

Minutes
October 6, 2017

The Wastewater Advisory Committee to the MWRA met at the MAPC conference room, 60 Temple Pl., Boston

Attendees/Contributors:

WAC: Craig Allen (chair), Karen Lachmayr (vice chair), Stephen Greene (by phone), Adriana Cillo, James Guidod (AB), Zhanna Davidovitz, Dan Winograd, Martin Pillsbury, Mary Adelstein, Karen Golmer, Taber Keally

Guests: Wendy Leo, Carl Leone (MWRA) Charlie Jewell (BWSC) Audrey? Snider? Neponsit RWA, Matt Brown, Belinda Stansbury? George Atalla, Kevin Brander (DEP)

Staff: Andreae Downs (WAC)

FUTURE MEETING DATES/TOPICS

NEXT: Tuesday, Nov. 14, 10:30 am, Delegation/Primacy, **Waterworks Museum, 2450 Beacon St. Chestnut Hill, MA 02467**

VOTES: Approved: June Minutes

Nominated & approved Philip Ashcroft for WAC membership

Approved draft letter for summer cyanobacteria blooms

MWRA Updates: Valve project at Deer Island is done. Clinton Phosphorus removal project is nearly done.

Advisory Board: Video coming out soon of the presentation on AB's challenges in the next year.

Check out their website for the retail rate calculator!

Director's report—attached

PRESENTATIONS & DISCUSSION:

Kevin Brander, DEP

New guidance on I/I (Inflow and Infiltration) under 314CMR12.04(2)

Why focus on I/I? Because 95% of the volume of SSOs (sewer overflows) is linked to wet weather events.

More assessment for excessive I/I

Regulatory Requirements

- **Regulatory Requirements 314 CMR 12.04(2):**
- Develop and implement an **ongoing** I/I program:
 - Identify and eliminate “excessive” Inflow/Infiltration sources
 - Focus on inflow sources
 - Phased evaluation of sewer system consistent with MassDEP Guidance
 - I/I mitigation for new connections for CSO and tributary systems

Regulatory Requirements - Mitigation

9

- For CSO/tributary systems, including MWRA member communities:
 - 4:1 I/I mitigation requirement for all new connections > 15,000 gpd
 - Up to sewer authority to establish program, including:
 - Design flows
 - Direct removals or Fees

NepRWA Sewer Banking guidance at <https://www.neponset.org/projects/publications/>

Mitigation requirements affect mostly large developments, not single-family homes.

NepRWA guidance gives an overview of different kinds of mitigation for municipalities.

The new I/I guidance includes a sewer assessment due in December of this year. Most MWRA communities are already compliant and implementing plans based on this assessment

Why change guidance now? The intensity and frequency of rain storms has changed.

A 100-year storm (1% chance of occurrence) in 1961 is now a 30-year storm (30% chance of occurring)

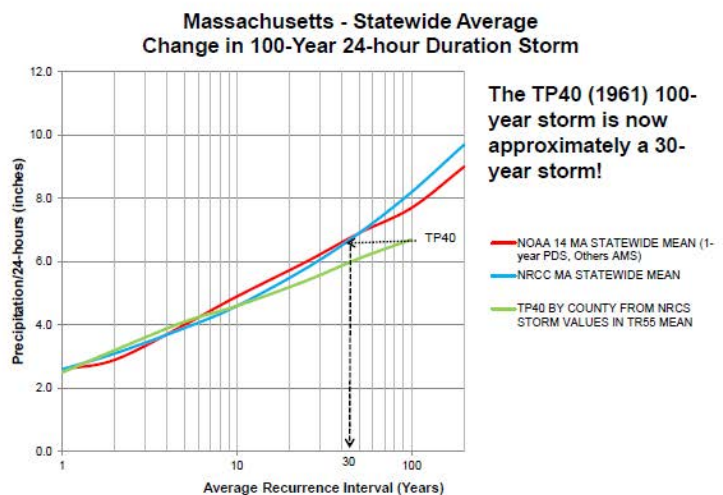
However, when we looked at the 5-year storm—not much difference.

These numbers will fluctuate based on where you are measuring.

From the I/I analysis is targeting of some areas with unusual flow to target for further investigation. Not making a judgement of whether cost effective to remove or not, but looking to focus on sub-areas with the most inflow.

Sewer authorities have the ability in their sewer bylaws to enter properties and require the removal of inflow sources, but difficult to do because people see you coming. But just one sump-pump in a good storm can put 10,000 gallons into a sewer system.

Most MWRA communities have taken MWRA grants & loans, and are in good shape. But important to regulate regionally--upstream communities contribute I/I to the system and can cause overflows downstream.



TK: How long have we been doing this and how effective has it been?

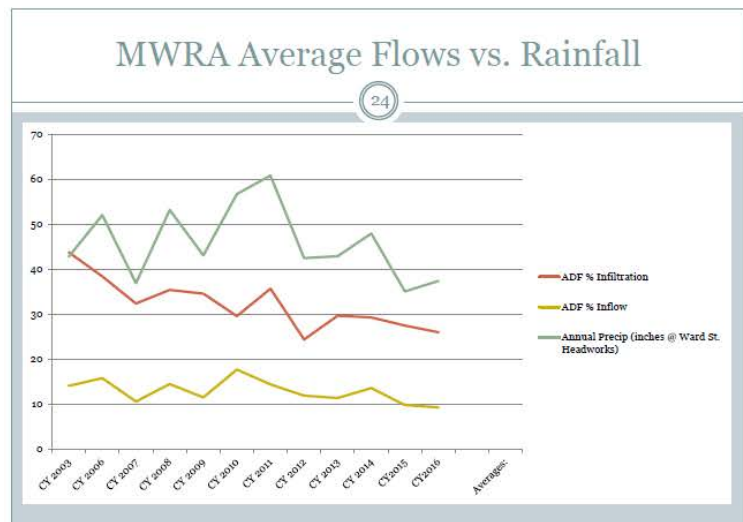
A: some of the more aggressive communities have seen sharp reductions in SSOs. But it's a good question—how much are we getting for our investment?

For instance, sealing cracks may just migrate the leaks to another set of cracks. In – place lining will last 50 years, grouting leaks might be a 5-10 year solution.

Also need to look at the cost of treating at Deer Island vs the cost of fixing leaks

CJ: in boston, fixing our leaks has meant water entering mostly via sewer laterals.

Looking at rainfall vs flows, MWRA's programs seem to be having a positive effect:



Carl Leone, MWRA Community Support Programs

All of Carl's annual reports are online:

MWRA I/I Local Financial Assistance Program Contacts

MWRA Contacts

- Carl Leone
617-788-4356
Carl.Leone@mwra.com
- John McLaughlin
617-788-4349
John.McLaughlin@mwra.com
- Jon Szarek
617-788-4356
Jon.Szarek@mwra.com

<http://www.mwra.com/comsupport/communitysupportmain.html>

O & M of MWRA-Owned System

- Interceptor Renewal Program via CIP Projects
 - \$126 Million for 10 Projects Completed FY04-FY17
 - \$88 Million for 7 Projects in FY18 CIP
 - \$82 Million for 6 Future Projects in Master Plan

Starting with an overview of what MWRA does to control I/I

Tracked in the “Orange Notebook”—how many miles of pipe inspected, how many manholes.

MWRA also meters sewage flows for communities—connected to rates. Upgrade

of all meters starting in FY18.

Community assistance for repairing pipes, manholes, and tidal structures.

Loans to communities comes to them at 0%. The cost of borrowing is spread among all ratepayers. So even if you aren’t borrowing for I/I, you are still paying for it.

MWRA I/I Local Financial Assistance Program

- \$461M approved for distribution (10 Phases)
- \$332M distributed (FY93 – FY17)
- 528 local projects funded
- All 43 member sewer communities participating
- Community allocation based on % share sewer charge
- \$160M approved in FY15 with enhanced funding terms
 - Prior terms 45% grant / 55% 5-year interest-free loan
 - New terms 75% grant / 25% 10-year interest-free loan

Weymouth Cured-In-Place Pipe Spot Repair

Weymouth Manhole Rehabilitation

H₂S Deterioration of Manhole

Cementitious Liner Applied

There’s more need to do I/I work, but also more expensive to do it. The low-hanging fruit has been done.

I/I Funding Results – Inflow Reduction

- Smoke testing of sewers – 1,308 miles
- Catchbasins disconnected – 1,031
- New/replaced storm drains – 44 miles
- Manhole covers replaced/sealed – 2,921
- Buildings inspected – 77,894
- Downspouts/area drains disconnected – 5,292
- Sump pumps redirected – 433

There's a "sunset" for the funds—use it or lose it.

When you line a pipe do you lose capacity?

A: not really, since you reduce the friction

Quincy Manhole Rehabilitated in Salt Marsh



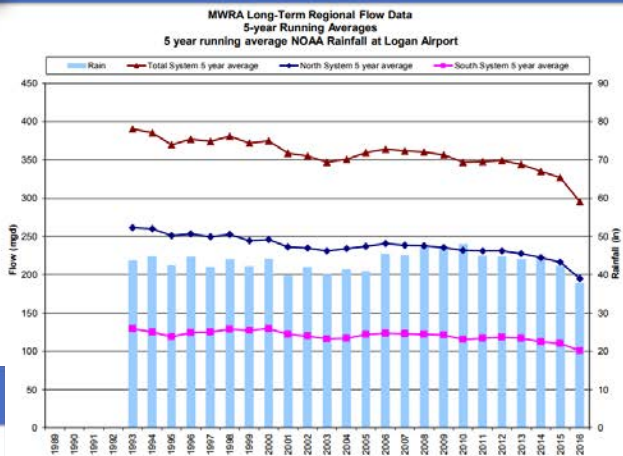
In MWRA estimations of inflow and infiltration from communities, we take out estimated inflow from MWRA pipes.

Here's the long-term aggregated data. It does look like I/I is coming down. Of

course we've had 6 relatively dry years.

Comparison of community efforts:

Long-Term Decline in Regional Wastewater Flow



Sample Recently Funded Projects

Ashland

Miles of Sewer – 66
 Sewered Population – 13,549
 CY16 Average Daily Flow – 1.18 mgd
 CY16 Estimated Sanitary Flow – 0.80 mgd
 CY16 Estimated I/I – 0.38 mgd

- 7 I/I Projects Funded by MWRA - \$1.74 Million (\$0.43 Million Remaining)
- November 2016 Distribution - \$414,000 for
 - Flow Metering in 18 basins for I/I and SSES per DEP Guidelines
 - Follow-up CCTV for Main Lines and Services

32

Sample Recently Funded Projects

Everett

Miles of Sewer – 57
 Sewered Population – 42,935
 CY16 Average Daily Flow – 4.42 mgd
 CY16 Estimated Sanitary Flow – 3.20 mgd
 CY16 Estimated I/I – 1.22 mgd

- 9 I/I Projects Funded by MWRA - \$6.65 Million (\$1.42 Million Remaining)
- February and August 2016 Distributions - \$2.81 Million for Project to Redirect 46 Catch Basins from Sewer (Total City Cost \$3.6 Million)

34

Sample Recently Funded Projects

Arlington

Miles of Sewer – 106
 Sewered Population – 43,993
 CY16 Average Daily Flow – 3.94 mgd
 CY16 Estimated Sanitary Flow – 2.40 mgd
 CY16 Estimated I/I – 1.54 mgd

- 21 I/I Projects Funded by MWRA - \$8.21 Million (\$0.21 Million Remaining)
- February 2016 and February 2017 Distributions - \$1.80 Million for:
 - I/I Investigation in Area 10 (of 12)
 - I/I Investigation in Area 11 (of 12)
 - Phase 8 Sewer Rehabilitation
 - Phase 9 Sewer Rehabilitation
 - Post Construction Flow Evaluation in Phase 7 Area

Sample Recently Funded Projects

Quincy

Miles of Sewer – 202
 Sewered Population – 93,494
 CY16 Average Daily Flow – 11.78 mgd
 CY16 Estimated Sanitary Flow – 8.20 mgd
 CY16 Estimated I/I – 3.58 mgd

- 13 I/I Projects Funded by MWRA - \$19.66 Million (\$0.13 Million Remaining)
- November 2016, February 2017 & August 20 17 Distributions - \$6.02 Million for:
 - Coastal Pipeline and Structures Rehabilitation Project
 - Wollaston Beach Area Rehab
 - Avalon Beach and Bay Point Marina Area Rehab
 - Furnace Brook Parkway Rehab
 - Bayside Road and John Street Sewer Rehab

September 2017 Director's Report

Mass Rivers 7/31 Meeting on Water Quality Monitoring

Background: MassDEP has fewer staff state-wide at all levels (ca 20) than MWRA does to administer its water quality programs (33). The DEP has asked how it can work better with Mass Rivers, which includes most of the 69 volunteer water monitoring organizations in the state. This meeting was an attempt to list and prioritize the Mass Rivers ask of DEP

Of Interest:

- There is no succinct summary of the format needed for DEP to accept volunteer water quality data.
- EPA accepts data that DEP cannot or does not (Taunton River w/s for example)
- Better coverage of the state's water bodies is needed
- Outside of nutrient and bacteria TMDLs, the EPA is using biological criteria—the survival of eel grass, for instance, in Long Island Sound

Wish list includes

- Resources: longer-term (more than one-year) funding, technical support
- Better direction on how to format data for acceptance; fewer bureaucratic hurdles
- Better public messaging on the importance of clean water.

WSCAC 8/30

DCR Watershed division and Forestry Management presented on how they keep the source waters of the Quabbin and Wachusett clean, while also harvesting wood and allowing regulated recreation.

Fishing, boating, hiking, limited X-C skiing and snowmobiling, and biking are allowed on trails. Off-trail mountain biking continues to be an issue in the Ware River watershed.

Secondary goals to water purity include: wildlife habitat, carbon storage, resilience of the forest

Water Resources Commission 9/14

Oct. 12 “Imagine a Day without Water”—there will be a “twitter thunderclap” to bring attention to the matter. Editorials and letters also welcome.

Discussion of grants that MWRA communities don’t qualify for, which include leak detection (water supply) and stormwater cleanup.

Annual report—was put off because of need to focus on drought management plan last year.

Interesting tidbit of history—found the 1967 Annual report. The division of water pollution control in MA was established Jan. 1, 1967. It was under the Water Resources Commission until the formation of DEP.

Federal funds were used to build Cottage Farm (CSO treatment facility). Adoption of water quality standards within 6 months in 1067—to take advantage of federal \$\$.

Sept. MWRA Board

Administration & Finance:

- The 5-year Strategic Business Plan update is worth perusing for MWRA goals & challenges
- The Orange Notebook wraps up FY17. Of note:
 - Energy use last FY was lower than average because of the drought (low flow). Also most (99%) of flow had secondary treatment
 - Digester gas system was very reliable (34% of power used on DI). Solar and wind less so, and hydro had some mechanical issues.
 - MWRA is still under-budget in capital construction expenditures, but not as low as in previous years.
 - Water consumption this year (no drought) was less than last year.

The FY17 Audits recovered \$3.5m in savings, but prevented paying out more than \$8m.

Staff turnover is increasing. MWRA is addressing with trainings—having junior staff “shadow” senior staff, holding in-house prep classes for certifications (wastewater operations, collection system certifications) to develop a deeper bench.

A \$15.1m positive budget variance means \$10m will go into defeasance. \$4m in water revenue from the drought will go to lead service replacements.

Deer Island and Clinton again got awards for no permit violations.

Steve Estes-Smargiassi got the Fuller Award (a national award) for his work on lead in drinking water

The Authority had a cyanobacteria bloom at Chestnut Hill and Sudbury reservoirs, which they think is related to the hundreds of geese that now call both water bodies home.

MWRA is looking to eliminate one of the two June board meetings (because of budget, MWRA board usually meets twice in June vs. once every other month).

Sept. Advisory Board/Joint

MWRA: Challenges (Fred Laskey):

- CSO program starting performance assessment this year. Will they achieve the required levels of control. Biggest challenge is water quality
- Water system redundancy
- Corrosion control of pipes
- Cyber security
- Financial: meeting pension, OPEB needs, developing a Capital plan and a cap

MWRA Advisory Board (Joe Favaloro):

- Website updates—new retail rate calculator
- Continuing to digitize archives
- Legislative challenges—not proposing bills this year, but following. Got Debt Service Assistance
- Financial: looking at MWRA Pension, pay-as-you-go, CIP cap
- Environmental:
 - Delegation
 - NPDES permit and whether includes co-permittees
 - Phosphorus limits (MDAR) and pellets

WAC Challenges

- Mostly outlined in Annual Report, but new since then:
- Possible NPDES permit for Deer Island
- Leadership rotation (explained)

WAC Priorities

- Energy use and renewables in wastewater treatment
 - Co-digestion
 - Climate adaptation
- Marketability of fertilizer pellets
- Outreach & education

Water Infrastructure Alliance 9/27

Outlined water bills before the current legislature that they are following. I can get anyone interested a list.

Heard from Sen Cyr about his proposal for an outside section to increase the room occupancy tax (hotels, motels, b&bs, short-term house rentals, air bnb) by an additional 2.75% for the Cape & Islands

to put up to \$18m/year into the Clean Water Trust to add funds (not supplement CWT funds) to address the sewage challenges the C&I now face (a \$4-8 billion problem on the Cape, \$1-3 b on the islands).

I have Cyr's slides for anyone interested.