



**PALM BEACH COUNTY
WATER RESOURCES
TASK FORCE MEETING**



**Clayton Hutcheson Agricultural Center
559 N. Military Trail
West Palm Beach, FL 33415**

**April 17, 2014
1:30 P.M. to 4:00 P.M.**

I. CALL TO ORDER

A quorum was announced and Chair Jay Foy called the meeting to order at 1:35 p.m.

Members Present:

Jay Foy (Chair), Ted Winsberg, Mary Lou Berger, Rod Braun, John Flanigan, Dave Stewart, Michael Mullaugh, Adrian Salee, Jeff Hmara, Jim Shallman, James Alderman, Brandon Selle (alternate for Scott Kelly)

Alternates Present:

Chip Block, Dick Tomasello, Jonathan Pearce

Members not Present:

Michael Dahlgren, Matt Willhite, Scott Kelly

Alternates not Present:

Shelley Vana, Scott Maxwell, Dawn Pardo, John Whitworth, David Levy

WRTF Working Group Present:

Ken Todd (Chair), Pete Kwiatkowski

County Staff Present:

Brian Shields, Robert Nelton, Dana Ackerman-White

Guests Present:

Laura Corry, Drew Martin, Steve Lamb, Ernie Cox, Albert Carbon, Richard Radcliffe, Terry Clark, Dan Beatty, Anne Kuhl, Alex Larson, Alan Wertepny, Brent Whitfield, Neil Johnson, Jim Harmon, Bob Verrastro, Robert Wanvestaraut, Jim Noth, Kyle Grandusky, Tommy Strowd

II. APPROVAL OF MEETING MINUTES

A motion was made by Michael Mullaugh and seconded by Jeff Hmara to approve the 1-16-14 meeting minutes as presented. The motion passed unanimously.

III. Selection of Meeting Dates for 2015

Jay Foy, PBC WRTF Chair

A discussion was had by the group concerning dates for next year's meetings. The dates needed to be selected in order to reserve the Clayton Hutcheson Exhibit Hall for the future meetings within the calendar year 2015. After some discussion the dates agreed upon are as follows: January 15, April 16, July 16, and October 15. A motion to accept these dates was made by Michael Mullaugh and seconded by Jim Shallman. The motion passed unanimously. Ken Todd was asked to secure the use of the Clayton Hutcheson Exhibit Hall for these dates.

VI. Water Conservation Update

Robert Wanvestraut, SFWMD

Mr. Wanvestraut gave a presentation pertaining to conservation efforts within the SFWMD jurisdiction. Some of the key points in Mr. Wanvestraut's presentation were: (1) public education on water conservation is very important, (2) utilities should develop goal-based demand management plans, (3) building ordinances should emphasize water use efficiency, (4) emphasis on enforcement of irrigation restrictions, (5) there should be support for mobile irrigation labs for agriculture operations, as well as residential.

Questions:

Adrian Salee asked why the use of reservoirs was not included within the presentation of conservation when reservoirs clearly capture water during rainy periods and store it for use during drier times. Mr. Wanvestraut responded that District staff does not consider reservoirs as a conservation measure.

Jay Foy then asked how close to a maximum conservation level does the District feel we're at? Mr. Wanvestraut said that although we have made great strides recently at conserving water, we're still pretty far away from being at maximum conservation levels.

Mike Mullaugh commented that he believes reservoirs make for good storage and is a good conservation method. He went on to say that we need to provide more funding mechanisms for conservation.

V. Reclaimed Water Partnership/South County Service Area

Brian Shields, PBC Utilities

Brian Shields, Palm Beach County (PBC) Utilities Deputy Director, made a presentation on a proposed reclaimed water partnership with Broward County for the south PBC Service Area. Brian started his presentation with a brief overview of PBC Water Utilities Department. He indicated that PBC is a model for conservation having one of the lowest per capita usages in the state. He then discussed the savings of water via recycling. Brian mentioned that there is more demand for reclaimed water than the PBC South Regional Wastewater Plant can generate and that Broward County has more reclaimed water than it has customers. Additionally, recent legislation requires Broward County to implement reuse by 2018 and eliminate the ocean outfalls by 2025. There is no reclaimed water available south of Clint Moore Rd., but 11 potential large reclaimed water users have been identified in that part of the County.

The two County Utilities have been talking and a proposal is being discussed. Broward will construct reclaimed facilities at their North District WWTF along with the pipelines to deliver it to the PBC line. PBC County will construct distribution lines within PBC. Broward will finance the project and hold title to the distribution system with PBC having a lease/purchase agreement for the distribution system. Brian indicated that there is minimal financial risk to PBC and it is hoped the agreement will be executed by both counties by the end of the summer with construction of the facilities to commence by Mid-2015.

Questions:

Jim Alderman asked Brian to discuss the water quality of reclaimed water. Brian said that the reclaimed water from the WWTP meets all standards and can be used for irrigation and on crops.

Jay Foy asked how reclaimed water might impact the Numeric Nutrient Criteria (NNC) that was recently enacted by FDEP and EPA. Brian said meeting the new NNC criteria will not be problematic for the county's reclaimed water.

MaryLou Berger then asked if there had been any incidents in the past from using reclaimed water. Brian indicated he was aware of no issues with contamination, cross connections or any other problems.

Jeff Hmara asked whether there was a problem with odors associated with reclaimed water. Brian said there was a "slight chlorine smell associated with chlorination of the water".

VI. Surficial Aquifer Storage

Steve Lamb, Federico, Lamb & Assoc.

Steve Lamb gave a presentation on managing the surficial aquifer. Steve started the presentation with a brief overview of the components of water management: (1) hydrological cycle, (2) rainfall, hydrogeology of an area, and (3) the permitting of withdrawals. Steve discussed that south Florida has a high annual rainfall (about 60 inches on average) with over 90% of the rainfall events being one inch or less which allows for recharge of the groundwater. The production zone for wells is the non-Biscayne shallow aquifer. One of the recharge components is the LWDD canal system because they stage their elevations from west to east which allows for seepage to the east, thus recharging the aquifer. Another component of recharge is the setting aside of the natural areas by governments, thus capturing rainfall that also recharges the groundwater.

Steve also gave a brief explanation of some of the SFWMD criteria that is used to help retain water within the groundwater. He briefly explained that when SFWMD issues water shortage restrictions they are based on the following standards: (1) no harm, (2) harm, (3) significant harm and (4) serious harm to the water resource. Steve explained that these standards are related to the phases of water shortage: (1) Phase I - No Harm: assumes normal operations with no significant impacts, (2) **Phase II - Harm**: refers to temporary loss of water with resource taking 1-2 years to recover, (3) Phase III - Significant harm: refers to the water resource requiring multiple years to recover, and (4) Phase IV - Serious harm: refers to irreversible loss of water resource functions. SFWMD has never had to implement Phase III or IV.

Steve explained that SFWMD uses Consumptive Use Permits (CUP) as a tool in allowing withdrawals from the groundwater. He went on to describe the "three prong test" which must be satisfied before the District will issue a CUP. The proposed use must: (1) be a reasonable-beneficial use, (2) cannot interfere with any presently existing legal use; and (3) is consistent with the public interest.

Steve briefly discussed Florida's water budget. Steve indicated that a study by Florida State University showed that 61% of the water is lost to evaporation, 38% of the water is lost to tide and only one per cent is a consumptive use by humans. Locally, Steve said that SFWMD records show that right at 60 billion gallons of water were discharged to tide in 2013. This has an environmental cost to the Lake Worth Lagoon and the ocean coastline near the inlets, as well as being a loss of a fresh water resource. He reminded the WRTF that they have consistently supported storing more water and reducing freshwater discharges to tide. Both of these items help recharge the surficial aquifer.

Questions:

Jay Foy asked what happens during a drought and what is meant by No Harm. Steve responded that during a drought the first line of defense is for SFWMD to reduce consumption via water restrictions which will relieve pressure on the aquifer. The No Harm rule is intended to protect wetlands, prevent saltwater intrusion, and have insignificant impact to the legal use of water by neighbors.

Adrien Salee asked how we even out the yo-yoing of water levels within lakes. Steve responded that major changes in water management will help with those draw-downs. Some of the tools used to do this are expanding reclaimed water systems, redistributing well pumping, and interconnects with other systems. Ken Todd commented that the yo-yoing of the water table would happen to some extent even without human intervention because of the seasonal rainfall patterns and the high evaporation rates within south Florida.

Jim Alderman asked how fast rain can recharge the aquifer. Steve said that it is relatively quick. Ken Todd pointed out that PBC County Utilities has monitored the rebounding of their wells for years and their observation is that the water table rebounds very quickly with a good steady rain event that allows the rain to soak into the ground and not runoff.

VIII. ASR Storage Update**Bob Verrastro, SFWMD**

Bob Verrastro, SFWMD Lead Hydrologist, gave an update of efforts of Aquifer Storage and Recovery (ASR) for the District. Mr. Verrastro gave a brief discussion on the basics of ASR to acquaint everyone with what ASR is and what it can provide from a water supply standpoint. He gave a brief history of ASR projects from around the state and their findings. For example, in 1997 the Tampa Bay system showed high Arsenic levels in the water that was recovered. This prompted FDEP and EPA to take a closer look at the ASR process. In 2005, drinking water standard for Arsenic was lowered by EPA to a concentration of ten parts per billion (ppb). This prompted a concern by utilities about their ability to meet the new standard, thus stalling the technology for close to a decade.

Further detailed studies have shown that the Arsenic declines over repeated cycles of use and that dissolved oxygen appears to be catalyst to releasing naturally occurring Arsenic from the geological formation. Pre-treatment of the water by removing Oxygen has reduced Arsenic levels to well below ten ppb. Additional studies showed that pre-treatment through a media-filter and Ultraviolet (UV) disinfection diminishes Arsenic levels to meeting current standards.

Other environmental studies have shown that storing water via an ASR also reduces Phosphorous levels dramatically. This can make it possible to be used as a possible pre-treatment methodology before placing recovered ASR water back into canals. Additionally, testing has been done on the formation of health related microorganisms (e-coli and coliforms) and has shown that die off rates for these organisms is between 3-6 weeks.

From a quantity standpoint, studies were done to ascertain whether the 333 ASR wells shown as part of the Everglades Restoration Plan (“Yellow Book”) were attainable. New modeling was done for the lower half of the state that includes more detailed geological information with 21 layers in the model. The study results show that the geology of the lower part of the state can only accommodate about half the number of ASR wells that was shown in the “Yellow Book”.

Mr. Verrastro's summary was that ASR has a long history in Florida and is expanding slowly. Although Arsenic has been an issue, he believes that technical and regulatory solutions have been found making ASR a viable storage solution for the future. He concluded by saying innovative approaches are ongoing.

Questions:

Jay Foy asked about the radial area of recharge wells. Bob responded that the physical restraint is between 1-2 miles (practically speaking).

Jim Alderman asked how large the wells are and what is the cost of an ASR well. Bob said that the wells are typically 24" in diameter and cost about \$3-5 million apiece.

Jim Alderman also said that it appears ASRs have a low daily flow capacity and that he felt a reservoir could provide a much larger volume on a daily basis. Bob responded that the comparison of ASRs to reservoirs is not apples to apples and therefore is not a valid comparison.

VII. Public Comments

Alex Larson said she does not believe any of the conservation measures discussed today will actually conserve water. She does not believe ASR will work.

Drew Martin (Sierra Club) would like to see enforcement of restrictions tightened. He also said that we need to make more use of mobile irrigation labs and he believes the use of cisterns would help conserve water. He also stated that he has concerns with the water quality in ASRs.

Chip Block said he would like to see the contact information for all speakers made available.

Ann Kuhl said she believes the impact of pharmaceuticals on the groundwater should be accounted for in ASR. She also expressed her belief that we should stop encouraging people to come to south Florida because that is the best way to limit water use. She also had doubts about the viability of golf courses in the future as a reclaimed water user as so many have gone bankrupt, thereby jeopardizing the ability of golf courses to continue to accept reclaimed water in the future.

VIII. Task Force Member Comments

Mary Lou Berger stated that you cannot keep people from coming to south Florida.

Adrian Salee expressed that he thought today's presentations were excellent. He also reminded all that all water is recycled in some form naturally, so recycling water is not a bad thing.

Michael Mullaugh said he believes reclaimed water is a good alternative within the conservation tool box and that in his opinion we need to continue to look at all viable alternatives.

X. Next Meeting Agenda - Jay Foy, PBC WRTF Chair

July 17, 2014 will be the next meeting date.

XI. Adjournment

There being no further business, Chair Foy adjourned the meeting at 3:50 p.m.

Next Scheduled PBC WRTF Meeting
July 17, 2014
1:30 p.m. – 4:00 p.m.
Clayton Hutcheson Agricultural Center
559 North Military Trail
West Palm Beach, FL 33415