



WSCAC Meeting

February 17, 2015-10:00 AM

Location: MWRA Facilities in Southborough

Members in Bold in Attendance:

Whitney Beals, WSCAC Chair, NE Forestry
Elie Saroufim, Boston Water & Sewer
Martha Morgan, Nashua River Watershed
Dona Motts, MA League of Women Voters
Kurt Tramosch, Wayland Wells
Terry Connolly, Town of Ware & Trout Unlimited

Andrea Donlon, CRWC
Gerald Eves, Trout Unlimited
Michael Baram, BU & CLF
Paul Lauenstein, NepRWA
Martin Pillsbury, MAPC
Bill Fadden, OARS

Non –Members in Attendance:

Lexi Dewey, WSCAC staff
Andreae Downs, WAC
Tracy Fialli, Raytheon Company
Steve Estes-Smargiassi, MWRA

Heidi Waugh, WSCAC staff
Travis Ahern, MWRA Advisory Board
Frank Marino, Raytheon Company

WSCAC Business

Whitney Beals called the meeting to order and members and non-members identified themselves. Whit entertained a motion to approve the January meeting summary as distributed; the meeting summary was unanimously approved.

MWRA Advisory Board: Retail Water & Sewer Rate Survey

Travis Ahern began his presentation of the December 2014 Retail Water & Sewer Rate Survey by informing the committee that the information from the survey is available online. Travis indicated that the survey is compiled primarily as a resource for communities, but also serves other purposes, such as making a case for state aid to support water infrastructure improvements. He stated that rates have increased over time, mainly due to capital improvements. Travis stated that he would give the same presentation given to the Advisory Board and he would identify changes to the document throughout his presentation.

Last year, the document highlighted a wholesale assessment increase (MWRA's assessment to communities) from FY13 to FY14. The document only showed, however, a 3.1% increase on average for MWRA communities' retail rates. Travis explained that theoretically, retail rates should increase more than the wholesale rate because cities and towns need to do their own capital improvement work as well, so the retail rate should not only reflect the wholesale rate increase, but also the work they are doing on their own. This was not the case in last year's document for the increase percentage as an average; some communities may have increased by 10% whereas other communities did not increase or decrease. In this year's document, the FY14-15 wholesale assessment increase was 3.4% and retail rates kept in line with that increase.

Travis stated that from 2004 to 2014, there has been a 60% increase in retail rates. Upon Paul Lauenstein's request, he clarified that that number is not inflation adjusted.

Travis then went over several changes made to the Retail Water & Sewer Rate Survey this year. In addition to reporting the American Water Works Association (AWWA) standard usage of 90,000 gallons (90 kgal), staff calculate a number formerly known as the actual DEP usage as the number was taken off of a DEP form. Due to the fact that the number is calculated from actual figures, and not simply a report of actual usage, the Advisory Board changed it from *actual usage* to *based on local, state and federal data*. There is a new appendix in the document that shows the source data and full calculation (appendix C).

Travis explained the process of deriving the Annual Household Water Use figure that is reported in the industry standard of hundred cubic feet (HCF). Staff members start with the Annual Residential Water Use from the Public Water Supply Annual Statistical Report. Every community reports their water usage and population served to DEP every year and it is recorded within the Annual Statistical Report. By dividing the reported Annual Residential Water Use figure by the reported population, staff members determine the Annual per Capita Water Use. Staff members then multiply that figure by the Average Household Size as reported in the US Census. The resulting figure is recorded as the Annual Household Water Use in gallons. Finally, this figure is converted from gallons to HCF and the Annual Household Water Use calculation is complete.

Whitney Beals asked how that figure aligns with the target of 65 gallons per person per day. Steve Estes-Smargiassi replied that it is significantly below. He said the average has been around 58 gallons per capita. Travis added that in general, MWRA communities are below the national standards of usage.

Travis continued to state that rates vary significantly across the system. Paul asked if the fact that some communities cover the cost of their water system through taxation is factored into the document. Travis said that the document reflects the amount of water that communities are getting with the rates that they are applying. He explained that some communities are low on the rate scale because they have a large commercial base which can partially offset costs for residential users.

Travis reported that second meters were a hot topic this year. Many communities came to the MWRA asking about second meters: the communities either wanted to get rid of them or add them. As a result, an appendix titled Second Meter Glossary and Information was supplemented in this year's document with a full list of the MWRA communities that allow second meters.

Appendix G of the document, 2014 Stormwater Fees, was also added to the document. Stormwater fees are charged to maintain stormwater management systems and they will now be tracked in this document as they were having an impact on water and sewer bills. Some towns pay for their stormwater management through water and sewer bills so it needed to be included in the document. Stormwater was delegated to its own section as it will continue to become a bigger issue. Travis informed the committee that although the national trend for managing stormwater systems is special assessment, MWRA communities rely mostly on tax levies; there are 16 communities that rely on water and sewer rates. Travis encouraged members to look at the appendix and provide feedback as MWRA will continue to track stormwater fees in future surveys.

Finally, due to the fact that the survey is now an e-document, and the MWRA Advisory Board is no longer physically circulating the document, each community was given its own page which now includes additional community data. This was third major change to the document described by Travis during his presentation. Travis again encouraged members to look at the document online and contact him with any questions.

The committee thanked Travis for his informative presentation.

[Click for link to December 2014 Water & Sewer Rate Survey](#)

MWRA Brief

Steve began his annual update on 2014 Water Use Trends by reviewing the total consumption by MWRA communities in 2014. Over the last several years, the consumption rate has remained consistent. Steve pointed out that emergency and unusual uses are included in the total consumption figure. For example, MWRA supplied a significant amount of water to the City of Cambridge for part of 2013 and part of 2014 as they were doing CSO work. Similarly, MWRA has been selling water to Hudson while they do rehab work. Steve indicated that Boston is using less water today than they did 114 years ago, despite rises in population and the level of employment in the city.

The maximum day demand for 2014 was 274.3 mgd. Steve highlighted the fact that 2014's maximum day demand was less than the average day demand in 1985. The low day of 2014 was 152.6 mgd on Christmas day.

With this data, Steve said, the MWRA attempts to understand the difference between base use (indoor use) and outdoor use (figure 5). Water use from November-March is termed base use. Steve discussed his theory regarding the impact of the recession on annual base use and seasonal demand. He believes the recession led to increases in efficiency and decreases in people's water use; people became more conscious and due to less business, water use went down. Steve contends that out of the recession, demand began to increase and the natural decrease was dampened out. In several years, Steve will reevaluate the legitimacy of his theory.

Steve then directed the committee's attention to Figure 6: Total Reservoir Withdrawals. On this chart, reservoir withdrawals are compared to safe yield. MWRA believes their reservoirs can safely yield 300 mgd year round; the current 5-year average withdrawal is 200.7 mgd.

Steve then reviewed and discussed reservoir spills. Whit questioned the accuracy of spill volume figures. Steve contended that the number is a good number as the reservoir elevation at Quabbin is measured every day and when the reservoir is spilling, they measure right at the spillway.

Steve continued to state that currently, the reservoir is filling up and projects that it will spill this winter. He also highlighted that about ten years ago, almost all of the water MWRA did not use spilled at Quabbin; they only transferred what they needed to keep Wachusett at a given level. This was due to the fact that they did not have an easy way of getting water out of Wachusett- the reservoir would have to fill up and then spill over the spillway. MWRA could not control the amount of water that would discharge from the reservoir, so they preferred not to use this method. Now that MWRA has made improvements at Wachusett, they are better equipped to manage spills. They installed a discharge valve with the capability of discharging up to 100 mgd directly into the river through the dam. They also installed a pelican gate at the top that can be raised and lowered so that they can spill water at a lower elevation and stop if they want to. MWRA then began to transfer more water to Wachusett than strictly needed for Boston and discharged water from Wachusett into the Nashua River. Ultimately, by transferring high quality water from the Quabbin Reservoir to the Wachusett Reservoir, MWRA is increasing the quality of the water delivered to their customers.

Steve concluded his presentation and opened the floor for questions.

Paul commented that this information is a real credit to MWRA and that he greatly appreciates it.

Bill Fadden asked if withdrawals include spills from Wachusett. Steve responded no, withdrawals are classified as water withdrawn for water supply purposes. Bill then asked what the difference is between that and demand. Steve said it is what they call 'System Use.' It could be water they use to fill the tanks at Carroll Treatment Plant during winter maintenance or water that they flush out of a main when they bring it back into service. He concluded that it is a combination of uses as well as leaks/unnecessary spills.

The committee thanked Steve for his presentation.

[Click for link to Report on 2014 Water Use Trends, pg 51](#)

Raytheon Sustainability and Water Conservation

Frank Marino of Raytheon Company began his presentation by discussing Raytheon's Corporate Responsibility Report and their Sustainability Program. Raytheon Sustainability began in 2008 when the going green trend piqued the interest of their CEO. Frank commented that Raytheon's customer, the Department of Defense (DoD), similarly has a stake in sustainability efforts and the goals put forth by Raytheon align with those set forth by the DoD.

Frank explained that Raytheon has focused specifically on green house gas emissions. As a company, Raytheon uses a significant amount of electricity. Furthermore, Raytheon considers their suppliers when they look at their complete footprint as their suppliers use a significant amount of electricity as well.

Paul questioned the meaning of one of DoD's sustainability goals: to maintain pre-development hydrology for all development and redevelopment projects greater than 5,000 sq ft. Collectively, the presenters and committee members concluded that the goal simply means to keep the water onsite: if it did not runoff before development, it should not run off after development.

Frank then transitioned to a discussion regarding Raytheon's infrastructure. He stated that their current goal is to build to LEED certification standards. The issue, however, is that Raytheon has a great deal of old infrastructure, a lot of which they lease. Whit questioned whether or not Raytheon could leverage their corporate power to require leasers to upgrade their buildings in terms of efficiency. Frank replied that Raytheon often retrofits the buildings that they lease, but yes, they could leverage building owners to an extent.

Frank then presented Raytheon Sustainability's seven strategic focus areas: Energy Efficiency, Greenhouse Gas Emission Reductions, Recycling and Waste Minimization, Water Conservation, Design for Sustainability, Eco-Friendly Supply Chain, and Environmental Stewardship. He then outlined Raytheon's sustainability goals for 2015. Frank provided that the goals were established in 2008, but some are more mature than others. For example, in respect to using recycled paper, Raytheon has gone from about 25% in 2011 to about 97% in 2015.

Frank highlighted Raytheon's debate over whether to use a landfill or incinerate waste. The company concluded that neither option is ideal so Raytheon is down 35% in that field. Frank has also been focusing on eco-responsible e-waste. Raytheon now has a comprehensive agreement with a company that enables them to dispose of their e-waste (smart phones, computers, etc.) in a way that protects their data, their customer's data, and creates decent returns. Upon a prompt from Bill regarding recycling, Frank commented that in New England, Raytheon has a two bin system: recyclables and compost. In the New England area, therefore, Raytheon strives to operate a zero waste system.

The discussion then moved to the business value of sustainability. Through reductions in energy and water use, Raytheon saved about 37.1 million dollars from 2010-2014. Paul questioned the cost effectiveness of Raytheon Sustainability: how much did it cost the company to yield a savings of 37.1 million dollars? Tracy Fialli of Raytheon Company commented that due to the competitive nature of receiving funding, the energy reduction group is only given funding for projects that guarantee a large financial payback. Generally, investments made by the energy reduction group see a three-year payback.

Andreae Downs, WAC, questioned if Raytheon Sustainability is part of Raytheon's core mission, or if it is simply an add on that can be easily ignored. Frank responded that it is in fact part of Raytheon's core and has sufficient governance to advance its goals.

Frank then discussed Raytheon's participation in the Department of Energy's Workplace Charging Challenge. The goal is to make plug in electric vehicles affordable and convenient in the U.S. The DOE recognized Raytheon in 2014 for demonstrating leadership in supporting the development of plug-electric vehicle charging infrastructure nationally. Raytheon has charge stations throughout the country; they charge employees a nominal fee to use the station.

Frank concluded his presentation and opened the floor to questions. Paul asked if most of the information provided in the presentation is available online. Frank replied that the company's Corporate Responsibility Report is available online. The committee thanked Frank for his presentation as Tracy began her discussion on water conservation at Raytheon.

Tracy stated that the challenge with water is that the cost is not as great as that of energy in Raytheon's overall scheme. The company understands, however, that water is a scarce commodity and they strive to communicate the fact that water is an environmental issue as well as an economical issue to their employees and customers. Tracy then outlined Raytheon's water conservation initiatives: their buildings and occupants, irrigation, and cooling towers.

Travis asked what the biggest reduction has been to date in water use. Tracy responded that although they do a significant amount of metrics regarding their energy consumption and reductions, they have not done a deep dive in respect to water. Moving forward, that is a goal they are working towards.

Tracy provided more detail about Raytheon's water conservation initiatives. In respect to buildings and occupants, they have installed low flow fixtures and educated their employees about the importance of reporting leaks and broken fixtures. In respect to irrigation, Raytheon installed smart irrigation systems to minimize water usage based on weather conditions: Raytheon has seen a 20% reduction in water use for irrigation since installing the systems. In addition, they are working to encourage deeper root growth for their grasses.

In El Segundo, Tracy continued, Raytheon has the capability to buy greywater as a utility. Not every site, however, has the ability to do so. At sites with cooling towers, Raytheon has made progress in terms of improving water treatment and reducing the number of water cycles.

Tracy concluded her presentation and asked if there were any questions. Whit asked if Raytheon utilizes solar farms or solar panels to aid their energy efficiency efforts. Tracy replied that two facilities, Tucson and Andover, have solar. Every year to two years, she continued, Raytheon reviews proposals and options for energy efficient projects, such as solar, as project feasibility ebbs and flows.

The committee thanked Tracy for her presentation. Lexi made a brief announcement about WSCAC's March meeting. The meeting will include a presentation on algae by Betsy Reilley. Lexi asked if there was interest in touring the control room at the Carroll Water Treatment Plant. The committee confirmed that yes; there is interest in taking a tour.

Bill announced that he had an update to share with the committee regarding the Birch Road Wellfield in Framingham. Bill explained that he came across a well-written 1991 letter from WSCAC that supported the redevelopment of the Wellfield. He continued to state that the Wild & Scenic Rivers Stewardship Council sponsored a biotic survey of the river to see what is in the river and how its contents would be affected by the reactivation of the Birch Road Wellfield. Bill recently attended a presentation at the Framingham DPW, who also sponsored the survey. Bill reported that most of the life in the river (such as pond fish) was not greatly affected by flow. The USGS modeling should be out later this year, he added.

Andreae announced the March WAC meeting and invited committee members to attend.

The meeting was adjourned.