Updated 3/1/13

Audubon Society of the Everglades * Audubon Florida
South Florida Audubon Society * Tropical Audubon Society

February 12, 2013

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

Dear Ms. Mills,

Thank you for the opportunity to comment on Chapters 5 and 6 in the 2012-2013 Lower East Coast Water Supply Plan Update. Audubon Florida and our chapters throughout the Lower East Coast planning area have participated in the workshops and appreciate the interactive dialogue. We look forward to continuing to participate in the process and to engage in future discussions to chart a course toward increasing protections for water for the environment in the Lower East Coast region through rulemaking, water conservation, and the development of restoration projects.
Below are a number of comments, questions, and suggestions in response to draft Chapters 5 and 6 and their appendices.

1) **Agricultural Water Usage in the Lower East Coast**
   a. The analysis of future water usage in the Everglades Agricultural Area (EAA) should include a description of the current and future footprint of Everglades restoration and water quality projects in the area. The 2005-06 water supply plan update made projections for how land in the EAA would be utilized for restoration purposes. [1] Since then, there has been much progress on planning for restoration and water quality plans. Through the 2012 Everglades Water Quality Plan, SFWMD will create more than 6,500 acres of new stormwater treatment areas and 110,000 acre-feet of additional water storage through construction of flow equalization basins (FEBs).[2] While the Central Everglades Planning Project is not yet finalized, it would be helpful to mention how it may interface with water supply planning in this area. The 2013 Lower East Coast Water Supply Plan update should take these changes into account for EAA acreage water usage projections.
   b. Chapter 5 states, "In 2010 land in the EAA had consumptive use permits for an area greater than what was in cultivated. Some land in the EAA was fallow in 2012. By 2030, all of the land permitted for supplemental irrigation in the EAA is expected to be in cultivation, approximately 458,240 acres." How is the amount of water for supplemental irrigation determined and how is harm to water resources and to the environment calculated into the equation?
   c. Figure 3 on Chapter 5, pg. 5 is useful for visual context for the location and general quantity of Public Water Supply (PWS) from water wells in the Lower East Coast. It would be helpful to insert a similar figure that shows quantities of permitted agricultural water supply in the Lower East Coast region.

---

[1] See Appendix D, pg. 5, 2005-06 Lower East Coast Water Supply Plan, available at http://www.sfwmd.gov/portal/page/portal/xrepository/sfwmd_repository_pdf/lec_app_final.pdf
[2] Quick Facts on Everglades Restoration Progress, January 2013. South Florida Water Management District.

d. How have agricultural water conservation measures been factored into projections for agricultural water usage?
e. In Chapter 5, pg. 25, there is reference to FDACs Best Management Practices providing an implicit water conservation component. We would like to see data on the amount of water conserved from the Best Management Practices referenced- specifically the tailwater recovery and irrigation efficiency enhancements. We would also like more information on how water conservation from these BMPs is monitored and accounted.
f. It is important to further explore Lake Okeechobee Service Area agricultural water demands and actual usage during water shortages, and its impact on the natural environment. In particular, the impacts to Lake Okeechobee, the Caloosahatchee Estuary, and Southern Everglades systems during the end of the dry season should be evaluated, with a special focus on how to meet Minimum Flows and Levels in the region and protect endangered species like Everglade Snail Kites that are susceptible to impacts from low water levels. Under the current regime, an MFL exceedence can occur without ever exceeding a 15% cutback to users in the LOSA. The Lake Okeechobee Minimum Flow and Level Recovery strategy should be updated to include mandatory agricultural water conservation measures that have significant and measurable water savings.

2). **Groundwater**

a. Wetlands help recharge aquifers in our region. Thus, it would be helpful to include a map that uses Geographic Information Systems technology to show wetlands Miami-Dade and Broward Counties and how these regions interface with wells that tap groundwater through the region. It could overlay figure 3.
b. The plan should also include information about the groundwater that is necessary to flow into Biscayne Bay to support its ecosystem. This water should be quantified and considered before future withdrawals of groundwater are permitted. It would be helpful to contact the U.S. Geologic Survey to discuss their data on groundwater discharge into Biscayne Bay.
c. This section should include an analysis on the projected impacts of salt-water intrusion on groundwater resources throughout the planning region.

3). **Water Conservation**

a. The LEC WSP update should assess the success of the SFWMD 2008 Water Conservation Plan and analyze how it has been implemented. It should look for areas that need further development. The plan should address the effectiveness of conservation rate structures and should move toward great consistency through heightened conservation.
b. The SFWMD should work with counties to implement one day-a-week landscape irrigation.
c. There are a number of water conservation methods that the SFWMD should further explore, including cistern use, homeowner association water conservation initiatives, mobile irrigation labs, enhanced enforcement, and opportunities with grey water.

4). Funding

a. SFWMD needs to articulate how they will fund water supply and water conservation projects in the plan. There needs to be a specific timeline with amounts of funding necessary to move forward.
b. Funding cuts have impacted water resource planning. In particular, there have been deep cuts to funding for WaterSIP, water conservation efforts, FDACs mobile irrigation labs, and alternative water supply in the past few years. The plan should point this out and state that it will be necessary to increase funding for progress.

5). Climate change in water supply planning

a. The SFWMD needs to flesh out adaptation planning for sea level rise. Utility infrastructure vulnerability and flooding risks will increase greatly, with corresponding budget impacts.
b. Adaptation strategies to consider: 1) wetland restoration with reestablishment of overland flows; 2) coordination with Army Corps and Regional and Local Planning Agencies using appropriate modeling and land use strategies to retard saltwater intrusion, use flood control infrastructure to its fullest advantages, and allow for natural coastal ecosystems to migrate inland.

Thank you for the opportunity to comment on Chapters 5 and 6. We look forward to continuing to engage in the process.

Sincerely,

Jane Graham, Esq.
Everglades Policy Associate
Audubon Florida

Grant Campbell
Conservation Chair
South Florida Audubon Society

Cynthia Plockelman
President
Audubon Society of the Everglades

Laura Reynolds
Executive Director
Tropical Audubon Society

From: Francois Domond [mailto:FDOMOND@hollywoodfl.org]
Sent: Wednesday, January 30, 2013 12:25 PM
To: Mills, Brenda
Cc: Steve Joseph; Verrastro, Robert
Subject: RE: 2012 LEC Water Supply Update - City of Hollywood Comments

Hello Mrs. Mills,

Thanks very much for replying to my voicemail as soon as you did.

With regards to the subject, I have revised and replicated the bottom section of the table that appears in page 48, Chapter 6 of the draft document, which includes the future expansion projects listed under the City of Hollywood. Due to the changes in the population projections, the schedule of some of the expansion projects has been modified as described in the attached table. The revisions should also be reflected in Table G-2, page 3 of draft Appendix G. The COH would like the changes to be incorporated in the final version of the 2012 LEC Water Supply Update.

The City of Hollywood understands that the deviations regarding the implementation of expansion projects are primarily due to the economic downturn and the City will be vigilant and ready to proceed with the approved expansions if the economic conditions so demand.

Should you have any comments or questions, please contact me.

Regards,

Francois A. Domond, P.E.
Deputy Director, Operations
Department of Public Utilities
City of Hollywood, Florida
Phone 954-921-3522
Cell 305-213-3784
fdomond@hollywoodfl.org

PROJECT SUMMARY					
Water Supply Projects	**Source**	**Completion Date**	**Total Capital Cost ($ Million)**	**Projected Cumulative Design Capacity (MGD)**	
				2020	**2030**
Potable Water					
New Floridan Wells F14 & F15	Brackish Water	2027	$5.00	0.00	0.00
Additional RO Train E	Brackish Water	2027	$2.10	0.00	2.00
Total			$7.10	0.00	2.00

From: Francois Domond [mailto:FDOMOND@hollywoodfl.org]
Sent: Friday, January 25, 2013 3:49 PM
To: Mills, Brenda
Cc: Steve Joseph; Verrastro, Robert
Subject: 2012 LEC Water Supply Update - City of Hollywood Comments

To Whom it might concern,

Upon review of the draft sections of the subject document, the City of Hollywood would like to point out the following comments:

(1) **Per capita figures are inadequate:** The per capita figures use for 2010 are correct (111), however the estimated per capita figures used for subsequent years (2020 and 2030) do not reflect documents that the COH has shared with the district (please see attached memorandum). COH staff believes that the use of the wrong per capita numbers will impact the projected/future water demands.

(2) **FDEP Permitted Capacity - Brackish Water:** The correct number should be 8 MGD instead of the indicated 4 MGD.

(3) **Non-Potable Water Treatment Capacity - Reclaimed Water:** Due to the Ocean Outfall, in 2030, the COH will be producing 20.4 MGD of reclaim water, not 23.4 as indicated in the document.

By replying to this email or via phone, please let me know if you would like or would request a more formal document or report for the COH to document its comments.

Regards,

Francois A. Domond, P.E.
Deputy Director, Operations
Department of Public Utilities
City of Hollywood, Florida
Phone 954-921-3522
Cell 305-213-3784
fdomond@hollywoodfl.org

From: Shea, Eric M [mailto:Eric.M.Shea@fpl.com]
Sent: Thursday, January 17, 2013 3:50 PM
To: Mills, Brenda
Cc: Hoppes, Linda
Subject: FPL Comments on Draft sections of LEC Water Supply Plan

Hi Brenda,

FPL is submitting the following comments for proposed revision in reference to draft Chapters 5 and 6 and Appendix D of the Lower East Coast Water Supply Plan.

1) Chapter 5, Page 10, third paragraph: This flow is expected to approach 20 MGD with ~~FPL's~~ the reuse utility's first full year of reporting, and up to ~~26~~ 27 MGD in the future.
The utility reports on volume of water delivered, FPL reports annually on the reliability of the delivery. Per our contract agreement with Palm Beach County for reclaimed water we have a maximum delivery agreement for 27 MGD.

2) Chapter 6, Page 10, final paragraph in Power Generation Self-Supply: In the future, Miami-Dade County will be providing up to 90 MGD of reclaimed water to meet FPL cooling needs at Turkey Point for the planned nuclear generating expansion units (Units 6 and 7). ~~and the upgrade of the existing nuclear generating units (Units 3 and 4).~~
The proposed use of the 90 MGD in reclaimed water does not include the up-rate of Units 3 and 4.

3) Chapter 6, Page 10, third paragraph in Power Generation Self-Supply: The FPL West County Energy Center, located in northwestern Palm Beach County, ~~West County Energy Center~~ was approved to use reclaimed water (approximately 22 to 27 ~~29~~ MGD contracted)….
The contract language for reclaimed water delivery at WCEC is capped at 27 MGD.

4) Appendix D, first paragraph in Future Treatment, Disposal, and Reuse: The agreement between the Palm Beach County Water Utilities Department and FPL is for delivery of up to ~~26~~ 27 MGD of reclaimed water.
The contract language for reclaimed water delivery at WCEC is capped at 27 MGD.

In summary, those were the few minor issues observed in the draft language currently available for review and comment. If you have any questions please feel free to contact me.

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:	Mills, Brenda
To:	Hargray, Karen
Subject:	FW: FPL Comments on Draft sections of LEC Water Supply Plan
Date:	Tuesday, February 19, 2013 2:51:56 PM

From: Shea, Eric M [mailto:Eric.M.Shea@fpl.com]
Sent: Thursday, January 17, 2013 3:50 PM
To: Mills, Brenda
Cc: Hoppes, Linda
Subject: FPL Comments on Draft sections of LEC Water Supply Plan

Hi Brenda,

FPL is submitting the following comments for proposed revision in reference to draft Chapters 5 and 6 and Appendix D of the Lower East Coast Water Supply Plan.

1) Chapter 5, Page 10, third paragraph: This flow is expected to approach 20 MGD with ~~FPL's~~ the reuse utility's first full year of reporting, and up to ~~26~~ 27 MGD in the future.
The utility reports on volume of water delivered, FPL reports annually on the reliability of the delivery. Per our contract agreement with Palm Beach County for reclaimed water we have a maximum delivery agreement for 27 MGD.

2) Chapter 6, Page 10, final paragraph in Power Generation Self-Supply: In the future, Miami-Dade County will be providing up to 90 MGD of reclaimed water to meet FPL cooling needs at Turkey Point for the planned nuclear generating expansion units (Units 6 and 7). ~~and the upgrade of the existing nuclear generating units (Units 3 and 4).~~
The proposed use of the 90 MGD in reclaimed water does not include the up-rate of Units 3 and 4.

3) Chapter 6, Page 10, third paragraph in Power Generation Self-Supply: The FPL West County Energy Center, located in northwestern Palm Beach County, ~~West County Energy Center~~ was approved to use reclaimed water (approximately 22 to 27 ~~29~~ MGD contracted)….
The contract language for reclaimed water delivery at WCEC is capped at 27 MGD.

4) Appendix D, first paragraph in Future Treatment, Disposal, and Reuse: The agreement between the Palm Beach County Water Utilities Department and FPL is for delivery of up to ~~26~~ 27 MGD of reclaimed water.
The contract language for reclaimed water delivery at WCEC is capped at 27 MGD.

In summary, those were the few minor issues observed in the draft language currently available for review and comment. If you have any questions please feel free to contact me.

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: Hoppes, Linda [mailto:lhoppes@sfwmd.gov]
Sent: Friday, December 21, 2012 2:29 PM
To: Mills, Brenda
Subject: Draft sections of LEC Water Supply Plan available for review and comment

Dear Lower East Coast Stakeholders:

Two chapters and three appendices of the **2012 Lower East Coast Water Supply Plan Update** are available for public review and comment. The draft sections cover water supply options and water supply development projects to meet the projected 2030 demand and can be found at:
http://www.sfwmd.gov/portal/page/portal/xweb%20-%20release%203%20water%20supply/lower%20east%20coast%20plan

Please submit your comments on the draft sections by **January 25th**, 2013 to bmills@sfwmd.gov.

The **Lower East Coast** Water Supply Planning Area Palm Beach, Broward, Miami-Dade and parts of Monroe, Collier and Hendry counties. The SFWMD is developing the 2012 Lower East Coast Water Supply Plan Update to assess projected water demands and potential sources of water for the period from 2010 to 2030. This plan update will be used by local governments, water users and utilities to update and modify local comprehensive plans, facility work plans and ordinances.

Brenda Mills, AICP
Principal Technical Program Specialist
South Florida Water Management District
561.682.6536 office
561.281.3047 cell

From: Todd Hiteshew [mailto:THiteshew@fortlauderdale.gov]
Sent: Tuesday, February 05, 2013 11:28 AM
To: Mills, Brenda
Subject: LEC Comments - City of Fort Lauderdale

Good morning Brenda,

Please find attached edits to the data tables and an updated rate table. Below are a few general comments. Thanks.

1) Chapter5, Page 14 – There is mention that Fort Lauderdale uses its ASR well as a supply well. That Is not correct. The well is currently permitted with a "No Flow, Maintenance Only" permit. We do not withdraw any water from the well. Each quarter we inject one well volume of potable water to maintain the casing integrity.

2) How is the district defining 'Total Wastewater Effluent'?

3) What is the source of the 2030 numbers?

Todd Hiteshew
Environmental Services Manager, Public Works Department
City of Fort Lauderdale
101 NE 3rd Ave., Ste 1400
Fort Lauderdale, FL 33301
(954) 828-7807, Fax: (954) 828-4745
toddhi@fortlauderdale.gov

CITY OF FORT LAUDERDALE

County: Broward County

Service Area: Cities of Fort Lauderdale, Oakland Park, Wilton Manors, and Hollywood; portions of the City of Tamarac; towns of Lauderdale-By-The-Sea and Davie; and villages of Lazy Lake and Sea Ranch Lakes.

Description: The SAS currently provides the water supply for the City of Fort Lauderdale. The city has two water treatment facilities. The Fiveash WTP has a 70-MGD design capacity and uses lime softening. The city's membrane plant (Peele-Dixie) was completed in 2008 and has a design capacity of 12 MGD. Before growth slowed in 2008, the city planned to construct a 6.0-MGD RO plant. Current projections indicate the RO plant may not be needed during the 20-year planning horizon. This utility is a contributing member to 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	212,945	223,045	233,145
Per Capita (gallons per day finished water)	190	190	190
Potable Water Demands (daily average annual finished water in MGD)	**40.46**	**42.38**	**44.30**
SFWMD CONSUMPTIVE USE PERMITTED (06-00123-W) ALLOCATION (MGD)			
	Existing	Projected	
Potable Water Source	2010	2020	2030
Fresh Water	52.55	52.55	52.55
Brackish Water	8.64	8.64	8.64
Total Allocation	**61.19**	**61.19**	**61.19**
POTABLE WATER TREATMENT CAPACITY			
	Cumulative Facility & Project Capacity (MGD)		
	Existing	Projected	
FDEP Permitted Capacity	2012	2020	2030
Fresh Water	82.00	82.00	82.00
Brackish Water	0.00	0.00	0.00
Planned Project Capacity	0.00	6.00	6.00
Total Capacity	**82.00**	**88.00**	**88.00**
NONPOTABLE WATER TREATMENT CAPACITY			
Reclaimed Water	0.00	0.00	0.00

PROJECT SUMMARY					
Water Supply Projects	**Source**	**Completion Date**	**Total Capital Cost ($ Million)**	**Projected Cumulative Design Capacity (MGD) 2020**	**2030**
Potable Water					
Dixie Floridan Water Supply/ Treatment Facility	Brackish Water	~~2017~~ 2030	$22.90	6.00	6.00
Total			**$22.90**	**6.00**	**6.00**

Table G-2. Proposed water supply development projects utilizing a brackish water source.[a]

County	Utility/Entity	Project	Completion Date	Total Capital Costs $M	Cumulative Design Capacity (MGD) 2020	2030
Palm Beach	Wellington Public Utilities Department	1.8-MGD Floridan Conversion and Low Pressure RO Upgrade	2025	$1.00	0.00	1.80
	Seacoast Utility Authority	Hood Road WTP RO System (includes three Floridan wells and one RO reject well)	2013	$59.00	3.00	3.00
Broward	Broward County Water & Wastewater Services	District 1A Treatment Plant Expansion (includes RO treatment facility, Floridan raw production wells, and a RO concentrate disposal well)	2017	$41.10	1.50	2.50
	Davie, Town of	RO Addition to New WTP	2012	$16.00	5.00	6.00
	Deerfield Beach, City of	West WTP Brackish Water RO Treatment Improvements				
		Phase I	underway	$5.00	1.50	1.50
		Phase II	underway	$2.50	1.50	3.00
	Fort Lauderdale, City of	Dixie Floridan Water Supply/Treatment Facility	2030 ~~2017~~	$22.90	6.00	6.00
	Hollywood, City of	New Floridan Wells F14 & F15	2018	$5.00	0.00	0.00
		New Floridan Wells F16 & F17	2024	$5.00	0.00	0.00
		New Floridan Wells F18 & 19	2027	$5.00	0.00	0.00
		Additional RO Train E	2017	$2.10	2.00	2.00
		Additional RO Train F	2020	$2.10	0.00	2.00
	Lauderhill, City of	Floridan Well Drilling Equipping and Testing				
		Phase I	2016	$2.50	0.00	0.00
		Phase I – Deep Injection Well Drilling Equipping and Testing	2016	$5.00	0.00	0.00
		Phase I – Construction of RO Facility	2017	$20.00	1.00	1.00
		Phase II	2017	$2.50	0.00	0.00
		Phase II – Construction of RO Facility	2018	$3.00	0.00	2.00
	Sunrise, City of	Sawgrass RO WTP Expansion Phases I–II	2019–2024	$21.60	3.00	6.00
		Springtree RO WTP Expansion	2021	$9.60	1.50	3.00
	Tamarac, City of	2.0-MGD RO System	2022	$19.00	0.00	2.00
Miami-Dade	Florida City Water and Sewer Department, City of	RO Plant/Brine Treatment RO	planned	$25.60	4.50	4.50
		Satellite Treatment	planned	$12.20	0.50	0.50
	Miami-Dade Water & Sewer Department	South Miami Heights (17.45 RO and 2.55 Nanofiltration)	2014	$194.70	17.45	17.45
		Hialeah Floridan Aquifer RO WTP				
		Phase 1 – 10-MGD RO WTP (including concentrate disposal)	2012	$112.30	10.00	10.00
		Phase 2 – 5-MGD Expansion (including concentrate disposal)	2026	$25.60	0.00	5.00
		Phase 3 – 2.5-MGD Expansion (including concentrate disposal)	2026	$12.20	0.00	2.50
	North Miami Beach, City of	Floridan RO Wells, Lines, Mains, and Treatment Facility				
		Phases II–III	planned	$8.21	12.50	12.50
		Phase IV	planned	$37.50	5.00	5.00
			Totals	**$678.21**	**75.95**	**99.25**

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

Table D-1. Potable water treatment facilities in the LEC Planning Area.

Utility or Supply Entity	Consumptive Use			Withdrawal Sources (MGD)		Water Treatment	
	SFWMD Permit Number	Annual Allocation (MGD raw)	2010 Daily Average (MGD raw)	SAS	FAS	FDEP Permit Number	Rated Capacity (MGD)
Palm Beach County							
A.G. Holley State Hospital	50-01092-W	0.09	0.82	0.82	0.00	4500006	0.36
Boca Raton, City of	50-00367-W	51.54	42.19	42.19	0.00	4500130	70.00
Boynton Beach, City of	50-00499-W	20.86	14.23	13.72	0.51	4500773	29.64
Delray Beach Water and Sewer Department, City of	50-00177-W	19.10	15.27	15.04	0.22	4500351	26.00
Glades Utility Authority	50-06857-W	9.43	6.61	0.00	6.61		10.00
Golf, Village of	50-00612-W	0.60	0.51	0.51	0.00	4501528	0.86
Highland Beach, Town of	50-00346-W	3.15	2.05	0.00	2.05	4500609	2.36
Jupiter, Town of	50-00010-W	24.41	16.60	8.15	8.45	4501491	30.00
Lake Worth Utilities, City of	50-00234-W	12.07	4.75	4.75	0.00	4500773	12.90
Lantana, Town of	50-00575-W	2.48	1.77	1.77	0.00	4500784	3.84
Manalapan, Town of	50-00506-W	1.91	1.34	1.33	0.00	4500840	2.35
Mangonia Park, Town of	50-00030-W	0.58	0.32	0.32	0.00	4500841	1.08
Maralago Cay	50-01283-W	0.27	0.19	0.19	0.00	4500062	0.42
Palm Beach County Water Utilities Department	50-00135-W	86.99	59.03	59.03	0.00	4504393	101.38
Palm Springs, Village of	50-00036-W	4.74	4.00	4.00	0.00	4501058	10.00
Riviera Beach, City of	50-00460-W	9.26	6.60	6.60	0.00	4501229	17.50
Seacoast Utility Authority	50-00365-W	19.44	18.10	18.10	0.00	4501124	30.50
Tequesta, Village of	50-00046-W	4.85	3.34	1.51	1.83	4501438	5.13
Wellington Public Utilities Department	50-00464-W	8.05	6.73	6.73	0.00	4500014	12.80
West Palm Beach Public Utilities, City of[a]	50-00615-W	39.30	27.94	27.94	0.00	4501559	47.00
Palm Beach County Total		**319.12**	**232.39**	**212.70**	**19.67**		**414.12**
Broward County							
Broward County Water and Wastewater Services (2A/North Regional)	06-01634-W	22.06	13.36	12.64	0.72	4060163	40.00
Broward County Water and Wastewater Services (1A)	06-00146-W	13.90	7.63	7.63	0.00	4060167	16.00
Cooper City Utility Department, City of	06-00365-W	4.55	3.46	3.46	0.00	4060282	6.00
Coral Springs, City of	06-00102-W	9.44	6.96	6.96	0.00	4060290	16.00
Coral Springs Improvement District	06-00100-W	5.42	4.33	4.33	0.00	4060291	7.20
Dania Beach, City of	06-00187-W	2.91	2.42	2.42	0.00	4060253	3.02
Davie, Town of	06-00134-W	19.85	4.10	4.10	0.00	4060344	7.40
Deerfield Beach, City of	06-00082-W	14.15	10.10	10.10	0.00	4060254	24.30
Fort Lauderdale, City of	06-00123-W	61.19	~~44.95~~ 41.7	~~44.95~~ 41.7	0.00	4060486	~~90.00~~ 32.00
Hallandale Beach, City of	06-00138-W	7.29	5.55	5.55	0.00	4060573	10.00
Hillsboro Beach, Town of	06-00101-W	0.88	0.76	0.76	0.00	4060615	2.02

a. Withdrawal source is surface water from Clear Lake, Grassy Waters Preserve, and M Canal.

Fort Lauderdale George T. Lohmeyer Wastewater Treatment Facility

Existing Treatment, Disposal, and Reuse

The City of Fort Lauderdale's George T. Lohmeyer WWTF is designed as a central regional facility and is used to treat all wastewater generated in a region encompassing the Port Everglades, the cities of Fort Lauderdale, Wilton Manors, and Oakland Park, and parts of the City of Tamarac, Town of Davie, and unincorporated Broward County. The facility has a FDEP-permitted capacity of 55.70 MGD and a 2010 annual average daily flow of 37.60 MGD. Treated effluent from the facility is disposed through five deep injection wells.

The facility does not currently provide reclaimed water for reuse. The facility is located far from any traditional users of reclaimed water and space to construct the necessary treatment facilities is limited at the plant site or vicinity. In addition, the treated effluent has elevated chloride concentrations limiting its viability as reuse water. Therefore, the city has determined that water reuse alternatives are not feasible at this time.

Future Treatment, Disposal, and Reuse

The City of Fort Lauderdale continues to consider water reuse, particularly options that can be used to help develop alternative water supplies. Indirect potable reuse systems are under consideration because of the dual benefits of providing more disposal capacity and augmenting local water supplies.

Information Sources

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

FACILITY SUMMARY			
2010		**Projected 2030**	
FDEP-Permitted Treatment Capacity	**55.70 MGD**	**FDEP-Permitted Treatment Capacity**	**56.60 MGD**
Total Wastewater Effluent	**37.60 MGD**	**Total Wastewater Effluent** 45.6	~~38.50 MGD~~
Disposal		Disposal	45.6
Deep well injection	37.60 MGD	Deep well injection	~~38.50~~ MGD
Reuse		Reuse	
Total	4.0 ~~0.00~~ MGD	At the facility	4.00 MGD
Reuse Percentage	10% ~~0%~~	**Reuse Percentage**	**10%**

Table D-7. Disposal and reuse methods of WWTFs with flow greater than 0.1 MGD in Broward County.[a]

Wastewater Treatment Facility	2010					2030				
	Disposal		Reuse			Disposal		Reuse		
	Ocean Outfall (MGD)	Deep Injection Well (MGD)	Public Access Irrigation[b] (MGD)	Groundwater Recharge[c] (MGD)	Other Reuse Types[d] (MGD)	Ocean Outfall (MGD)	Deep Injection Well (MGD)	Public Access Irrigation[b] (MGD)	Groundwater Recharge[c] (MGD)	Other Reuse Types[d] (MGD)
Broward County North Regional	28.00	38.00	0.20	0.00	4.20	0.00	77.50	10.00	0.00	12.50
Cooper City[e]	0.00	0.63	0.00	0.00	0.00	0.00	0.10	0.90	0.00	0.00
Coral Springs Improvement District	0.00	5.06	0.00	0.00	0.00	0.00	5.40	0.00	0.00	0.00
Davie[f]	0.00	0.00	0.00	0.00	0.00	0.00	5.70	1.90	3.00	1.40
Fort Lauderdale – George T. Lohmeyer	0.00	37.60	0.00	0.00	9.0 ~~0.00~~	0.00	45.6 ~~38.50~~	0.00	0.00	4.00
Hollywood Southern Regional	19.60	26.30	1.79	0.00	0.00	0.00	40.70	3.00	20.40	0.00
Margate	0.00	7.21	0.00	0.00	0.00	0.00	5.70	1.00	0.00	0.50
Miramar	0.00	5.55	0.78	0.00	1.31	0.00	5.80	6.00	0.00	0.00
North Springs Improvement District (proposed)	--	--	--	--	--	0.00	0.00	4.00	0.00	0.00
Pembroke Pines	0.00	7.07	0.00	0.00	0.00	0.00	2.40	0.00	5.30	0.00
Plantation	0.00	13.39	0.00	0.00	0.41	0.00	13.77[g]	1.77[g]	0.00	0.00
Pompano Beach	0.00	0.00	1.35	0.00	0.00	0.00	0.00	4.50	0.00	0.00
Sunrise – Southwest	0.00	0.00	0.00	0.37	0.00	0.00	0.00	0.00	0.99	0.00
Sunrise – Sawgrass	0.00	18.26	0.00	0.00	0.00	0.00	14.00	8.00	0.00	0.00
Sunrise – Springtree	0.00	7.19	0.00	0.00	0.00	0.00	0.00	7.00	0.00	0.00
Tindall Hammock	0.00	0.00	0.00	0.27	0.00	0.00	0.00	0.00	0.40	0.00
Broward County Total	**47.60**	**166.26**	**4.12**	**0.64**	**5.92**	**0.00**	**209.57**	**48.07**	**30.09**	**18.40**

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. The Cooper City WWTF pumps most of its treated water (1.61 MGD in 2010) to the Hollywood Southern Regional WRF, and that is expected to continue to 2030 (1.70 MGD). The 2010 deep injection well flow includes concentrate from the city's water treatment plant.

f. Effluent from the Davie Wastewater Treatment Plant (WWTP) is pumped to the Hollywood Southern Regional WRF for reuse/disposal (3.38 MGD in 2010).

g. The utility did not provide this information. It is based on 1.77 MGD of water reuse (**Table D-3**) and the remaining flow being disposed using deep well injection.

Table D-3. Summary of capacities and flows for WWTFs with flow greater than 0.1 MGD in Broward 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[b] (%)	FDEP-Rated WWTF Capacity (MGD)	Average Daily WWTF Flow (MGD)	Average Daily Reuse Flow (MGD)	Reuse Percentage[b] (%)
Broward County North Regional	FL0031771	84.00	71.00	4.40	6%	100.00	87.00	22.50	26%
Cooper City	FL0040398	3.10	2.24[c]	0.00	0%	3.10	2.70	0.90	33%
Coral Springs Improvement District	FLA041301	5.72	5.06	0.00	0%	7.72	5.40	0.00	0%
Davie	FL0040541	4.85	0.98	0.00	0%	12.00	12.00	6.30	53%
Fort Lauderdale – George T. Lohmeyer	FLA041378	55.70	37.60	~~0.00~~ 4.00	~~0%~~ 10%	56.60	~~38.50~~ 45.6	4.00	10%
Hollywood Southern Regional	FL0026255	55.50	45.90	1.79	4%	65.00	64.10	23.40	37%
Margate	FL0041289	10.10	7.21	0.00	0%	10.10	7.20	1.50	21%
Miramar	FLA017025	10.10	7.64	2.09	27%	12.60	11.80	6.00	51%
North Springs Improvement District (proposed)	--	--	--	--	--	5.00	4.00	4.00	100%
Pembroke Pines	FLA013575	9.50	7.07	0.00	0%	9.50	7.70	5.30	69%
Plantation	FL0040401	18.90	13.80	0.41	3%	18.90[d]	15.54[e]	1.77[f]	11%
Pompano Beach	FLA013581	7.50	1.35	1.35	100%	12.50	4.50	4.50	100%
Sunrise – Southwest	FLA013580	0.45	0.37	0.37	100%	0.99	0.99	0.99	100%
Sunrise – Sawgrass	FLA042641	20.00	18.26	0.00	0%	25.00	22.00	8.00	36%
Sunrise – Springtree	FLA041947	10.00	7.19	0.00	0%	16.00	12.00	7.00	58%
Tindall Hammock	FLA013583	0.60	0.27	0.27	100%	0.60	0.40	0.40	100%
Broward County Total		**296.02**	**225.94**	**10.68**	**5%**	**355.61**	**295.83**	**96.56**	**33%**

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 Cooper City WWTF reports 2010 wastewater flow does not include concentrate from the city's water treatment plant.

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

e. 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.

f. The utility did not provide the projected reuse flow. It is based on the assumption that two golf courses will be provided reclaimed water at their permitted allocations – Jacaranda Golf Course (0.87 MGD) and Plantation Preserve Golf Course (0.90 MGD).

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 1st 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 RESIDENTAL	(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 RESIDENTAL	(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

From: David Brown [mailto:DavidB@jupiter.fl.us]
Sent: Thursday, January 03, 2013 1:41 PM
To: Mills, Brenda
Cc: Lee Harding
Subject: 2012 LEC Update Draft

Brenda,

Please note that upon my review of the draft 2012 LEC Update documents on your website I noticed that the PBC potable water service area map (Appendix D, Figure D-1) is outdated and needs revision to include Jupiter's expanded service area to the west (Jupiter Farms). Our GIS staff has provided these files previously and they can be provided again, if necessary. Just let us know.

Thanks,
David

David L. Brown
Director of Utilities
Jupiter, FL
(561) 741-2273 office direct
(561) 371-2882 cell

POSEIDON WATER

January 25, 2013

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

RE: 2012 Lower East Coast Water Supply Plan Update

Dear Brenda:

Thank you for the opportunity to review and comment on the draft Lower East Coat 2012 Water Supply Plan Update prepared by the South Florida Water Management District. Our comments to the document are set forth below.

LEC WSP Draft Chapter 5

Page 3 – Revise the Section on "Fresh Groundwater" by adding a sentence at the end of the paragraph as follows:

These practices are expected to continue although there is a potential for additional drought-proof supplies, such as desalination from seawater, to provide some relief in the future.

Page 7 – Revise the Section on "Surface Water" by adding a sentence at the end of the first paragraph as follows:

Surface water will continue to be a major source of water during these periods although there is potential for new drought-proof supplies, such as desalination from seawater, to provide some support in the future.

Page 18 – Revise the Section on "Seawater" as follows:

SEAWATER

> The use of desalinated seawater from the Atlantic Ocean is an additional water source option for the LEC Planning Area. The ocean is an unlimited, drought proof and reliable source of water following desalination treatment. As described in Section 6 of this report, the availability of new freshwater supplies in the LEC Planning Area is limited due to existing demand and source limitations, saltwater intrusion in groundwater sources and environmental criteria. Seawater desalination does not have limitations on availability, does not affect the Minimum Flow and Level of freshwater bodies and supports environmental targets related to the Comprehensive Everglades Restoration Plan by not diverting water for human consumption that otherwise would go to support the Everglades environmental criteria.
>
> Reverse osmosis is currently the most economical desalination technology, and it has proven reliable both internationally and in the United States. Larger reverse osmosis ocean

desalination facilities provide an essential portion of the water supply to Middle Eastern countries and Australia, there is a facility in operation in Tampa Bay, and there is an additional facility under construction in Carlsbad, California that is being financed by a public-private partnership (which allocates significant permitting, financing, construction and operational risks to the project developer, as opposed to the local water utilities). To date, there are two seawater desalination treatment plants in the LEC Planning Area. Both are in Monroe County and operated by the FKAA. One is located on Stock Island—the first desalination plant built in Florida—and the other is in Marathon.

Significant advances in treatment, efficiencies and membrane technologies used in seawater desalination have occurred over the past decade. Seawater treatment costs are declining, though costs at stand-alone desalination facilities remain moderately higher than for brackish water desalination. Costs at seawater desalination facilities co-located with coastal power plants are projected to be similar to costs of other alternative water supply options.

In December 2006, the SFWMD completed a feasibility study*, Technical and Economic Feasibility of Co-located Desalination Facilities,* for co-locating seawater treatment facilities with power plants in south Florida (Metcalf & Eddy 2006). The study concluded that the most feasible three sites are co-located with FPL facilities in Fort Myers, Fort Lauderdale and Port Everglades. Further development activity and analysis by private developers and FPLES has identified the FPL facilities in Riviera Beach and Cutler sites as high probability sites as well, and all five sites are currently in the early stages of development.

The 2011-12 Draft LEC WSP Support Document identifies costs for potential co-located desalination facilities at Fort Lauderdale and Ft Myers power plant sites. Further development activities have identified similar competitive opportunities at Riviera Beach, Port Everglades and Cutler power plant sites. Though the Capital and O&M components may differ from site to site, assuming a 20 year service life the total cost is expected to range between $3.75/kgal and $4.75/kgal (note: a 30 year service life would have a total cost projected between $3.50/kgal – $4.50/kgal).

LEC WSP Draft Chapter 6

Page 1 – Add "and to provide water security through drought proofing" and "seawater desalination" to the fourth sentence of the third paragraph:

The additional water needed to meet future PWS demand and to provide water security through drought proofing is generally expected to be developed from other sources, primarily through development of brackish groundwater, reclaimed water, seawater desalination and stormwater/surface water capture.

Page 7 – Add an additional paragraph at the end of the "Public Water Supply" Section as follows:

Seawater desalination, likely co-located at coastal power plants, can be an alternative source of supply and provide a reliable strategy that increases water security through drought proofing. This source has recently shown improving cost comparability to other alternative sources. The ocean is an unlimited, drought proof and reliable source of water following desalination treatment. FPLES and a private developer are currently considering the feasibility of five sites in the LEC Planning Area, and all sites are currently in the early stages of development.

LEC WSP Draft Appendix E

Page 19 – In the Section discussing "Water Conservation Versus Development of Alternative Water Supplies," we request a fourth alternative water supply development scenario be evaluated: "Development of desalination facilities co-located with coastal power plants."

Page 20 – Add a Section entitled "Desalination Facility" as follows:

Costs for construction and operation of a desalination facility co-located with a coastal power plant to provide 25 MGD capacity are expected to range from $3.75 to $4.75 per 1,000 gallons of finished water. These costs include expenses for construction, pumps, pretreatment, RO process trains, and post-treatment as well as costs for annual operations and maintenance expenses.

Page 20 – Include in Table E-10 a new column under the New Facility Construction, as suggested below. The title of the column is Co-located Seawater RO Capacity 25MGD. Add under the new column in the row for costs $ 3.75-4.75.

Table E-10. Comparison of alternative water supply development production costs and water conservation costs for 1,000 gallons.

Water Conservation	**New Facility Construction**			**Expansion of Existing Facility**	
Typical Retrofit/Replacement Programs	**Nanofiltration Capacity 1 to 5 MGD**	**Low Pressure RO Capacity 1 to 5 MGD**	**Co-Located Seawater RO Capacity 25 MGD**	**Nanofiltraion Process Train Capacity 1 to 5 MGD**	**Low Pressure RO Train Capacity 1 to 5 MGD**
$0.40 – $3.00	$9.46 – $3.42	$11.33 – $4.41	$3.75 – $4.75	$9.07 – $3.13	$10.38 – $3.69

Best Regards,

Guillermo Espiga
Poseidon Water

Cc: Mark Elsner

Date: Feb. 19, 2013

To: Brenda Mills, SFWMD

From: Rebecca Elliott, FDACS

RE: 2012 Lower East Coast Water Supply Plan Update
Comments on Draft Chapters 5 and Draft Chapter 6

Draft Chapter 5 – Evaluation of Water Source Options
Draft Chapter 6 – Water Supply Development Status and Projects

General Note:
The task of reviewing Draft Chapters 5 & 6 is incomplete due to revisions made in draft Chapters and Appendices previously reviewed. In order to provide an integrated review, all draft documents with related information should be available and consistent with the material posted for review. An example of an unpublished draft revision is Appendix A – Demand Projections. Chapter 5 information will need to be revised based on changes to Appendix A but this internal editing step was not performed before the current draft Chapter 5 was posted for review and comment. I recommend sections of the LEC WSP previously reviewed and subsequently revised be posted for review along with the new draft sections which contain information links to them.

Draft Chapter 5 – Evaluation of Water Source Options

Pages 2-3 – Regarding the increase of 39,090 acres of production in the EAA:
There is no substantial acreage in the EAA that would support the expansion of new or additional cultivation in the EAA past what currently exists. FDACS has requested the location of the 30,090 acres of "new" agricultural production on a map of the EAA since they were first included in land use projection information. (See Draft Appendix A comments, Page 27, submitted by FDACS on July 20, 2012) The agricultural stakeholders had no information about where such an increase in cultivated acres would be occurring and were highly skeptical of this characterization. As it turns out, the acres in question are existing productive farmland scattered throughout the EAA that are already included in current cultivation cycles and water use permits. The rotational cropping practices now used in the EAA are not anticipated to change significantly over the next twenty years. There should be no increase in the projected water demands for the EAA from 2010 to 2030 since EAA cultivated acres are consistent throughout the planning horizon and water demand is stable.

Page 2 – Figure 1 - Not applicable due to information corrections and revisions for the EAA and Coastal LEC. Remove from the Chapter.

Page 3 – Figure 2 – Not applicable. See EAA comments for page 2-3. Remove from chapter.

Fresh Groundwater paragraph – CEPP could change how canal recharge from Lake Okeechobee works though this probably doesn't need to be discussed in this plan.

Page 4 – Third paragraph starts with " Agriculture in Broward and Miami-Dade…." and ends with "by fresh water and discussed below." Then the next paragraph discusses REC and ICI self supply. Is there a paragraph missing? A suitable follow-up paragraph does not seem to appear until page 7 – third paragraph. Recommend a similar follow-up explanation below paragraph 3 or a reference to page 7 – Surface Water.

Page 5 – Recommend identifying gray shading on the map key.

Third paragraph lines 7 & 8 contain the sentence " Overall, AGR irrigation is expected to increase by 9 percent by 2030." This projection needs revision in light of the EAA comments for pages 2-3 above and whatever Appendix A is now projecting for Coastal LEC. The projected percentage increase will probably fall between zero to 1.3% based on revisions to Appendix A.

Page 8 – First partial paragraph starting with " in the EAA…" This section of the paragraph on agricultural surface water use needs to be revised or removed. See EAA comments page 2-3 above.

Page 24 – Agricultural Use section – Second paragraph starting with "The SFWMD requires…" The last sentence of the paragraph appears to have a typo and should read " … and tailwater recovery is used (instead of "reused") in many areas and does provide some recharge to the SAS"

Page 25 – Agricultural Mobile Irrigation Labs – Not sure if you are interested in the C-139 Basin since it is mainly rainfall dependent. If you are interested in MILs for that area, I believe the Collier SWCD provides MIL service to that area.

Page 27 - Summary of Water Source Options – This paragraph is not exactly inaccurate but it does fail to note Lake Okeechobee as a future source for increased water supply. Herbert Hoover Dike rehabilitation should allow a beneficial increase in water levels in Lake Okeechobee and an increase in dry season water supply for both environmental and consumptive water uses.

Overall - There is still concern about the lack of an identifiable consolidated plan of action to address the water supply shortfall projected for future agricultural water demands. The EAA Level of Service (LOS) is currently 1:6 rather than 1:10. The LEC RWA and LOSA restricted allocation areas restrict increases in agricultural production and increase the occurrence of water shortage cut backs. The sources of additional future water supply described in the draft are not feasible on a wide spread basis and cannot be considered a source option for substantial increases in regional or alternative water supply availability for agricultural operations. Water supply meeting the 1:10 drought condition LOS will require strategies beyond tailwater recovery, stormwater retention ponds, blending of brackish groundwater with freshwater, dispersed water management and conservation. The limited nature of the strategies listed above should be clearly stated and should not be anticipated as major water supply components in the consumptive use regulatory program to meet future agricultural water demands.

Our consultant's calculations indicate there are still 60,000 currently permitted acres for which there is no accounting in the draft Chapters and Appendices reviewed so far. Also, ~ 10,000 acres seem to be missing in 2030 projection. We are available for a technical meeting to address this if needed.

Chapter 6 – Water Supply Development Status and Projects

Page 1 – Paragraph 2 – Lines 6 – 9 – A revision is needed concerning projected increases in irrigated agricultural acres for the EAA and the LEC Coastal area.
See Chapter 5 pages 2-3 and page 5 comments above.

Page 8 – Agricultural Self-Supply

Paragraph 1 – same comment as that for Page 1

Paragraph 3 – lines 3 and 4 – same comment as that for Page 1

Paragraph 5- Given viable economic conditions, agricultural operations will continue to increase water use efficiency and develop alternative water supplies. However, tailwater recovery systems that act as an alternative water supply during average rainfall conditions most likely will not be considered a reliable source of water for increased permitted water allocations for a 1:10 drought condition. A producer that relies on his permitted allocations to grow a crop during the dry season will probably not expand the farm's irrigation needs unless he wants to gamble on average or above average rainfall conditions prevailing that year. Agricultural Self- Supply consumptive water use availability is not increased for the LEC WSP unless it is an increase in the volume of fresh water that can be allocated by permit through the regulatory process.

Page 12 – Paragraph 1 last sentence – " However, future increases in withdrawals from Lake Okeechobee and the SAS must comply with the Restricted Allocation Area criteria for the Lake Okeechobee and LEC service areas" The question is the use of the phrase "future increases in withdrawals". Perhaps it should read "future withdrawals" and omit "increases" since withdrawals have been capped at historic levels by rule.

From: DMandCH@aol.com [mailto:DMandCH@aol.com]
Sent: Tuesday, January 22, 2013 11:22 PM
To: Mills, Brenda
Subject: Comments On LEC

Dear SFWMD:

I am making the following comments based upon reading your draft document and attending your public meetings.

1) We need additional analysis of salt water intrusion that is predicted from Climate Change.

2) Water use can greatly be reduced through reducing yard irrigation. The plan should call for once a week watering. Further, the more native plants used in combination with drought tolerant plants, the less water required for irrigation.

3) We support water reuse, but water used in water re-use must meet standards that avoids nutrient pollution.

4) Ocean outfalls need to be minimized and/or eliminated. We appreciate your discussion of this topic.

5) We oppose ASR or ground storage of treated water introduced directly into aquifers. Ground storage through pumping of treated water may contaminate existing underwater supplies. Water should be percolated into aquifers through large STA's and water catchment areas that provide the dual role as wildlife habitat. ASR is extremely energy intensive.

6) We prefer extensive sheet flow and water retention areas to deep above and below ground reservoirs. These human-made reservoirs are costly and subject to evaporation, leakage and poor water quality.

7) We support conservation as the best alternative to water shortages rather than additional investments in ASR and reservoirs.

8) MFL's are essential to environmental protection and should be a high priority in water planning. MFL's need to be enhanced to protect the health of our ecosystems.

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

561-533-6814

From:	Mills, Brenda
To:	Hargray, Karen
Subject:	FW: Comments On LEC
Date:	Tuesday, February 19, 2013 2:51:38 PM

From: DMandCH@aol.com [mailto:DMandCH@aol.com]
Sent: Tuesday, January 22, 2013 11:22 PM
To: Mills, Brenda
Subject: Comments On LEC

Dear SFWMD:

I am making the following comments based upon reading your draft document and attending your public meetings.

1) We need additional analysis of salt water intrusion that is predicted from Climate Change.

2) Water use can greatly be reduced through reducing yard irrigation. The plan should call for once a week watering. Further, the more native plants used in combination with drought tolerant plants, the less water required for irrigation.

3) We support water reuse, but water used in water re-use must meet standards that avoids nutrient pollution.

4) Ocean outfalls need to be minimized and/or eliminated. We appreciate your discussion of this topic.

5) We oppose ASR or ground storage of treated water introduced directly into aquifers. Ground storage through pumping of treated water may contaminate existing underwater supplies. Water should be percolated into aquifers through large STA's and water catchment areas that provide the dual role as wildlife habitat. ASR is extremely energy intensive.

6) We prefer extensive sheet flow and water retention areas to deep above and below ground reservoirs. These human-made reservoirs are costly and subject to evaporation, leakage and poor water quality.

7) We support conservation as the best alternative to water shortages rather than additional investments in ASR and reservoirs.

8) MFL's are essential to environmental protection and should be a high priority in water planning. MFL's need to be enhanced to protect the health of our ecosystems.

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

561-533-6814

Water Utilities Department
Administration
P.O. Box 16097
West Palm Beach, FL 33416-6097
(561) 493-6000
Fax: (561) 493-6008
www.pbcwater.com

January 23, 2013

By E-Mail (bmills@sfwmd.gov)

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

RE: SFWMD LECWSP Draft Chapters 5 and 6 and Appendices D, E, and G

Dear Ms. Mills:

On behalf of the Palm Beach County Water Utilities Department ("PBCWUD"), I would like to thank the South Florida Water Management District ("SFMWD") for the opportunity to submit comments regarding the Draft Chapters 5 and 6 and Appendices D, E, and G for the Lower East Coast Water Supply Plan ("LECWSP"). Overall, PBCWUD supports many of the concepts contained within these draft chapters and appendices. However, we would like to offer the following comments regarding the LECWSP.

LECWSP Chapter 5

Chapter 5 of the LECWSP includes multiple references to the fact that the "combined allocation for all PWS utilities in the LEC planning area exceeds the 2030 projected demand. Only a handful of utilities will need to identify options to meet their 2030 demand within their service area." See *LECWSP,* Chapter 5, p. 2. PBCWUD is concerned the numerous references to permitted quantities exceeding 2030 demand could be viewed as a potential issue when attempting to obtain permit modification or renewal for increased quantities. In Palm Beach County, the demand currently exceeds the permitted demand. Therefore, PBCWUD requests the SFWMD make it clear that evaluation of whether there is a need to increase permitted quantities for a permittee will continue to be on a case-by-case basis considering the applicable rules of the SFMWD.

Surface Water

The LECWSP identifies the City of West Palm Beach as the only utility within the LEC planning area to rely on surface water as its primary source. It also notes West Palm Beach is "exploring options to diversify its future water supply sources to include both fresh and brackish groundwater." *LECWSP,* Chapter 5, p. 7.

However, according to the Long Term Drought Management Plan submitted by the City of West Palm Beach pursuant to its Stipulated Settlement Agreement with SFWMD, brackish groundwater is no longer included as a future water supply source. Therefore, the LECWSP should be updated to delete this reference to brackish groundwater. Additionally, PBCWUD is concerned that the references to the City of West Palm Beach's ability to use fresh groundwater in the future could be in violation of the Regional Water Availability Rule since the City has no existing groundwater withdrawals.

Storage: Surface Water or Groundwater

The LECWSP recognizes that "without sufficient storage capacity, much of [the two-thirds of south Florida's annual rainfall that occurs during the wet season] discharges to tide through surface water management systems and natural drainage." *LECWSP,* Chapter 5, p. 13. Therefore, the SFWMD considers potential types of water storage including Aquifer Storage and Recovery ("ASR") wells, reservoirs, and surface water impoundments and ponds. In particular, the LECWSP includes a heavy discussion on ASR wells.

The LECWSP identifies a variety of types of water which can be stored using ASR technology, but recognizes the uncertainty of storage and yield capabilities of water quality characteristics present associated risks for success. As a result, many of the existing ASR wells in the LEC Plan Area have become inactive due to a regulatory change in the primary drinking water standard for arsenic. In particular, the LECWSP identifies PBCWUD as one of the utilities that have opted to convert ASR wells to supply wells due to uncertainty about the revision to the arsenic standard when obtaining an operation permit from the FDEP for its ASR system. *LECWSP,* Chapter 5, p. 14. However, PBCWUD did not convert its ASR wells to supply wells solely because of this uncertainty. In fact, PBCWUD converted its ASR wells for drought protection after a study showed the water being injected into the ASR wells could be blended with surface water during periods of drought to help meet supply needs. Therefore, PBCWUD requests SFWMD amend the language in the LECWSP to clarify that the operational permitting issue was only one of several reasons why PBCWUD elected to convert its ASR wells to supply wells. Otherwise, PBCWUD is concerned the existing language could be used against PBCWUD in the future. SFWMD attempts to address the arsenic issue with a summary of an ASR pretreatment investigations. In the ASR pretreatment investigation, the SFWMD concludes the "investigation indicated the removal of dissolved oxygen from the recharge water successfully resulted in the elimination of arsenic mobilization within the aquifer. These findings are significant in that they represent a technical solution to the arsenic mobilization issue associated with some ASR systems." *LECWSP,* Chapter 5, p. 17. Since PBCWUD converted its ASR well for some reason other than arsenic issues, it does not want to be in a position where the LECWSP suggests PBCWUD's problems with ASR wells due to arsenic uncertainty can be resolved by removing dissolved oxygen from the recharge water.

While most of the storage discussion focuses on the use of ASR wells, the LECWSP also addresses the concept of storing excess surface water in local and regional reservoirs. PBCWUD

requests the SFWMD include additional language in this section clarifying that the excess surface water in the L-8 and C-51 reservoirs is considered an alternative water supply.

Water Conservation

The LECWSP emphasizes a goal-based conservation program with a numerical goal for achievable water savings. As with the initial CUPCon rule draft, there are a number of problems associated with using a numerical goal for the conservation program. First, there are issues with determining the method for measuring the per capita standard. There needs to be flexibility in determining which period of historic water use best characterizes the applicant's water use. Second, numerical goals may not be appropriate for utilities that have already achieved maximum levels of conservation. At some point, conservation efforts have a diminishing return. Utilities that have already achieved high levels of conservation success will struggle to achieve even a small increase in conservation. *LECWSP,* Chapter 5, p. 19-21. The LECWSP uses the Miami-Dade County Water Utility as a good example of a goal-based water use efficiency plan. *LECWSP,* Chapter 5, p. 21. However, this utility had minimal conservation efforts prior to implementation of the plan as part of its permit approval. Therefore, it was much easier for Miami-Dade to meet the goal-based projections.

The LECWSP should be consistent with the conservation rules developed as part of the CUPCon process. At this point, the CUPCon rule development has met with great resistance to a numerical goal-based conservation program. Therefore, any reference to goal-based programs or numerical goals should be removed from the LECWSP. At a minimum, the LECWSP should consider using a goal-based conservation program if the demand is above a certain level, such as 135 gal/capita finished water.

Appendix E

Appendix E contains additional details about conservation efforts in the LEC Planning Area. While much of this information contains summaries of utility-reported conservation efforts, the end of Appendix E contains a discussion comparing water conservation versus development of alternative water supplies. This discussion is misleading because it assumes the conservation programs used for calculating costs of water conservation are not already in place. For example, "the cost of 1,000 gallons of water saved is based on the cost of all devices [plumbing and irrigation fixtures such as efficient toilets, faucet aerators, showerheads, irrigation spray heads, rain and soil moisture sensors and computerized irrigation controllers for large scale irrigation] across the service life and the number of gallons saved per day normalized to 1,000 gallons." However, if these fixtures are already in place across the utility the cost per additional 1,000 gallons of conservation is going to be much higher because additional conservation efforts will be needed at costs that are not considered as part of the calculations in Appendix E.

Appendix D presents summary descriptions of large potable water and wastewater treatment facilities. Table D-1 describes PBCWUD's potable water treatment facility as follows:

CUP Permit No.: 50-00135-W
CUP Annual Allocation (MGD Raw): 86.99
CUP 2010 Daily Average (MGD Raw): 59.03
SAS Withdrawal Source (MGD): 59.03
FAS Withdrawal Source (MGD): 0.00
Water Treatment FDEP Permit No.: 4504393
Water Treatment Rated Capacity (MGD): 101.38

LECWSP, Appendix D, p. 1-2.
Appendix D also contains wastewater/reuse utility profiles describing existing and future treatment, disposal, and reuse. PBCWUD is mentioned in three facility profiles.

1) **East Regional Water Reclamation Facility** - The East Central Regional WRF is funded and governed by a board of representatives from the entities served by that facility: the cities of West Palm beach, Lake Worth, and Riviera Beach; the Town of Palm Beach; and Palm Beach County.

   The existing facility, which has a FDEP-permitted capacity of 70.00 MGD, treated an annual daily flow of 40.94 MGD in 2010. Approximately 1.77 MGD of the treated wastewater was reused in 2010, while 39.17 MGD was disposed of through deep well injection. Some secondary treated effluent from the facility is sent to the adjacent Palm Beach County Central WRF, at which it is further treated to reclaimed water standards and reused for irrigation.

   The profile goes on to describe the two reclaimed water treatment systems at the East Central Regional WRF – City of West Palm Beach's Wetlands-Based Water Reclamation Project and the FPL West County Energy Center for cooling via a distribution pipeline constructed and maintained by PBCWUD.

   As for future, the agreement between PBCWUD and FPL is for delivery of up to 27 MGD of reclaimed water and additional water users located along the pipeline will depend on future demand and supplies. The City of West Palm Beach may be making changes to the advanced wetland treatment system at the East Central Regional WRF to increase the output of reclaimed water and its deliveries to the reclamation project. The facility will continue to provide secondary-treated wastewater to the Palm Beach County Central Regional WRF. Broward County is considering meeting the 60 percent reuse requirement by expanding its public access irrigation in northern Broward and southern Palm Beach counties.

FACILITY SUMMARY			
2010		**Projected 2030**	
FDEP-Permitted Treatment Capacity	**64.00 MGD**	**FDEP-Permitted Treatment Capacity**	**64.00 MGD**
Total Wastewater Effluent	**40.94 MGD**	**Total Wastewater Effluent**	**51.11 MGD**
Disposal	39.17 MGD	Disposal	29.11 MGD
Deep well injection		Deep well injection	
Reuse	1.77 MGD	Reuse	22.0 MGD
Total		Total	
Wetlands	1.77 MGD	Cooling	20.0 MGD
		Irrigation	2.0 MGD
Reuse Percentage	**4%**	**Reuse Percentage**	**43%**

LECWSP, Appendix D, p. 23-24.

2) Palm Beach County – Central Region Water Reclamation Facility

The Central Region WRF receives secondary-treated effluent from the adjacent East Central Regional WRF and treats it to reclaimed water used for irrigation of a golf course and various landscaped area. The primary end users are Century Village, Cypress Lakes, Emerald Dunes Golf Course, and Vista Center. By providing reclaimed water for irrigation, the facility eliminates competition for groundwater withdrawn by the nearby Palm Beach County System Number 8 Wellfield and City of West Palm Beach's wellfield.

In the future, although all the reclaimed water from the Central Region WRF is reused, some expansion and optimization of the system may be planned.

FACILITY SUMMARY

2010		**Projected 2030**	
FDEP-Permitted Treatment Capacity	**3.00 MGD**	**FDEP-Permitted Treatment Capacity**	**6.0 MGD**
Total Wastewater Effluent	**0.51 MGD**	**Total Wastewater Effluent**	**6.0 MGD**
Reuse		Reuse	
Irrigation	0.51 MGD	Irrigation	6.0 MGD
Reuse Percentage	**100%**	**Reuse Percentage**	**100%**

LECWSP, Appendix D, p. 29.

3) Palm Beach County – Southern Regional Water Reclamation Facility

The Southern Regional WRF provides reclaimed water for unincorporated areas in Boynton Beach and Delray Beach. The reclaimed water is primarily used for irrigation. However, a portion of the reclaimed water hydrates the Wakodahatchee and Green Cay wetlands. The facility's primary end users include nine golf courses, two parks, one school, and more than 6,000 residences for irrigation.

In the future, Palm Beach County has a mandatory reuse zone ordinance for new developments within a section of its service area. The PBCWUD continues to pursue additional water reuse opportunities in this zone and surrounding areas. The goal is to increase the overall water reuse percentage and reduce disposal through deep well injection.

FACILITY SUMMARY			
2010		**Projected 2030**	
FDEP-Permitted Treatment Capacity	**35.00 MGD**	**FDEP-Permitted Treatment Capacity**	**50.00 MGD**
Total Wastewater Effluent	**22.90 MGD**	**Total Wastewater Effluent**	**30.00 MGD**
Disposal		Disposal	
Deep well injection	8.70 MGD	Deep well injection	8.00 MGD
Reuse		Reuse	
Total	14.20 MGD	Total	25.00 MGD
Irrigation	12.70 MGD	Irrigation	22.00 MGD
Wetlands	1.50 MGD	Wetlands	3.00 MGD
Reuse Percentage	**62%**	**Reuse Percentage**	**83%**

LECWSP, Appendix D, p. 30-32.

The LECWSP identifies two water supply projects for PBCWUD. The first is WTP 2 Expansion, which is expansion of the WTP 2 capacity by 8.50 MGD of freshwater by 2025. The total capital cost is estimated at $15 million. As a result of this project, the total potable water treatment capacity for PBCWUD in 2030 will be 109.88 MGD. As noted in a footnote, this project adds capacity to the water distribution system, but does not increase the actual treatment capacity of the water plant. *LECWSP,* Chapter 6, p. 29; *LECWSP*, Appendix G, p.2.

The second PBCWUD project is the Morikami Reclaimed Pump Station, which will increase reclaimed water storage capacity from existing 10 to 12 MG by 2013. This additional storage

capacity enables the PBCWUD to more effectively deliver reclaimed water to its southern region service area customers during high peak demand.

Interestingly, the nonpotable water treatment capacity for reclaimed water increases by a much more significant amount. water treatment / production capacity projected to increase to 51.00 MGD in 2030. 22 MGD at the SRWRF, 6 MGD at CRWRF and 23 MGD for FPL demand at the ECRWRF.

PBCWUD appreciates your consideration of these comments and looks forward to continuing to work with the SFWMD throughout the development of the LECWSP. Please do not hesitate to contact me if you have any questions or need clarification on any of the comments contained herein.

Sincerely,

Bevin Beaudet, P.E., Director
Palm Beach County Water Utility Department

From: Aurigemma, Louis [mailto:Laurigemma@Rivierabch.com]
Sent: Wednesday, December 26, 2012 11:13 AM
To: Hoppes, Linda; Mills, Brenda
Cc: Loaiza, Mario
Subject: RE: Draft sections of LEC Water Supply Plan available for review and comment

Ms. Mills:

One comment on draft Chapter 5, top of page 19, regarding the three FPL facilities. Fort Lauderdale and Port Everglades are synonymous. I believe you wanted to state that there were three FPL facilities located in Fort Myers, Riviera Beach and Fort Lauderdale (Port Everglades). Thank you.

Louis C. Aurigemma, P.E., F.ASCE
Executive Director

City of Riviera Beach Utility District
600 West Blue Heron Boulevard
Riviera Beach, Florida 33404

Office: (561) 845-4185
Fax: (561) 840-7292
Mobile: (561) 714-4288

Email: laurigemma@rivierabch.com

From: Rim Bishop [mailto:rbishop@sua.com]
Sent: Monday, December 31, 2012 7:22 AM
To: Hoppes, Linda; Mills, Brenda
Cc: Bruce Gregg; Keith Haas; Smith, Karin
Subject: RE: Draft sections of LEC Water Supply Plan available for review and comment

Thank you for the opportunity to comment on behalf of Seacoast Utility Authority. We've not completed our review of the documents yet, but we offer the following preliminary comment.

Page 2 of Appendix D does not reflect allocations authorized by permit no. 50-00365-W issued September 24, 2012. Seacoast's 20-year water use permit authorizes a total annual raw water allocation that calculates to 26.92 MGD. Of that, 18.02 MGD is from the Surficial Aquifer System, and 8.90 MGD from the Floridan Aquifer System. The rest of the Seacoast information on that table is OK.

We have not cross checked the documents for similar references elsewhere but are confident that you will do so.

Thank you, and have a very Happy New Year.

Rim Bishop, Executive Director
Seacoast Utility Authority
561-627-2900 ext. 314