

**SOUTH FLORIDA WATER MANAGEMENT DISTRICT (SFWMD)
WATER RESOURCES ADVISORY COMMISSION (WRAC)
2012 LOWER EAST COAST WATER SUPPLY PLAN UPDATE**

Tuesday, June 19, 2012, 10:00 AM

Anne Kolb Nature Center, Mangrove Room
751 Sheridan Street
Hollywood, FL 33019

MEETING SUMMARY

Item 1. Welcome and Opening Remarks - Dean Powell, Bureau Chief, Water Supply

Dean Powell opened the workshop and welcomed participants. He introduced Temperince Morgan who would speak to participants regarding the new settlement agreement between the federal government and State of Florida.

Item 2. Follow-Up to April 18, 2012 Workshop and Overview of Today's Workshop Agenda - Mark Elsner, Section Administrator, Water Supply Development

Mr. Elsner reviewed the meeting schedule and schedule for production of the water supply plan documents. He introduced the guest speaker on water conservation, Barbara Powell of Broward County, who presented in place of Jennifer Jurado.

Item 3. Everglades Restoration Strategies - Temperince Morgan, Chief of State Policy and Coordination

Temperince Morgan reviewed the South Florida Water Management District's (SFWMD) Everglades restoration activities and overall strategy. The strategy contains three parts: 1. state-federal partnership, 2. State projects and programs, and 3. water quality. As a result of the agreement between the State of Florida and federal government, the SFWMD will move forward with a series of proposed projects. The elements of the proposed plan include flow equalization basins (FEBs) and expanded stormwater treatment areas (STAs). Additional elements of the plan include replacement features, sub-regional source controls, the C-139 Annex Restoration Mitigation Project and the science plan. The replacement features include storage to capture flows from C-18 western basin and discharge those flows to the Loxahatchee River. A timeline for construction was given.

Questions for Ms. Morgan included:

- Can you tell me how effective the STAs have been in removing phosphorus to date?
Answer: Currently, two-thirds of the STAs are at 17 ppb and on average we are in the 20 ppb range. The newly proposed projects are intended to optimize performance of STAs.
- Recognizing that the SFWMD Governing Board is very cost conscious, what is the cost of the plan and what funding will be utilized [for construction of the new projects specified in the agreement]? Answer: \$880 million required. This will likely be paid for with reserve funding, new growth in ad valorem revenue, and state appropriations.
- There appears to be a need to acquire 6,500 acres in the eastern flowpath. Is this property identified? Answer: This likely will be accomplished with land swaps with both private and federal landholders.
- Have water budgets been prepared [for projects proposed in the new agreement]? Answer: STAs can create a demand to maintain the minimum depths in submerged vegetation cells. In the new agreement, FEBs are proposed and we can largely rely on them for managing the timing of the flow of water all ready going to the STAs. The FEBs will make better use of the flows that are already there and the STAs will see less variability in the flows.

Item 4. Water Source Options

Overview of Water Source Options - Mark Elsner

Fresh Groundwater - Mark Elsner

Surface Water - Mark Elsner

Mr. Elsner gave an overview of the potential water supply sources in the LEC including: reclaimed water, reservoirs, surface water, groundwater (fresh), groundwater (saline), conservation, seawater and aquifer storage recovery (ASR). Even though Seawater is a potential supply source, we will not present information on it given the projected demands and considering this supply source is not currently, or proposed to be, utilized in the region over the next 20 years. A review of total demand projections to 2030 was given. He then provided more information on Fresh Groundwater and Surface Water source options.

Questions included:

- One map shows the number of PWS wells with the size of the dot for each well representing the 2010 withdrawals of the well. Is there a total volume by county?
Answer: The actual withdrawal for the LEC was 845 MGD. Additional information on demand will be presented later in the agenda.
- The Biscayne aquifer will be affected by sea level rise. How is that being considered?
Answer: From a water supply plan perspective, the plan will include a qualitative assessment of the work being conducted by the Southeast Florida Regional Climate Change Compact in conjunction with the District. In addition, District staff recently

developed fresh water - salt water interface maps for Palm Beach and Broward counties. Miami-Dade worked with the US Geological Survey for a map of their county. An interactive saline intrusion map viewer can be found at: <http://www.envirobase.usgs.gov/FLIMS/SaltFront/viewer.htm>

- Saltwater intrusion may be exacerbated by maintaining seepage controls that effectively limit eastward aquifer recharge. Will you be addressing the balance between sea level rise and seepage controls and how that might affect water available for supply? Answer: This will be looked at in the scoping runs and likely addressed more fully in the comprehensive analysis that will happen in the next five years.
- Could you explain the change from 1:10 to 1:6 in existing legal user certainty in the slide about the LOSA allocation rule? Answer: As a result of the dike integrity issues, the lake's management schedule changed effectively reducing the level at which the lake is maintained by a foot, which in turn reduced the certainty for agricultural use in the LOSA.
- What is the status of the Lake Okeechobee dike repair schedule? Susan Kaynor from the USACE reviewed the schedule.

Reservoirs - Dean Powell

Mr. Powell gave an update on the L-8 and C-51 reservoir projects. The L-8 has been used in varying capacities since 2004 to provide environmental flows and water supply. The proposed C-51 reservoir project would develop 75,000 acre-feet in storage and capture excess flows from the C-51 canal. The project could reduce harmful flows to the Lake Worth Lagoon and sustain regional water supplies. A draft final report was recently completed and can be found at: <ftp://ftp.sfwmd.gov/pub/rmiessau/C51/>

Questions included:

- What is the status with water quality in the L-8? Is there a timeframe on the completion of the on-going work? Answer: The reservoir contains some relic sea water which remains because of the tight geology. The chloride levels are coming down with each cycle. We expect the salinity to continue to go down as we exercise the reservoir with pumping cycles.

Aquifer Storage and Retrieval - Robert Verrastro, Lead Hydrogeologist

Saline Groundwater - Robert Verrastro

Mr. Verrastro offered an overview of water supply use of the Floridan Aquifer System statewide and within the LEC region specifically. Traditionally the Upper Floridan aquifer has not been extensively utilized in the LEC due to abundant production, and lower overall cost, of water supplied from the surficial aquifer. The UFAS is generally more saline than the surficial aquifer in the LEC requiring additional water treatment. However,

in recent years more water utilities have installed, or are considering installation of, wells tapping into the Upper Floridan aquifer to complement supplies from the surficial aquifer system.

Mr. Verrastro was asked to provide more information about the Berry Groves ASR pilot wells. He indicated the sediment in the Upper Floridan aquifer at the location was not stable and not competent rock which was not conducive to ASR operations.

Reclaimed Water - Rick Nevulis, Reuse Specialist

Mr. Nevulis presented an overview of reuse types, the role of reuse in the LEC region's water supply portfolio, and the regional trend of reuse programs among the LEC's utilities. In the LEC region in 2011 out of approximately 590 million gallons a day (MGD) of wastewater flows, 89 MGD is reused and 500 MGD is disposed of. Mr. Nevulis highlighted the reuse programs of several utilities in the LEC and explained the trend of expanding reuse in the region. He explained the 2008 ocean outfall legislation, its impact on wastewater disposal, and its role in expanding reuse programs in the LEC region.

No questions

Water Conservation - Robert Wanvestraut, Water Conservation Analyst

Mr. Wanvestraut discussed water conservation activities at SFWMD and among LEC utilities. He reviewed the cost of conservation compared to the cost of developing new water supplies and constructing related water treatment facilities. He highlighted the potential for water conservation to play an important water supply role in the current era of modest annual water demand increases. As an example of the impact of conservation in the LEC he cited declines in water use per capita in recent years. Mr. Wanvestraut explained the SFWMD conservations programs and information available to support conservation in the LEC.

Questions/comments for Robert Wanvestraut included:

- The year round irrigation rule causes water to stay in lines too long and requires line flushing to maintain required chlorine levels which is wasteful. We need to take that non-revenue water, which is not being used for recharge, and is being flushed down the street into consideration.
- Conservation should be a major focus of the water supply plan and it would be good to have a comprehensive review of SFWMD Comprehensive Conservation Plan to what has worked and what has fallen short. Answer: Agreed.
- Thanks to SFWMD for supporting the WaterSIP program.
- Policy should allow an extra day of watering if needed to move water out of pipes during periods of low demand related to water conservation rules. Water distribution systems have been sized for peak flows and firefighting. Water must be purged from

lines if the residence time is too long. That fact should be considered when designing rules and conservation strategies.

Broward Partnership – Barbara Powell, Director of Natural Resources Planning and Management, Broward County

Barbara Powell presented the background of the Broward Water Resources Task Force. It was established in 2008 by Broward County Board of Commissioners. Broward Water Partnership formed in August 2011 as part of a growing collaboration of local governments with a goal of reducing use by 10%. The program is currently looking to expand to cover the business sector with high water use entities and property managers targeted first. Lessons learned include: incentives and demands differ by region, keeping marketing approaches fresh is important, and collaboration is key.

Questions included:

- Do you have any numbers on what you have saved so far? Answer: This is a challenging task. We have some of that information and haven't tabulated it yet. When customers replace a toilet under the rebate program they list the flush volumes of the original and new toilets and this can be used to calculate savings.
- How could these conservation efforts impact permitting? The per capita volumes could be reduced which could reduce the need for additional water.
- Will WaterSIP and Alternative Water Supply (AWS) projects be funded next year? Mr. Elsner stated that funds for these are in the proposed FY2013 budget (\$250,000 for WaterSIP and \$1,250,000 for AWS). A solicitation for WaterSIP projects will be sent soon and the method for handling the AWS funds has not been finalized.

Item 5. Water Supply Development Projects: Overview and Trends – Robert Verrastro

Mr. Verrastro reviewed anticipated water demands to a 2030 planning horizon. The economic recession has depressed demands and lessened the need for immediate water treatment capacity expansion in some areas.

Item 6. Wrap Up and Next Steps - Robert Verrastro

Mr. Verrastro noted that utility profiles (summarizing expected water supply demand to the year 2030 as well as other basic utility statistics/information) will be sent out next week. Coordination with utilities will continue to review utility profile sheets and confirm the details of proposed projects.

Rick Nevulis has sent utility profiles detailing reclaimed water use. In addition, Chapters 1, 2 and Appendices E, F will be distributed for review.

Mr. Verrastro noted that the next WRAC Issues workshop will be held in September, 2012 with the location still to be determined.

Questions/comments for Robert Verrastro included:

- Seems to be an inconsistency in water demand between the slides presented. Answer: One slide presented “raw water” numbers and the other was for “finished water”.
- Your emerging theme is “most of the water is permitted and the growth is slow”. Basically the infrastructure is in place. Other infrastructure systems [transportation] seem to be responding differently to what they expect the future to be. Answer: These are capacity building projects. Many utilities have permitted capacity sitting idle. The District media and PR people should get out the good news that you’re getting through a tough time and conservation is helping.
- Do you have examples of innovative projects that utilities have in place? Answer: We will be publishing a list of projects.
- We have a lot of houses sitting vacant and we don’t know how that will fill [upon economic recovery]. That is something to be concerned about.
- I’m concerned about an ASR system pumping untreated water into the surficial aquifer and creating a difficult to clean up problem. Also the C-51 area was originally a cypress dome, is it possible to recreate that storage with restoration instead of having an open surface reservoir?

Item 7. Public Comment
There were no additional public comments.

Adjourn The meeting adjourned 12:55.