



**WATER SUPPLY CITIZENS
ADVISORY COMMITTEE**
to the Mass. Water Resources Authority

485 Ware Road
Belchertown MA 01007
(413) 213-0454
fax: (413) 213-0537
email: info@wscac.org

WSCAC Meeting

May 14, 2013-10:00 AM

Location: MWRA Facilities in Southborough

Members in **Bold** in Attendance:

Whitney Beals, WSCAC Chair, NE Forestry

Andrea Donlon, CRWC

Gerald Eves, Trout Unlimited

Michael Baram, CFL

Martha Morgan, Nashua River Watershed

Dona Motts, MA League of Women Voters

Martin Pillsbury, MAPC

Alice Clemente, Blackstone River Watershed

Jeanne Richardson, Boston Water & Sewer

Paul Lauenstein, NepRWA

Nancy Bryant, SuAsCo

Mason Phelps, Millers River Watershed

Bill Fadden, OARS, SuAsCo and Wild & Scenic Rivers

Non –Members in Attendance:

Lexi Dewey, WSCAC staff

Steve Estes-Smargiassi, MWRA

Wayne Castonguay, IRWA

Sue Costa, WSCAC staff

Andreae Downs, WAC

WSCAC Business

Whit Beals opened the meeting and attendees indentified themselves for the record. A motion to vote on the January and April meeting summaries was put forth by Paul Lauenstein and seconded by Bill Fadden. The summaries were unanimously approved.

Martin Pillsbury – Water Infrastructure Finance Commission

Martin began by noting that the Legislature created the Water Infrastructure Finance Commission (WIFC) to identify and assess the condition of water and wastewater infrastructure throughout the state. The Commission included people in the water and wastewater industries, the public sector, consultants, watershed, conservation and planning groups. It was chaired by Senator Jamie Eldridge and although it did not have an official House chair, Representative Carolyn Dykema stepped forward and in a de-facto way became a House leader.

The committee had four subcommittees and met for a year and a half before releasing its report. In addition to looking at how much money was needed, the Commission took a broad look at priorities and context. The first task was to measure the “gap”. They determined that over 20 years there is going to be a \$10.2 billion gap in drinking water and an additional \$11.2 billion gap in wastewater for a total gap of \$21.4 billion. Martin showed some graphs on how they arrived at these figures.

Q: Were privately owned systems included?

A: For the most part the Commission looked only public systems. However, in cases where a municipal system (such as Hingham) was privately owned it was included.

The State Revolving Fund (SRF) is a federal program administered by the state. It is the source of investment funds for drinking water and wastewater projects. To arrive at the gap for drinking water and wastewater, the committee looked at 20-year estimated rate revenue, the 20-year EPA need survey for estimated capital costs, and the 20-year increase in debt service. It’s a high level broad estimate of the gap.

Q: Looking at an MWRA bill the wastewater portion is larger than the drinking water portion. Why do the community figures look different?

A: Most communities built wastewater treatment plants when 90% of the cost was reimbursed through federal funding sources. When the MWRA built Deer Island, federal funding was not available and thus MWRA ratepayer costs for wastewater are higher than the rest of the state. Once cities and towns with private systems need to replace existing infrastructure, the difference between MWRA wastewater costs and other municipal systems will decrease.

The WIFC would like to get this discussion on the radar screen but the current Legislature is dealing with a significant gap in transportation funding. Thus, the discussion of financing the water and wastewater infrastructure will likely begin in 2014.

The guesstimated gap in stormwater funding is \$18 billion but that number is extremely soft. There is considerably more uncertainty in this determination due to the assumption that all impervious surfaces in the state will cost 50,000/acre. Martin does not feel this cost will hold across the state and views this as maybe a worst case scenario.

Q: Can you give generic examples of the payback on stormwater assessment?

A: Martin said many rivers have failing water quality standards due to stormwater runoff. In many cases they are failing due to nutrient loading and bacteria. With stormwater it can be harder to quantify costs.

Martin went back to the \$21.4 billion gap in water and wastewater and spoke at length on the many reasons for the gap including regulatory requirements to address environmental and health concerns. The principal law governing pollution of surface water is the Federal Water Pollution Control Act, or Clean Water Act. The National Pollutant Discharge Elimination System (NPDES) is the permitting system used to regulate the discharge of pollutants by wastewater treatment plants. It's a current political debate in Massachusetts as to what would be better, EPA or MassDEP, but Martin noted that EPA tends to take a one-size-fits-all approach. That being said, some environmental groups favor EPA control feeling that DEP would be more subject to political influence.

Nancy noted EPA took a stronger hand on the Assabet and she wasn't sure she agreed that EPA took a one-size-fits-all approach sighting their work in the Portsmouth/Dover New Hampshire area. She also noted that the real problem with MassDEP taking primacy is the need for more staff and resources. Steve made the interesting comment that EPA itself doesn't have the level of resources it would require of MassDEP before they could assume primacy. A debate on EPA versus DEP continued with Alice raising the issue of the Blackstone.

Martin continued by mentioning that another factor in the gap is that operating costs are rising no matter what type of business you run. He also noted that unlike the MWRA, some water systems are not well run. Both he and Paul praised the MWRA and Advisory Board for an exemplary job, and said it's easy to forget how unique and well-structured the MWRA is.

The level of debt MWRA carries is a relevant factor in the gap. Updating and maintaining infrastructure, security and redundancy cost money. The lack of annual debt service assistance from the State for the construction of Deer Island and the Boston Harbor clean-up is the primary driver of MWRA wastewater rates.

Ratepayer revenue is not keeping pace with the operation and maintenance of facilities. Water and sewer rates do not cover the full cost of service or the lack of past-due maintenance. The raising of rates to address necessary infrastructure costs is subject to the vagaries of politics.

EPA has used a benchmark for water and sewer rates of 1.25% of median household income. Martin noted that communities that are meeting that 1.25% standard are for the most part covering their cost of service where as communities with rates lower than the 1.25% standard are not. Many of the system's operating costs are fixed but as water use goes down, revenues decline. Martin stressed that affordability cannot be ignored when setting water and sewer rates.

The WIFC is recommending the following:

- Increase funds available for water-related infrastructure at all levels – federal, state, and local communities.
 - Sustain current programs at the federal and state level – particularly the SRF.

- At the state level, establish a new trust fund to be funded annually at \$200 million for a mixed program of direct payments to cities and low interest loans and grants.
- Incentivize local communities and districts to utilize a rate structures that reflects the full costs of providing service.

We also need to find ways to reduce costs and spend money more efficiently.

- Reduce costs and find efficiencies
 - Incentives for best management practices
 - Enterprise funds for stormwater mitigation
 - Regional solutions
 - Watershed approach
 - Encourage efficient water and energy use
 - Encourage strategic public/private partnerships

- Assist municipalities, districts, and authorities in retiring their existing debt.
 - We need a debt service assistance program similar to what we had in the past.

- Address the issue of affordability
 - We need to think about at rates as a percentage of income and make loans more need-based.

- Promote Environmental Sustainability

- Promote Innovation
 - Are there technologies used elsewhere that we could put in place here – this is a development issue.

The WIFC strategies to reduce the gap are:

1. The adoption full-cost pricing combined with moderate, predictable rate increases. Increase water and sewer rates to between 1.25 and 1.50 percent of Median Household Income (MHI) in districts, municipalities and authorities.
2. Have the state create and consistently fund a new Trust Fund with \$200 million to provide a mix of direct assistance, low interest loans and grants to assist towns with their water infrastructure needs.

If both of the above strategies are implemented, the WIFC feels the state will be able to reduce the gap substantially, perhaps by up to 80%, over the next 20 years.

Martin noted that Massachusetts has one of the highest leveraging ratios. Due to a high credit rating the state can issue bonds at very favorable rates. The federal money that comes in doesn't have the flexibility that state money would have.

Martin presented graphs illustrating the gaps under various rate scenarios - current rates, rates at .75%, 1%, and 1.25% of MDI respectively and various contribution levels for the SRF. The gap under these scenarios ranged from a high of \$21.4 billion (current rates, no SRF funding) to a low of zero (1.25% MHI, \$200 million SRF funding).

Q. What about towns that have only public water? Many communities have public water but not public sewer.

A. The 1.25% is for each so if you have water and sewer you'd be at 2.5%

To recap, Martin noted that closing the gap will require a combination of strategies that include raising revenues, operating more efficiently, debt assistance, addressing affordability, promoting environmental sustainability, innovation, continuing the work of the WIFC, and finally educating the public.

Some of the original WIFC members as well as others interested in the topic have formed the Water Infrastructure Alliance (WIA). This is a loose rather than formal organization. The group has been facilitated by the Engineering Center and Mass Waterworks. The group is working to move forward the recommendations from the WIFC report. The current focus is on public education and legislation. *Water Is Worth It* is a national campaign created by the Water Efficiency Alliance that is being utilized and adapted by the WIA.

Q. Are you going to include the MWRA Advisory Board study on the value of economic development?

A. Yes

Q. How does the water and wastewater infrastructure need fit with transportation and educational needs? Is there any legislation on water now?

A. There is legislation now but it is not expected to move forward this year. Ideally, political capital is utilized when there is a reasonable chance of success.

Q. Who is doing the public education?

A. The WIA with some funding from MAPC's Sustainable Communities grant.

Nancy offered the services of SuAsCo and their public campaign materials on stormwater.

Andreae suggested that stormwater could be started along with the transportation problems. When you make transportation decisions you can take into account stormwater and parking lots.

Whit thanked Martin for his presentation.

Wayne Castonguay, IRWA Executive Director-Update on the Ipswich River

The Ipswich River is a very popular coastal recreational destination north of Boston. Twenty-one cities and towns make up the watershed. The headwaters start in the heavily developed suburban areas of Billerica and Burlington. The river flows parallels Route 128 out to the ocean.

The Ipswich River Watershed Association (IRWA) was formed in the late 1970s and is the voice for the river. Advocacy work to improve the Water Management Act has been a priority focus for the Association. Water allocation in the watershed through WMA permits is the cause for the portions of the Ipswich River to dry up in the summer months. The Ipswich is considered one of the most stressed rivers in the country.

IRWA does a lot of field work throughout the watershed including citizen monitoring that has been ongoing for over 30 years. The Association's life blood is volunteers. They have high school and a new college level volunteer program. The focus is on getting people out on the water. They have recently been successful in reopening the shellfish beds for the first time in over one hundred years. In the last few years, the harvest has been worth over \$1 million.

Wayne showed several pictures of the Ipswich, including the infamous "dead fish" picture. He noted that while the Ipswich is primarily protected because of it is a drinking water supply for many towns, storm water is a huge issue for the river. A landmark study connecting nitrogen and salt marsh degradation just came out this year. Whit noted that salt marshes could not keep up with seawater rises post glaciation.

Dams and particularly road stream crossings are issues that can be devastating. The IRWA is currently surveying all the road stream crossings in the watershed. It's the 10th year anniversary for the American Rivers designation of the Ipswich as the third most endangered river in the country. The national visibility and attention from this designation has been very helpful for the river. Much has been done to document and study the issues facing the river.

The Ipswich is one several watersheds where the entire watershed is stressed due to over allocation of the river. The river has been used for more than a century to supply cities on the North Shore and 330,000 people drink from wells within the watershed daily. Two thirds of the water is exported as wastewater. Consequently, there is little opportunity for groundwater recharge and limited storage capacity.

Q. If the principal problem is low summer flows, are the out of basins exports contributing to the problem?

A. The out of basin exports are basically flood skimming in December through May but the Ipswich experiences low flows at other times, especially in the summer, so it can still be a challenge.

A USGS groundwater study in the early 2000s conclusively determined a direct relationship between water withdrawals and low flow in the Ipswich. Prior to the study, there was speculation that the river dried up naturally.

The North Shore population has not increased but the number of large lot subdivisions has grown substantially and lawn irrigation is the big issue. The summer low flow issue could largely be solved with lawn watering restrictions.

The IRWA was instrumental in suing the Commonwealth to address the deficiencies in the Water Management Act (WMA). Wayne went into some detail on SWMI and the methodology. One hundred percent of the Ipswich River is either a SWMI category 4 or 5 (5 being the worst rating). In the summer, the Ipswich River can flow “backward” toward the wells in several places.

The IRWA was fairly disappointed by the final SWMI framework that came out last fall due to the lack of attention to Safe Yield. Safe Yield is a big issue under the WMA and despite assurances from MassDEP and the Governor that ecological considerations would weigh into DEP’s calculations of Safe Yield, that didn’t happen.

MassDEP is using individual stream flow criteria to manage SWMI and current WMA permits moving forward. Addressing the lack of sustainability in existing Safe Yield numbers has been left out of the process. The concern for the Ipswich is that the law is still based on Safe Yield. In addition, SWMI continues to exempt the many municipal registered withdrawals. Eighty percent of withdrawals in the Ipswich basin are registered. Thus, SWMI doesn’t do much for protecting the flow of the Ipswich.

Q. What percentage of the registrations are the suppliers using?

A. WMA permits are decreasing. Some Ipswich communities like Reading and Wilmington now buy all or part of their water from the MWRA. North Reading is in the process of becoming a MWRA water ratepayer. With SWMI, several suppliers gave up their WMA permits because they could manage their withdrawals within their registered amounts.

Q. Are most of your communities using less water than 20 years ago?

A. No, during the building boom of the 80s and 90s water use did skyrocket. It is only in more recent years that demand has declined.

A big issue within the SWMI framework is a new definition that calls municipal water sources critical water supply areas. This basically changes how MassDEP will work with WMA permits. Those communities asking for increases in their WMA permits will have to mitigate and minimize the impacts from the increased withdrawals.

SWMI actually closes some of the challengeable points in the WMA and makes it harder for the IRWA to address water withdrawals. Safe Yield was set well above usage on every water system in the State even the

Ipswich where existing usage dries up the river. MassDEP's decision to disregard sustainable Safe Yield allocations in sub watersheds will continue to affect the health of rivers throughout the state.

IPWA is on a parallel track to try to make SWMI as beneficial as possible and creating an action plan to address low flow outside the regulatory realm. Water conservation and demand management are low hanging fruit. Everyone can use less water without impacting the quality of life. Paul noted that 12% of the town of Sharon uses 30 gallons per person per a day or less. If the entire town did this, water use would be cut in half.

Wayne noted that many communities in the Ipswich watershed are hovering around 50 gallons per person per day. The town of Reading is a big success story. Since Reading switched to MWRA water, the Ipswich River in that area has improved.

Q. What happened to the average household water bill in Reading since the purchase of MWRA water?

A. The bills have certainly increased. But the town was faced with building and operating their own filtration plant and they believe the increase is less than it would have been under the alternative.

Wayne highlighted the three goals IRWA is working on going forward:

- Ensure that there is enough clean water to meet our needs.
- Protect nature and keep the Ipswich River healthy for fish and wildlife.
- Provide great places to have fun outdoors.

The IRWA has teamed up with other watershed groups in the area. A new website, social media, and a new newsletter are all current initiatives. The IRWA currently has 400 members and they would like to double that number.

Q. Were nutrient boosts seen with the increase in lawn irrigation?

A. They have seen an increase in nitrogen but the increase in beaver activity masks the problem. Beaver dams decrease nitrogen levels.

Lawn irrigation and the use of fertilizers were discussed by members. Paul noted that the town of Sharon has set up demonstration areas to show what can be done without the use of irrigation and fertilizers. Whit noted that Canada had eliminated the use of chemical fertilizers on lawns.

Whit thanked Wayne for his presentation.

Steve Estes-Smargiassi with an MWRA Update

The total coliform rule that has been applied across the country since the early 1990s is out of date and badly focused. It confuses people and drives water suppliers crazy. The MWRA follows up every positive coliform test with E. coli and fecal bacteria tests. After 12 years of work EPA is shifting the focus. Total coliform will no longer require a public notification. Instead, it will require an investigation and remedial action if a problem if a positive result is found. Failure to do remediation will require a public notice. The new rule will not go into effect for 3 years.

Lead and copper levels continue to go down but lead service lines are the big issue. The service line goes from the street to the home – typically the town owns part of the line and the homeowners owns a portion. Homeowners cannot be forced to replace their section. Data shows that replacing a line causes a short-term increase in lead. If the entire service line is not replaced, long-term lead levels do not drop. Thus, you end up with a short-term risk without any long-term benefit. Boston Water & Sewer has a program that gives homeowners the first \$1,000 of work free and a 2-year interest free loan for the remaining cost. Congress has changed the rule so that now 0.25% or below is lead-free, down from 8%.

Fluoride guidelines are being revised downward. Once the guidelines change the MWRA will reduce the fluoride dose in MWRA water. Fluoride is an issue many people care about and the MWRA fields numerous questions on fluoride in drinking water. The internet has exacerbated the fluoride issue.

Massachusetts is looking into a manganese advisory. While manganese is naturally occurring, it can be a potential health issue for infants if they are fed formula containing manganese that is made with water containing manganese. Wayne noted that water suppliers in the Ipswich have noticed that manganese levels are rising.

Q. Is this a health issue?

A. DEP is considering a 300 ppm trigger based on a 20-year old EPA document. EPA has looked at manganese as a contaminant and chosen not to regulate it. Steve noted that there is a theoretical neurological issue for infants based on some very high dose rodent studies.

Steve spoke on the unregulated contaminant monitoring rule. The MWRA is in the midst of a three-year program sampling in ten communities in the MWRA service area. The first quarter of data has come back and showed lower levels than expected of several chemicals.

The MWRA's theme this year is *Drink Local Drink Tap*. They have a portable water fountain that they are taking to schools and other venues.

Whit thanked Steve for his presentation.

Other WSCAC Business

Lexi noted that the Ex-Comm had met earlier in the day to discuss the mandatory attendance requirement of 4 meetings a year for WSCAC members and the annual budget process. Lexi and Andy Fisk, Executive Director of the CT River Watershed Council, are meeting with Jennifer Wolowicz, the new Connecticut River Basin member of the MWRA Board of Directors.

The next WSCAC meeting will take place on June 11th at the Barre Falls Dam. The meeting will include a tour of the Ware River Watershed and Shaft 8.

The meeting was adjourned. Presentations are available on the WSCAC website.

<http://www.mwra.com/monthly/wscac/meetings.html>