSP to provide substantive and aggressive long term planning of regional water resource development projects, identify a range of specific steps to be taken and projects to be

implemented to meet minimum flow and level prevention and recovery strategies, actions required to secure consistent funding for alternative water supply and water resource development projects, and adaptation strategies to address the challenges that will arise pursuant to sea level rise.

C-51 Reservoir and Regional Water Supply Projects

On pages 244-245 of the LECWSP, SFWMD recognizes the need for coordination and collaboration in developing large scale regional and multi-jurisdictional projects. Further development of these projects has the potential to provide water supply and environmental benefits throughout the Lower East Coast Service Area. The LSFWMD should use the LECWSP to identify, plan for, and encourage the development of additional opportunities for regional water resource project development.

Although the LECWSP includes a discussion of the recent history of interactions between stakeholders and SFWMD regarding the development of the C-51 Reservoir Project, the Plan provides little in the way of long term planning, guidance, or commitments by SFWMD to assist in the development of this important regional project. Given the progress that has been made in finalizing preliminary designs and cost estimates for the C-51 Reservoir Project, and the continued efforts to move forward with the initial phase of the Project, SFWMD should include in the LECWSP a more detailed future analysis of and stronger commitment to the Project beyond SFWMD's current commitment to explore potential permitting and operational roles. Lastly, the LECWSP should clarify that the excess surface water that would be collected and stored in the C-51 Reservoir Project would be considered an alternative water supply under state law and the Rules of the District.

Palm Beach County / Broward County Ocean Outfall Partnership

PBCWUD is partnering with Broward County in its efforts to implement statutory requirements providing for the elimination of ocean outfalls. Broward County recently submitted a new ocean outfall compliance plan to the Florida Department of Environmental Protection (DEP) that included specifics of the proposed reuse partnership with PBCWUD. Amendments to the document should be made based on the language contained within the submitted plan. Pages where amendments should be considered include pp. 142, 164, 189, and 198 of the LECWSP, as well as p. 131 of the Appendices.

Impact Offsets and Substitution Credits

Section 373.250(5), F.S., was modified in 2012 to require Water Management Districts to implement rules recognizing reclaimed water impact offsets and substitution credits, as those terms are defined in the statute. The process required the Department of Environmental Protection (DEP) to adopt rules in Chapter 62-40, F.A.C., establishing criteria for the use of impact offsets and substitution credits. The DEP rules were adopted following the close of the legislative session on May 6, 2013.

However, while the DEP rule amendments establish an overarching framework for the determination of impact offsets and substitution credits, they do not establish specific criteria or provide sufficient guidance for the evaluation of impact offsets and substitution credits or quantification of offsets or

credits in the form of new or increased allocations. Instead, the WMDs are encouraged to further develop guidelines incentivizing the expanded use of conservation and reuse. At present, the updated rules and Applicant's Handbook that have been proposed by SFWMD through the Consumptive Use Permitting Consistency (CUPCon) process simply incorporate by reference the amendments to Chapter 62-40, F.A.C. If the SFWMD will not be adopting specific language providing a basic framework for the calculation of impact offsets and substitution credits through the CUPCon process, the LECWSP should include a discussion of how the implementation of water resource projects that result in provision of reclaimed water will be addressed in future permitting scenarios. Specifically, the SFWMD needs to plan for and adopt a consistent approach to evaluate and calculate the benefits of proposed impact offsets and substitution credits to ensure predictability and consistent treatment of applicants while reducing the potential for arbitrary and inconsistent evaluations.

Natural Resource Planning

SFWMD has stated that the CEPP will result in additional water being made available in Water Service Areas (WSA) 2 and 3 for utilization by Public Water Suppliers (PWS). As the CEPP project is part of CERP implementation, the LECWSP should provide an explanation that addresses what future steps the SFWMD will take to fulfill the water supply obligations contained in CERP for WSA 1. Additionally, the LECWSP identifies in Table B-3 of Appendix B Lake Okeechobee Watershed Projects, in addition to the rehabilitation efforts being undertaken by the United States Army Corps of Engineers on the Herbert Hoover Dike and the future amendments to the Lake Okeechobee Regulation Schedule (LORS) as the recovery strategy for the Lake Okeechobee Minimum Level. However, the narrative text accompanying the table fails to identify any schedule for the construction of additional projects being planned by SFWMD, including additional storage reservoirs north of Lake Okeechobee, despite recognizing that the dike rehabilitation and amendments to LORS could take up to three decades to accomplish. Given that Lake Okeechobee continues to be in violation of the established minimum level, resulting in water shortage declarations and impacts to public water supply stakeholders, the LECWSP should identify and plan for those projects that will provide for the attainment of the minimum level within less than a thirty year timeframe.

Climate Change

The LECWSP provides an informative overview of the coordination efforts currently being undertaken to understand the impacts of climate change and sea level rise that will affect the Lower East Coast of Florida during the coming decades. However, the LECWSP should more adequately plan for the impacts of climate change and sea level rise, including the identification of projects and adaptation strategies to be undertaken by SFWMD and its stakeholders. Per the latest sea level rise projections, innovative and progressive planning is needed to determine sustainable approaches for addressing the impacts to water infrastructure and future supply needs. At a minimum, the LECWSP should identify those wellfields and infrastructure most at risk to sea level rise and salt water intrusion and provide for the development of adaptation plans and the identification of necessary projects for those stakeholders who will be most impacted. This effort could be coordinated with the identification of large regional

projects that would involve SFWMD and multi-jurisdictional stakeholders as planning and project participants.

Water Resource Development Project Funding

As the economy of the State continues to recover and improve, funding for water resource development projects, particularly in the area of alternative water supply funding should be restored. The LECWSP should contain additional information regarding how SFWMD plans to support the development of water resource, alternative water supply and water conservation projects through cooperative funding and other mechanisms.

Future Coordination

Close coordination between the SFWMD and PBCWUD will be required as next 5 year update to the LECWSP is prepared as a result of the absorption of the former Glades Utility Authority by PBCWUD. Additionally, at the time that the next 5 year update to the LECWSP is developed, PBCWUD will be in the middle of its 10 year CUP compliance review. PBCWUD seeks to ensure that there is consistency between the development of the next 5 year update to the LECWSP and the outcomes of the 10 year CUP compliance review.

PBCWUD thanks SFWMD for the consideration of these comments and will continue to closely coordinate with SFWMD staff in future revisions to the LECWSP. Please do not hesitate to contact me or Christopher Pettit, Policy and Legislation Manager, at 561-493-6009 or cpettit@pbcwater.com with any questions or comments.

Sincerely,



Bevin Beaudet, P.E.

Director, Palm Beach County Water Utilities Department

cc: Brian Shields, Deputy Director, PBCWUD
James Stiles, Assistant Deputy Director, PBCWUD
Hassan Hadjimiry, Director of Regulatory Compliance, PBCWUD
Christopher Pettit, Policy and Legislation Manager, PBCWUD



Reply To: West Palm Beach

July 26, 2013

VIA EMAIL ONLY TO: bmills@sfwmd.gov

Brenda Mills, LEC Plan Manager
South Florida Water Management District
3301 Gun Club Road
P.O. Box 24680
West Palm Beach, FL 33416

Re: Lower East Coast Water Supply Plan

Dear Ms. Mills:

We are writing to provide comments on the *Lower East Coast Water Supply Plan* (“LEC” Plan) on behalf of the Seminole Tribe of Florida. The Seminole Tribe and the South Florida Water Management District (“the District”) have a long history of working together in planning for water supply and the Seminole Tribe looks forward to continuing this relationship.

I. Water for the Seminole Tribe

The LEC plan recognizes the Seminole Tribe’s lands that rely on the Lower East Coast Service Area (“LECSA”), Lake Okeechobee Service Area (“LOSA”) and Lake Okeechobee (“LOK”) for its water supply needs and entitlements. These lands include the Hollywood Reservation, the Big Cypress Reservation, the Brighton Reservation and the Hollywood and Coconut Creek Casinos. The Seminole Tribe appreciates the Plan’s recognition of these areas, the associated water supply needs and the continued commitment to the Seminole Tribe’s water supply entitlements. It would be helpful if the LEC Plan also includes a map delineating the Seminole Tribe’s reservations and trust land supported by the Plan.

Additionally, on page 128, the LEC Plan states that “[b]oth water supply and water quality of storm water are challenges facing the development of the Western Basins.” This section states that agriculture is the predominate use of land in this area. This section should also

See Things Differently

BRADENTON
101 Riverfront Boulevard
Suite 202
Bradenton, Florida 34205

JACKSONVILLE
245 Riverside Avenue
Suite 150
Jacksonville, Florida 32202

TALLAHASSEE
315 South Calhoun Street
Suite 830
Tallahassee, Florida 32301

WEST PALM BEACH
515 North Flagler Drive
Suite 1500
West Palm Beach, Florida 33401

Brenda Mills, LEC Plan Manager
South Florida Water Management District
July 26, 2013
Page 2

clarify that the Seminole Tribe's Big Cypress Reservation is a part of the Western Basins with its own needs for water supply for its residents, agricultural lands and the wetland areas, including the Seminole Tribe's Native Area. The Seminole Tribe has been in ongoing discussions with the District and the United States Army Corps of Engineers ("USACE") for the need for better studies and data of the surface and groundwater issues in the Western Basins in order to assist with the restoration of wetland hydroperiods in the area, on the Big Cypress Reservation, Big Cypress National Preserve and Addition Lands.

The document should also state that the Seminole Tribe has requested that any additional water that becomes available (especially from Lake Okeechobee) be provided to the Seminole Tribe for the benefit and restoration of the wetlands and Native Area on the Big Cypress Reservation. If provided, additional water for the Native Area will also help with environmental preservation and enhancement in the Big Cypress National Preserve and Addition Lands.

II. General Comments

At the outset, the LEC Plan should state clearly that the District has a continuing obligation to identify water resource development projects for the benefit of the Lower East Coast Region, including the Seminole Tribe of Florida.

The LEC Plan states that the future water needs of the area rely heavily on the assumption that the Herbert Hoover Dike Rehabilitation Project be completed and a new Lake Okeechobee Regulation Schedule implemented. The Seminole Tribe supports the District's recommendation of the need to complete the dike rehabilitation and for implementation of a new schedule to supply water to those users who have been affected by the 2008 schedule change and also to provide additional water for both water supply and restoration needs. However, the LEC Plan does not provide an estimate of the increase in the volume of water that will be available after the Project is completed and when a new schedule could be implemented to deliver this water. The LEC Plan also fails to state that any increase in water available from Lake Okeechobee will first go to existing users, including the Seminole Tribe, who are receiving reduced water and experiencing more frequent water shortages as a result of the 2008 Lake Okeechobee Regulation Schedule change. Both the reliance on the completion of the Project and the failure to account for the need to address impacted existing users are weaknesses in the LEC Plan, especially since the Project is outside of the District's control. It is a continuing District responsibility to ensure there is enough water for the future water needs of the area, if no such schedule change takes place, the reliance on a future schedule change for water use and restoration is problematic.

Brenda Mills, LEC Plan Manager
South Florida Water Management District
July 26, 2013
Page 3

Also, on pages 35, 37, and 169, the LEC Plan mentions that Florida Power and Light (“FPL”) plans to build a new facility in the LEC planning area. Although the LEC Plan states that Units 6 and 7 at Turkey Point (the other two proposed plants) will use reclaimed water from the Miami-Dade Water and Sewer Department as their source of cooling water, the water source for the unnamed proposed FPL Plant is not described. The Seminole Tribe is concerned that their third unnamed plant may be the proposed FPL plant in Hendry County which the Seminole Tribe is opposing. If the planned source for the water for the unnamed proposed FPL Plant cannot be described, it is unclear what the point of the discussion is as it is problematic for the Plan to identify such a significant water demand without a source and analysis of any impacts. If the plant is located as currently planned in the vicinity of the Seminole Tribe’s Big Cypress Reservation it will impact the Seminole Tribe’s surface and ground water. These issues will have to be addressed clearly at that time.

Again, the Seminole Tribe appreciates the opportunity to review and comment on the *Lower East Coast Water Supply Plan*. Thank you for your consideration of these comments.

Yours sincerely,



Michelle Diffenderfer
Kathryn Rossmell

MD/KBR/kss

- c. Jim Shore, Esquire – Seminole Tribe of Florida
Cherise Maples – Seminole Tribe of Florida

From: Joan Lawrence [<mailto:joanlawrence@sfirestore.org>]

Sent: Friday, July 19, 2013 2:25 PM

To: Verrastro, Robert; Elsner, Mark

Cc: Mills, Brenda

Subject: Draft LEC Water Supply Plan

Mark & Bob,

Although I do not contemplate sending a formal letter at this time, I have done a cursory reading of some sections and do have some thoughts/comments/edits/suggestions/etc.

Chapter 3, page 48, first line under the *Lake Okeechobee* heading: please add **environmental water supply** to the multiple purposes served by Lake Okeechobee (see the USACE LOSA EIS and the SFWMD's Adaptive Protocols). It does appear appropriately in the sections mentioning a potential change in the Lake schedule.

Chapter 3, page 54: ERTTP, like LOSA, is an interim plan and should be described as such. The EIS Abstract states: *The purpose of ERTTP is to define water management operating criteria for Central and Southern Florida Project (C&SF) features and the constructed features of the Modified Water Deliveries and Canal-111 South Dade projects until a Combined Operational Plan is implemented.*(See ERTTP EIS)

Chapter 3, page 63: Rather than labeling Biscayne Bay as *more of a marine lagoon*, wouldn't it be more accurate to simply say that it has become **more saline**? I don't know the ramifications of labeling the Bay "more like a marine lagoon".

Chapter 3: There is no description of Biscayne National Park. *Biscayne National Park was designated as a national park in 1980 to protect a rare combination of terrestrial and undersea life, to preserve a scenic subtropical setting, and to provide an outstanding spot for recreation and relaxation. Biscayne National Park contains approximately 181,500 acres, 95% is underwater.* (See BNP web site)

Chapter 3, page 67: you might want to add the Florida City Canal project that the SFWMD did in partnership with Miami-Dade County.

In General: check the project descriptions to ensure they are accurate and current including, but not limited to, the Central Everglades Planning Project and the Biscayne Bay Coastal Wetlands Project reservations.

Additionally, I've attached Brian Carlstrom's letter to Chairman O'Keefe regarding BBCW Project reservations. Superintendent Carlstrom has urged the SFWMD to add Biscayne Bay back to the Priority Water Bodies List as a means to achieve additional protections for Biscayne Bay. If mention of including Biscayne Bay on the Priority Water Bodies List needs to be included in this LEC Water Supply Plan, please include it.

Thanks for the opportunity to comment!! I'll be out of the office until July 30th, but will have my Blackberry with me if there are any questions. I'll call you when I get back in the office.

Joan Lawrence

Everglades Restoration Initiatives
United States Department of the Interior
950 N Krome Avenue
Homestead, FL 33033

Cell Phone: (786) 390-8087
lawrence@sfrestore.org



N16 (5250)

Dan O'Keefe
Chairman, Governing Board
South Florida Water Management District
3301 Gun Club Road
West Palm Beach, FL 33406

Dear Chairman O'Keefe:

Thank you for the opportunity to review and comment on the proposed rule language for the Biscayne Bay Coastal Wetlands Comprehensive Everglades Restoration Project. Biscayne National Park supports moving ahead with the project reservation as proposed.

The Biscayne Bay Coastal Wetlands (BBCW) Project is the only active Comprehensive Everglades Restoration Plan (CERP) project to directly benefit Biscayne Bay and Biscayne National Park (BNP). The project intends to redistribute freshwater runoff from the watershed away from existing canal discharges, into the adjacent coastal wetlands adjoining Biscayne Bay, to provide a more natural and historic overland freshwater flow to the bay. Project objectives defined in the Project Implementation Report (PIR) are:

1. Re-establishing productive nursery habitat along the shoreline.
2. Redistributing freshwater flow to minimize point source discharges to improve freshwater and estuarine habitat.
3. Restoring and improve quantity, quality, timing and distribution of fresh water to the bay, including Biscayne National Park.
4. Preserving and restoring spatial extent of natural coastal glades habitat.
5. Reestablishing connectivity between Biscayne Coastal Wetlands, C-111 Basin, Model Lands, and adjacent basins.
6. Restoring near shore and saltwater wetland salinity regimes.

BNP appreciates the efforts of the South Florida Water Management District (SFWMD) in proceeding to construct the L-31 E Culverts, the Cutler Flow Way, and the Deering Estate Flow Way components of the BBCW Project with state funds as part of an expedited effort prior to federal authorization.

BNP recognizes that protecting the surface water identified in the PIR is a prerequisite for the SFWMD to receive federal cost-share credit and for the United States Army Corps of Engineers to construct the remaining features of the project after federal authorization. Having an executed reservation may also assist in the federal authorization process. We therefore appreciate the

SFWMD's actions in expeditiously moving forward with this reservation the SFWMD has elected to protect the total available canal flow, up to the target flow as identified in the PIR for the protection of fish and wildlife. BNP recognizes that the proposed BBCW project reservation will work with the existing Restricted Allocation Rule for the Everglades to provide protections to Biscayne Bay and BNP.

Currently the stable estuarine conditions desired in Biscayne Bay and BNP are not achieved by existing freshwater inflows. The total freshwater volume is insufficient; timing and distribution do not match naturally occurring cycles. The restoration of natural timing of freshwater flows could produce stable estuarine conditions, but without an increase in the volume of water available, the salinity targets cannot be achieved throughout the year. Increasing the total volume of freshwater flow, and in particular providing adequate freshwater flow through the dry season, would provide significant benefits to the ecological system in BNP. While the BBCW Project changes the distribution of freshwater flow to the bay and BNP, it does not change either the timing or the volume of these flows to the bay. BNP recognizes the challenges to identifying additional freshwater for Biscayne Bay and hopes that the SFWMD will continue to look for opportunities, such as the recent diversions of freshwater from high water in Water Conservation Area 3A to Biscayne Bay, to bring additional freshwater to the Bay.

Concerns have been expressed that groundwater is not protected by this proposed rule. After this proposed reservation is implemented, BNP urges the SFWMD to work with BNP staff to develop a better understanding of the correlation between groundwater and surface water and the effects of groundwater on Biscayne Bay salinity. We believe that this work could provide the technical support for consideration of a future protection for groundwater. BNP urges the SFWMD to explore additional protections for Biscayne Bay. BNP encourages adding Biscayne Bay back to the Priority Water Bodies List as a means to achieve those additional protections. I have attached the previous letter sent in support of the rulemaking by the United States Department of the Interior on December 17, 2012. We appreciate your staff's willingness to work with our technical staff.

We look forward to continuing our work with SFWMD in water quality monitoring and identifying additional opportunities to provide more freshwater to Biscayne Bay and Biscayne National Park and the. Thank you for your consideration.

Sincerely,

Brian Carlstrom
Superintendent
Biscayne National Park

CC: South Florida Water Management District Board Members, Regan Walker, Shannon Estenoz

Attachment

From: dmandch@aol.com [<mailto:dmandch@aol.com>]

Sent: Tuesday, July 23, 2013 10:54 PM

To: Mills, Brenda

Subject: Comments on Lower East Coast Water Supply Document

Dear Brenda,

Please accept the following comments on behalf of the Loxahatchee Group, Sierra Club of Florida.

We are concerned about the lack of water conservation programs in the South Florida Water Management Budget. We would like to see more funds for Water Conservation Grants and Mobile Irrigation Labs. There needs to be a significant reduction in wasted water. The program requires rain sensors, but most governments do not enforce these requirements. We repeatedly see irrigation systems running during rain events.

You discuss MFL requirements, but most of these requirements are not being met. The estuaries are neither receiving adequate fresh water during droughts and are often receiving heavily laden nutrient waters during rainy periods.

We believe that counties have failed to adopt sufficient Florida Friendly Landscaping requirements. Most areas still have landscapes dominated by sod and non-native plants. Many older irrigation systems are poorly maintained and tend to leak or over water. Three day a week watering can be very wasteful of water.

How do you enforce the requirement for rain sensors on irrigation systems? How have you implemented educational programs or how do you intend to improve on the fact that so many users of irrigation systems have no knowledge of this requirement?

We are unclear how you determine, in issuing new consumptive use permits how these permits will not conflict with existing users and natural ecosystems. Often water uses drawdown water tables during dry times. How can you assure that this will not impact other users?

How much effort is made to protect water resources from saltwater intrusion? Climate change could greatly increase these risks. Are you prepared to reduce water consumption to prevent this from happening during all periods not just during water shortages?

We may wish to add additional comments.

Regards,
Drew Martin, Conservation Chair, Loxahatchee Group, Sierra Club
500 Lake Ave. #102
Lake Worth, Fl. 33460

USACE Comments - Review of Lower East Coast Water Supply Plan Update 2013 June Draft

CESAJ-PD-ES

Purpose: Summary of comments on Lower East Coast Water Supply Plan Update as it pertains to consistency with the Comprehensive Everglades Restoration Plan (CERP) achieving its goals and objectives.

Summary: U.S. Army Corps of Engineers Jacksonville District Planning Division Environmental Branch South Florida Section reviewed draft Lower East Coast (LEC) Water Supply Plan Update, model assumptions, and performance measure outputs for any inconsistencies with CERP planning. The goal was to understand water supply demand as it related to other water related resource needs that must be balanced with restoring the natural system. RECOVER was intended to have an active water supply and flood control team to help evaluate plans such as these that even though they are not CERP they could have direct or indirect consequences on meeting CERP goals and objectives. This team is currently not active and this review should not be construed to be the RECOVER water supply and flood control team review.

Comments:

LEC Water Supply Plan Update

1. *General* – All of the updated information and tables compare the 2013 draft to the previous 2007 draft. It would be beneficial in the future to keep running tables that also compare the original demand estimates from 2000 that were used by CERP. This would make it easier to ensure updates to CERP planning assumptions are consistent with LEC Water Supply Planning.
2. *Executive Summary* – Fourth paragraph, third sentence, need to state what the actual demand is not an estimate. 1 billion gallons per day with a 12% increase is not 1.9 billion (projection for 2030), as stated in the beginning of the next paragraph. Should use the number stated on pg. 19, last paragraph – 1.719 billion gallons per day.
3. *Introduction* –
 - a. Page iii - Reference is made to the Lower East Coast (LEC) Planning Area and that “the entire Lake Okeechobee Service Area, which includes portions of Martin, Okeechobee, Glades, and Lee, is considered in the LEC water supply planning process because of its reliance on Lake Okeechobee”. Are the northern estuaries (St. Lucie and the Caloosahatchee River) included in the LEC Planning Area?
 - b. Page iii - The District’s (SFWMD) strategic goal for all of its water supply plans is to “ensure an adequate supply of water to protect natural systems and to meet existing and future reasonable-beneficial uses”. Does that also include the northern estuaries?
4. *Lake Okeechobee* –
 - a. pg. vi, “The schedule change is intended to operate the lake at lower levels to reduce the risk that the lake’s dike might fail as well as high water levels impact to the lake ecology.” Once the rehabilitation of the HDD is completed, the Lake will be able to store

higher water levels that will” enhance the level of certainty to existing permitted users, and support other environmental objectives”. Won’t the higher Lake elevations negatively impact the present productivity of the littoral zone and overall ecology of the Lake?

- b. Pg. vi, third paragraph, should indicate what the potential National Environmental Policy Act issues are likely to be, such as, maintaining flood risk management, Lake Okeechobee (LO) and northern estuaries’ ecology, while providing for other related water resource needs (e.g., water supply). Any increase in LO stages for long periods of time is likely to affect flood risk management and LO ecology negatively. This is why CERP focused heavily on water supply projects, as stated in this plan (e.g., Aquifer Storage and Recovery (ASR) Wells, large above ground surface water storage wells) to meet water supply needs for the environment and urban/agricultural communities. The public and stakeholders would benefit from a clear articulation of the need to balance multiple water related needs from LO.
- c. Page vi: “Additional improvements are scheduled for completion by 2022.” Present Corps estimations for HHD rehabilitation (reaches 2 and 3) are 2025.
- d. Pg. 93, quoted paragraph from LO regulation schedule, is an example of the multiple water related needs that will need to be considered in determining any additional storage in LO for water supply.

5. *Introduction*

- a. Pg. 2 – Goal and Objectives: “Natural Systems – Protect and enhance the environment, including the Everglades and other federal, state, and locally identified natural resource areas. “ Does this objective include the northern estuaries? Recommend: add examples of natural resource areas – “areas, e.g., Northern Estuaries, Lake Okeechobee, Pennsuco wetlands.
- b. Page 4: “While not included in the water demand totals, the water supply needs of LOSA located in Martin, Okeechobee, Hendry, Glades, and Lee counties are considered in LEC Planning Area analyses.” Is it correct to assume that water supply demands also reflect environmental needs? A sentence explaining how environmental water supply needs are factored in would be helpful.
- c. Pg 7 bullet 1: World renowned ecosystems, should include Caloosahatchee and St. Lucie Estuaries.
- d. Pg. 7 bullet 3, bullet states that water supply demand in 2007 plan for 2025 was 1,286 MGD. As stated above, it would be nice to compare to the 2000 estimate as well as have a long range estimate beyond the 20 years to help ensure water supply planning considers the assumptions originally used in CERP. For example, CERP demand for 2050 had two scenarios, high demand of 1450 MGD and 1200 MGD for the low estimate. CERP was intended to meet urban water supply demand reductions of 18%.
- e. Pg. 11 Significant Coastal Ecosystems: should include Caloosahatchee and St. Lucie estuary resources that support larger oyster, seagrass, and commercial fish populations.
- f. Page 14: “Adaptive protocols are designed to identify potential “win-win” situations in which one or more environmental resource may benefit from a lake release.” Does

this need to be revisited? Presently, AP provide low-level releases in the dry season that provide a freshwater gradient upstream but have minimal effect in sustaining salinities within favorable estuarine ranges.

- g. Pg. 15, bullet 1 and 2. ASR is a critical component for CERP meeting water supply needs for restoration and human needs. The ASR regional study has been going on for some time now after the pilot projects have been completed. It would be beneficial for the LEC water supply plan to recommend speeding up completion of the ASR Regional Study to actually determine the number of wells that is feasible given the pilot project information and updated water supply, land use, and other water related polices.
 - h. Page 16 - Water Storage: Should there be mention of the proposed C-44 and C-43 water storage projects?. Potentially, add a section of what specific CERP projects are likely to contribute to water supply in the future when built.
6. *Outlook on Climate Change*
- a. Pg. 17, first paragraph. It is important to recognize Climate Change effects on human and natural system water resources. An example is given regarding saltwater intrusion. The plan should also mention other effects of potential increased drought risk on freshwater supply.
 - b. Pg. 84, second paragraph provides a good summary of climate nonstationarity and recommends future planning to consider these additional climate uncertainties and consider larger variability in (sea-level, rainfall, ET, groundwater, stream flow, etc.). However, it is unclear how the LEC water supply factored in climate change uncertainties into its planning. Even within the last decade, we have seen a higher frequency of drier years than over the past 40 years. This gets missed in the modeling data and assumptions that only go up to 2005 (see LEC Water Supply Table assumptions), which misses the drier years of 2007, 2009, 2011, 2012. Most of the projections for sea-level rise and temperature estimates are based on 50 to 100 year estimates which are beyond this 20 year planning window. However, at a minimum, information and technology needs should be stated in this report to ensure that tools are available to help do a more comprehensive planning for water supply that can consider climate variability in the water supply update. The SFWMD has invested resources in looking at water management model scenarios of sea-level rise, and precipitation.
 - c. pg. 84, last paragraph. Before tools are available for more comprehensive long term planning efforts to factor in climate change, these principles of taking actions now to adapt to climate change that add value in absence of climate change is a logical and useful approach. However, we recommend clearly stating the intent of being able to incorporate climate change variability into water supply planning in the future. In addition, scenarios that would appear to be available now as stated above (http://www.ces.fau.edu/files/projects/climate_change/ecology_february_2013/02_Obseykera.pdf), could have been used in this planning update and should definitely be used in the next one to ensure decisions made on both water supply projects and permitting capture recent climate change variability while being prepared for any future

greater variability (a no regrets policy). This is important not only for water supply but for CERP to ensure expectations are managed on what CERP can meet related to natural and human related water supply needs in a changing climate.

7. *Projected Water Use*: pg. 23, Page 23: Projected Water Use: Shouldn't this include a category for environmental purposes?
8. *MFL and Water Reservations*:
 - a. Page 44: Figure 10: Includes map includes the Caloosahatchee and St. Lucie estuaries; is this assuming they are part of the MFLs and water reservation bodies.
 - b. Page 45: "The Governing Board is expected to consider draft water reservation rules in 2013 for the CERP Caloosahatchee River (C-43) West Basin". Is it correct to assume that additional water storage will be used for the protection of fish and wildlife i.e. the Caloosahatchee estuary, and unavailable for consumptive or agricultural uses?
9. *Water Resources by Region*:
 - a. Page 48: Figure 12 (page 49) depicts the northern estuaries; however, there is no indication of St. Lucie Estuary being part of the LEC planning.
 - b. Page 57: This section discusses estuarine conditions in the Loxahatchee River and estuary: Does the LEC include addressing the concerns of the St. Lucie estuary immediately north? Low flows could be an issue in the future. And high flows from LO are an issue that is indirectly linked to LO storage and releases to the estuaries.
 - c. Page 65: BBCW: Presently, there is not enough water available to meet the project restoration targets. Shouldn't this, along with proposing waste water reuse, be considered? Also not mentioned is the fact that the BBCW project only completed Phase 1; and without implementation of Phase 2 (the full Alternative O of the recommended plan), expected restoration goals in the lower reaches of the project area (including the Model Lands) will not be achieved. At a minimum, all references to BBCW throughout this document should state the full project name (Biscayne Bay Coastal Wetlands Phase 1 Project), including Table 11 on page 88. The section discussing BBCW on page 105 references Phase 1 but does not discuss the remaining features developed for Phase 2, the full recommended alternative. This would be an appropriate location for that discussion
 - d. Page 69: Similar to BBCW, there is no discussion on implementing Phase 2 of the C-111 Spreader Canal Project which was projected to spread water into Barnes Sound and adjacent southern glades. In the absence of Phase 2 for both the BBCW and C-111 projects, there remains a large area of freshwater and coastal wetlands that will continue to degrade over time. Page 110: This section discusses Phase 1 of the C-111 Spreader Canal Project. As with BBCW, this would be an appropriate location to include a short discussion of the original plan's features and ultimate intent (i.e. spreading water through culverts to adjacent wetlands in the southern glades) upon implementation of Phase 2.
10. *Evaluation of Water Source Options* Page 142: This section discusses waste water reuse for potential use of cooling water for the FPL Turkey Point Plant, but no mention of possible

solutions to augment water supply to meet restoration goals for the BBCW or C-111 Spreader Canal projects.

11. *Ecological Restoration*: Table 18, Page 243: Shouldn't the C-43 project be included on this table as a CERP project potentially influencing the LEC Planning Area?

12. *Appendix B*: Is there a plan to re-look at LORS Adaptive Protocols in order to provide more appropriate levels of discharges to the northern estuaries to sustain ecological functions in the dry season?

13. *Performance Measure Output*

- a. Assumptions: Assumption differences between the 2050B3 base run currently (maintained by RECOVER as the future without project model run for CERP) and the 2030 base model run used in the LEC water supply planning are:
 - i. LO – 2050B3 uses Water Supply and Environment (WSE) assumptions and 2030 uses LORS.
 - ii. WCA 2 operations may be different. 2050B3 uses rain driven operations for WCA 2 based on NSM 4.6.2, however, it is not clear whether this is used in the LEC planning.
 - iii. WCA 3 assumptions are different in that they include ERTTP vs. CSOP no action alternative. In the ERTTP modeling, this resulted in an overall lowering of the WCA 3A stage by 0.5 ft.
- b. Biscayne Bay – flows to snake creek in dry season are lower than 2050B3 estimate (35 vs. 42 [in 1,000 acre-feet]), North Bay flows are similar (51-53). Miami River is higher 101 vs. 74. Central Biscayne Bay is higher 47 vs. 34, which is closer to the current RECOVER target of 53. Southern Biscayne Bay is higher (89 vs. 60), which is closer to the current RECOVER performance measure target of 146.
- c. Caloosahatchee – More high flows were not met 41 vs 38, (Monthly Average Flow >4500 cfs) and there are fewer low flow issues (Monthly Average Flow <450), 85 vs. 89. This could be due to the difference between LORS and WSE.
- d. St. Lucie – Higher number of high flow events (Monthly Average Flow >3000 cfs) 38 vs. 26. In addition, a greater number of mid to high flows were not met (86 vs. 69) >2000 cfs for 14 days or more from local basins and (67 vs. 48) >2000 cfs for 14 days or more from LO regulatory releases.
- e. Hydroperiods – in ENP hydroperiods are about 45 days longer in the 180 to 365 day histograms frequency. However, the % of Natural Systems Model (NSM) matched is about 41% compared to 45% in the 2050B3 run. WCA 1 mean hydroperiod distribution was similar, but had a better match of NSM hydroperiods (80.7% vs 63.2%); WCA2 hydroperiods were similar; WCA 3A – North is much wetter than in the 2050b3, 96.2% match of NSM vs. 63.7% match; WCA 3A south – hydroperiods were very similar; and WCA 3B – hydroperiods were very similar;
- f. LO – Stage duration curves are slightly higher, however, the number of months the lake is above 17ft is lower 3 vs. 8; but the number of months the lake is below 11 ft is higher (21 vs. 11). However, these changes are most likely the difference between LORS used

in the Water Supply planning and WSE assumptions used in the CERP Future Without planning.

- g. Ponding – ENP, WCA 1, had similar matches with NSM; Slightly better match with NSM for WCA 2A and Southern WCA 3A, and a much better match with NSM for Northern WCA 3A 80 vs. 60% and WCA 3B 70.4% vs. 44.4%;
14. *Natural System (South Florida Everglades Ecosystem) Performance Summary:* Given the difference in assumptions between the 2050B3 model run and the LEC water supply assumptions and a subset of the full list of RECOVER system-wide performance measures, there were only a few unexpected performance changes. WCA 1 and Northern WCA 3A hydroperiods matched NSM 4.6.2 a greater period of time (17% and 29% increase respectively). This change is unexpected and would need to be investigated in more detail to determine whether it is an issue or not, as meeting pre-drainage hydroperiods would appear to be a good thing. However, Loxahatchee National Wildlife Refuge prefers the current operations to maintain the refuge in WCA 1 and these increased hydroperiods may or may not be consistent with their management objective. The increased stages in Northern WCA 3A would be beneficial for the typically drier area and would be more consistent with restoration goals. However, there is no clear reason why these results occurred, and should be viewed with some skepticism, until they are evaluated in more detail.

From: Stephen Olmsted (BPD) [solmsted@pinecrest-fl.gov]

Sent: Friday, July 26, 2013 2:28 PM

To: Mills, Brenda

Cc: Bgarner@ngn-tally.com; Cynthia A. Everett (External)

Subject: RE: Comments on draft 2013 Lower East Coast Water Supply Plan Update due Friday, July 26, 2013

Brenda -

I have reviewed the draft Lower East Coast water Supply Plan and have the following comments:

The draft Water Supply Plan, **Page 35, Power Generation Self Supply**, references a “potential new power generation plant including the expansion of Turkey Point Plant Units 6 and 7”:

A potential new power generation plant that has yet to be sited and the proposed Turkey Point Plant Units 6 and 7 expansions are expected to be added to FPL’s South Florida grid system within the next 20 years. The planned source of cooling water for Units 6 and 7 is reclaimed water provided by the Miami-Dade Water and Sewer Department. Considering all counties within the LEC Planning Area, and accounting for reclaimed water use meeting part of the water demands, net PWR Self-Supply is projected to increase from 12 MGD in 2010 to 33 MGD by 2030 (Table 3).

It is the Village of Pinecrest’s understanding that FPL plans to add 2 new nuclear reactors at Turkey Point which will necessitate the construction of new 230 Kv Transmission lines on 100 foot high, 4 foot diameter poles which are proposed to be located adjacent to Pinecrest Parkway (US 1) in the Village of Pinecrest. The Village of Pinecrest is opposed to the proposed alignment adjacent to Pinecrest Parkway. The proposed concrete poles and associated lines and equipment if placed within the Pinecrest Parkway corridor would destroy the existing and planned character of the corridor and inhibit any further commercial and residential development. Regional goals of building a sustainable transit oriented corridor would likely be damaged or destroyed forever. Some have questioned the wisdom of constructing new nuclear reactors at Turkey Point being “situated between two national parks on a hurricane swept coastline subject to storm surge and inundation from sea level rise”.

It is recognized that the purpose of the Lower East Coast Water Supply Plan is to preserve and enhance water resources and water supply within the Lower East Coast Region. It may be worth noting, however, that it is the Village of Pinecrest’s goal to expand potable water to unserved areas within the Village. Currently, there are now approximately 1,000 (or 18%) of the Village’s single family homes that remain unserved by public water lines.

Thank you for this opportunity to comment. If you have questions or require additional information, please do not hesitate to contact me.

Sincerely,

**Stephen R. Olmsted, AICP, LEED-GA
Planning Director**

Building and Planning Department
Village of Pinecrest
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