



February 5, 2021
Remote via zoom

Attendees:

Members: **Karen Lachmayr** (Chair), **Wayne Chouinard** (Vice-Chair), **Adrianna Cillo** (BWSC), **Craig Allen**, **Dan Winograd**, **George Atallah**, **James Guiod** (AB), **Kannan Vembu**, **Martin Pillsbury**, **Mary Adelstein**, **Philip Ashcroft**, **Stephen Greene**, **Taber Keally** (Members in attendance in bold)

Guests: Lou Taverna (AB); Wendy Leo, Steve Rhode, Michele Gillen, Sally Carroll, Maret Smolow, Meg Tabackso, Danielle DiRuzza, David Wu, Denise Ellis-Hibbert (MWRA); Stephen Perkins (MyRWA), Jim Barsanti, Joe Nerden (DEP), Matthew Liebman (EPA & OMSAP), Lexi Dewey (WSCAC), Diane Stokes (Cambridge DPW), Debra Darby (TetraTech), Vandana Rao (EoEA), Julie Simpson (OMSAP)

Staff: Andreae Downs

VOTE: December Minutes

REPORTS:

MWRA: CSO notification bill passed & signed. MWRA already does much of what the law requires. James McPherson retires today and is Director of WW operations. Director of Western Operations, Guy Foss passed away this month.

AB: Preliminary round of budget briefings done. More to come Hearing (remote) on budget in March-- hitting the year of remote meetings. Operations Committee monitoring wastewater metering replacement, which has begun and the freeze on sewer rate recalculations has also begun. Bernie Cooper of Norwood and chair of the AB Finance Committee passed away last week.

Director--EPA has adopted OMSAP's suggested removal of some harbor and bay monitoring from MWRA's permit--a milestone and a cost savings.

Matthew Liebman: changes were not a surprise; have been years in the making. Result of a lack of evidence of long-term deleterious impacts from the Outfall. Removed benthic sampling and O2 levels in the sediments. Getting rid of some of the winter flounder monitoring in background sites.

--ED hard at work collecting allies on wipes labelling legislation for non-flushable, plastic wipes. Is now ready to file. Draft legislation is available. Interest from CLF, MMA, sponsors include the Advisory Board.

--Tuesday is a day-long EBC webinar on PFAS.

--Metro Tunnel has made new critical hires

- DCR Watershed have hired a few new people
- Ashland and Burlington have joined MWRA water
- MWRA will have a budget surplus again this year; is below \$500m in debt principle, a milestone
- Reminder that the joint April meeting on the MWRA budgets will be April 20th, 10:30.

PRESENTATION

Michelle Gillen & Steve Rhode **COVID Updates**

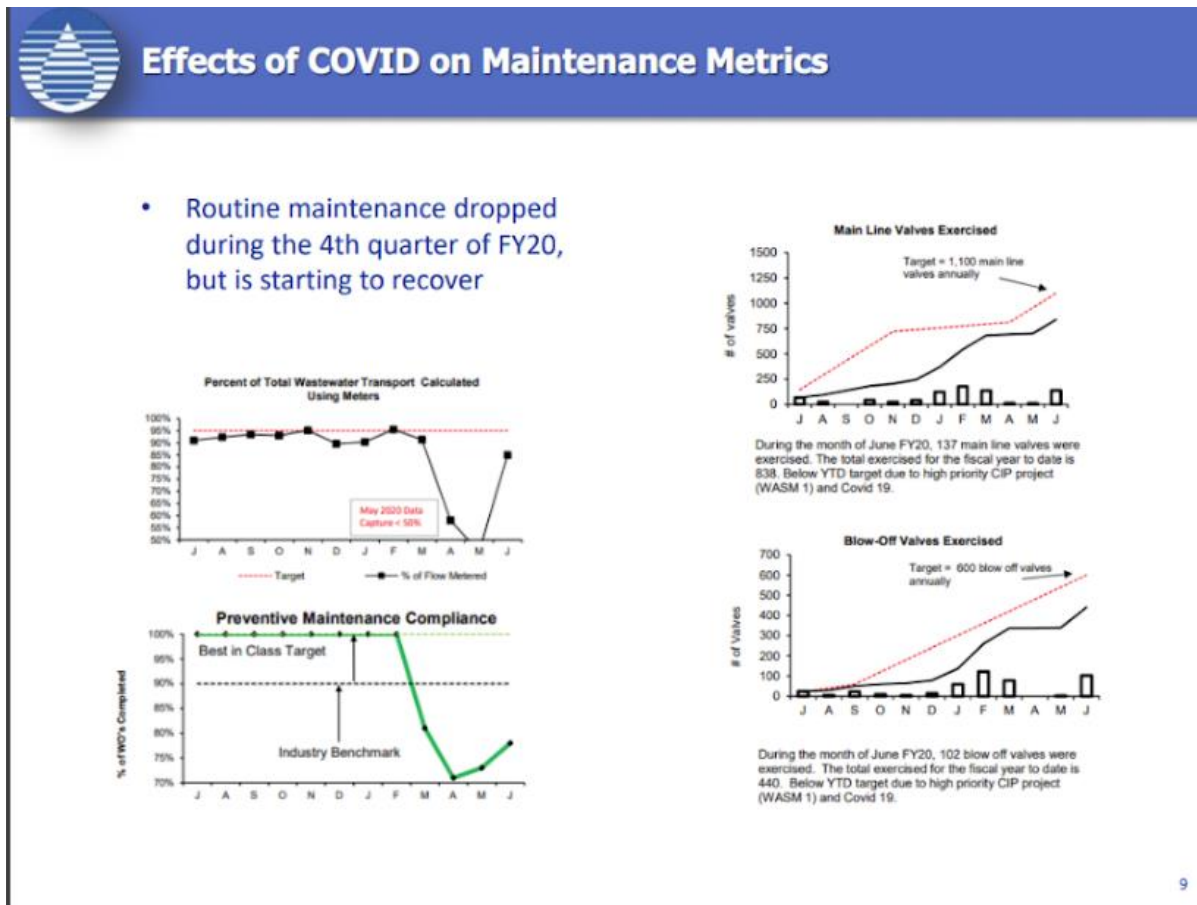
Response to the Pandemic

Early planning--fortunate that MWRA already had a stockpile of N95 masks as part of its pandemic planning, and donated to other frontline workers.

Remote & teleworking for those who could, developed a remote work protocol and added technology Staggered crews, created remote muster sites, dropped to 1 person/vehicle except when windows can be opened.

Protocols for public drop-off/pickup; protocols for positive cases & anyone they were in contact with. Created construction protocols

Temporary impact on benchmarks:



400-500 staff are or can telework. Limited visitors. Holding meetings and hiring virtually. In-person only for new hire orientation.

In the facilities, protective barriers and signage.

Wastewater Testing Steve:

Already had a 3-year relationship with Biobot testing sewage.

Biobot asked MWRA if could sample wastewater for COVID, MWRA also handed them pre-COVID samples to demonstrate that what they were finding was new. Now one of the main indicators of population COVID incidence.

People all over the world are monitoring wastewater for COVID signals. MWRA coauthors on two papers.

Amsterdam published first, but Biobot and MWRA published first in US. Sending samples to CDC and others. CDC hopes to cover half the US with sewer sampling.

We aren't testing for "live" virus

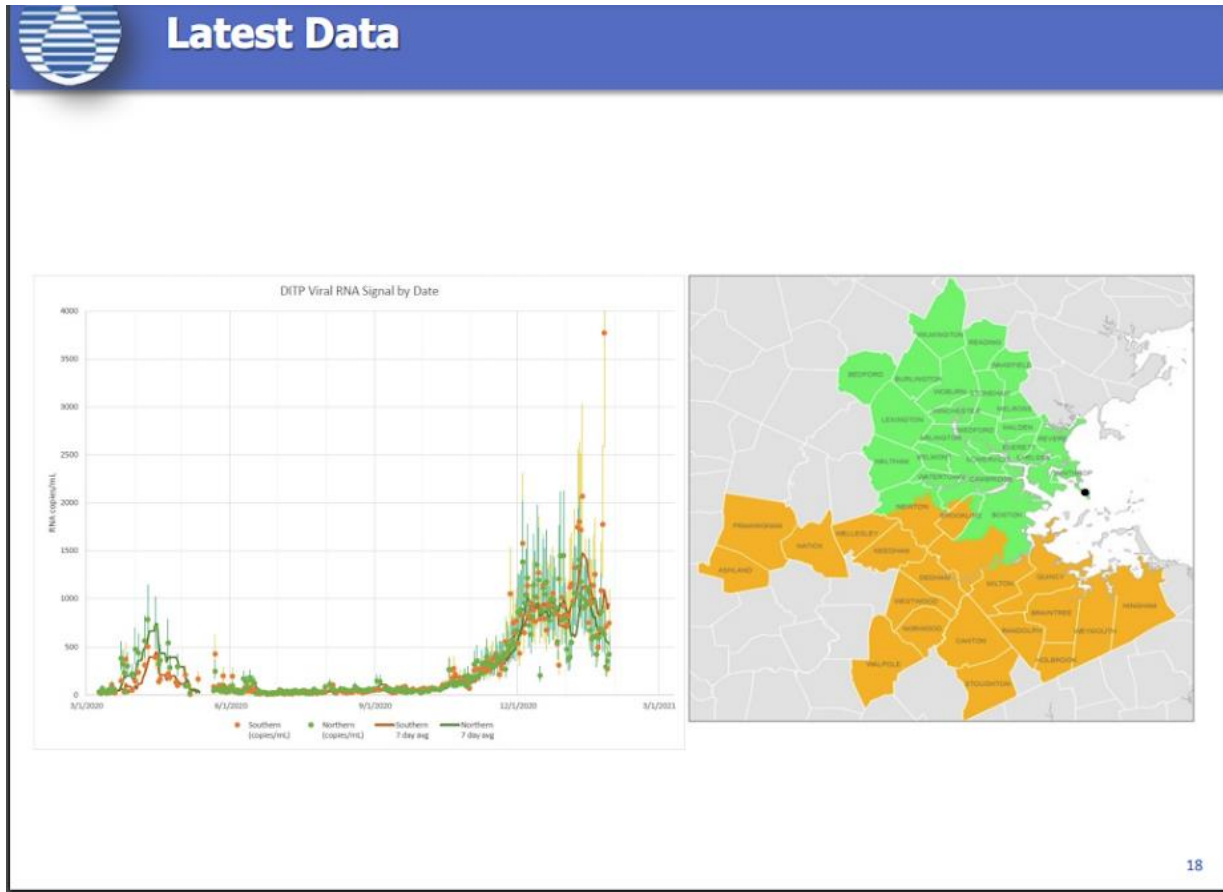
PCR Detection Does Not Mean Virus Is Infectious

- Culture of live virus requires an intact virus particle
- PCR detects specific regions of the viral genome
 - Damage to the envelope, capsid or genome does not necessarily prevent PCR detection

Outer lipid envelope is very fragile--broken by soap & water. Test for two fragments of genetic material. Similar to DNA signals in detective TV shows--can be detected, but they are not viable.

Calibrating is difficult; amount of virus people shed is widely variable. Biobot also tested neighborhoods in BWSC & published that.

Testing daily since November



Gillen:

We are now offering voluntary COVID testing to staff. Has paid dividends--can test both asymptomatic and symptomatic cases (the latter in cars). A handful of the asymptomatic staff tested positive and we were able to stop the spread there.

Vaccine: everyone eager to get the vaccine. Wastewater and water employees are in line at Phase 2 C, after people over 65. Exploring options for onsite vaccinations. Survey of staff shows 70-75% would like to get the vaccine when available.

Fortunate that MWRA has avoided significant operational impacts from the pandemic. 94 tested positive out of over 1,000 employees. As of today, 43 employees out on Covid-related matters. 18 tested positive. Been very conservative about bringing exposed people back to work. Seen very little workplace exposures.

Future? MWRA challenge: child and adult care. Teleworking helps some of our employees, but some cannot work from home. Added flexibility so they can juggle care and work. Not sure in what form

teleworking will continue, but it will. Many trainings went online and many may continue. Some cannot go online. Technology--had to get licenses for WebEx, issue devices. Evaluating what future hardware and software we may need. Checking staffing levels. Future space needs--CNY--do we need all or some of that space?

Questions:

Will there be a report on Lessons Learned?

Yes, at some point, we will do a full update of operations, documentation and why decisions made a certain way.

Can biobot find new variants of the virus? MIT research partners are working on finding the new variants, DPH is also working on that. Not sure been successful. It's a lot more work.

Will vaccination affect amount of virus shed into the wastewater? No--current vaccines approved in the US are not using the virus pieces that Biobot is looking for. But some of the vaccines in other parts of the world may have this effect.

How are the wastewater COVID samples taken? E.g., time of day, number of samples composited, etc.?

We have composite samplers at Deer Island. Take a small grab every 15 minutes over 24 hours. Pick up daily.

Once biobot gets your sample, how long before it shows up on the MWRA website?

Biobot is only open on weekdays. They receive them about 11 am. Turnaround is 2-3 days before we get their report. We post it within an hour or so after getting the report. Friday's report comes in at 10 pm, so often not until Saturday that it's posted. Usually end of day.

Joe Nerden: Do you know the number of asymptomatic cases there were out of the 94 positives at MWRA?

Probably between 20-30%. Most of them get tested because someone else in household positive and they decided to test.

The 2003 pandemic plan--did it work, or are you starting over?

This plan was put in place after the original SARS. Tweaked after 9/11 when we developed a continuity of operations plan. Those two things fit together.

Our plan, CDC's and DPH plan were based on the flu--expectation of 4-6 weeks of pandemic, then a lull over the summer. Didn't anticipate that or the contact tracing. In constant dialog. Have sent home over 400 employees because of exposure.

Now have people working in pods, so always an alternate group to keep things running. Lots of lessons learned that will add resiliency to MWRA operations.

There's been no evidence of wastewater transmitting this virus. Viruses are one reason we are in this business, and our safety protocols are there to keep our employees safe.

What about ventilation in new buildings as staff return? Yes, looking at that way in the beginning, continue to look at that. We have adjusted our airflows accordingly. Is there an effect on energy efficiency? Not sure. MWRA is adjusting as we go.

December-January Director's Report

12/8/20 WSCAC

Metro Water Tunnel Update--Fred Brandon, Kathy Murtaugh, MWRA

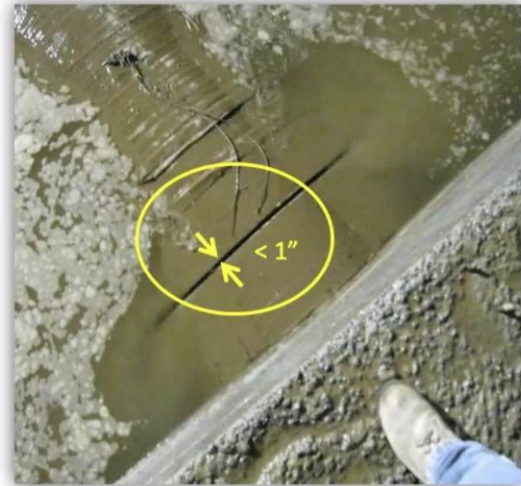
Current situation: Metro Tunnel system is not redundant. Can't shut down without using low-quality water supply. Valves cannot be closed without fear of failure. Breaks of even a small size lose millions of gallons of water.



Small pipe failures can lead to big problems



250 MGD flow at Shaft 5 break....



...came from a small gap in the pipe

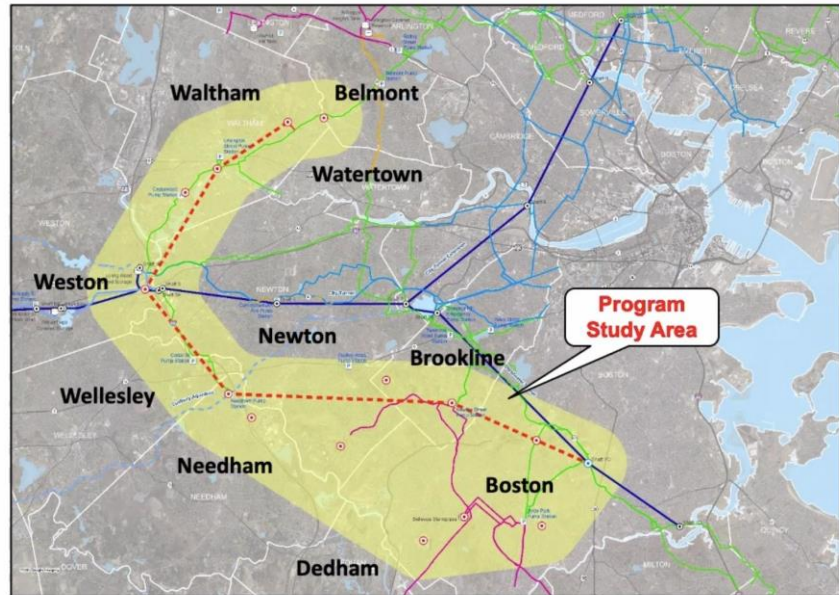
After study, settled on the two-tunnel concept. Now studying possible shaft sites.



Two - Tunnel Alignment and Shaft Site Study Area

- 14 miles of 10 ft diameter, hard rock, pressure tunnel
- Time to complete: 17 to 23 years (design - commissioning)
- Current plan is for tunnels to begin in the Mass Pike/Route 128 vicinity
- Northern Tunnel - 4.5 miles, ends in Waltham/Belmont area @ WASM3
- Southern Tunnel - 9.5 miles, ends in Mattapan near Shaft 7C
- Anticipate tunnel construction to start in 2026 or 2027

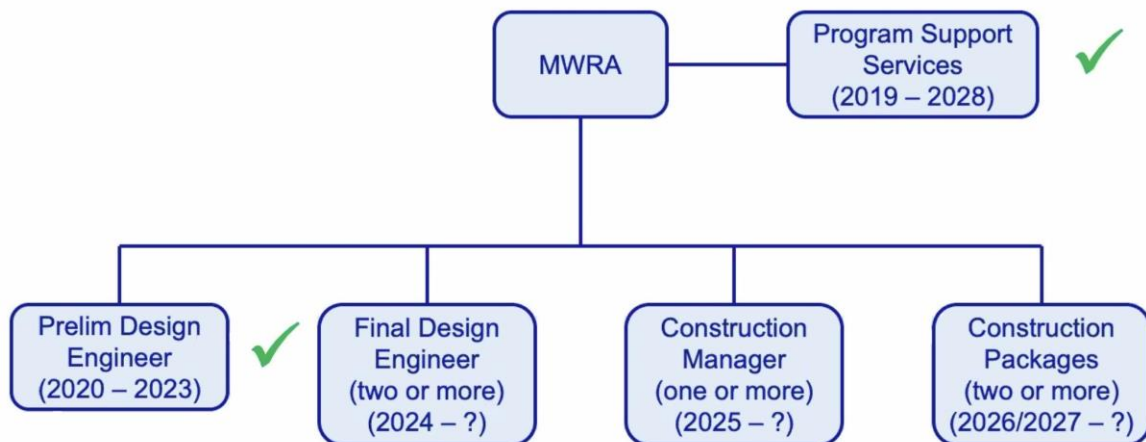
--- Conceptual Tunnel Alignment



Here's the contractor organization. Those with a green check have been hired:



Program Organization



Now doing preliminary design. Contract is for 3.5 years.

ENF due January 21, which should show the program study area, and determine that deep rock tunnels are preferable to surface tunnels.

Public engagement period from 2021-23 with a working group with representation from all 10 communities.

Draft EIR will be filed in Fall 2022.
 Geotechnical investigations starting early 2021
 Already doing mapping and surveying.



Preliminary Design Contract Schedule

Task Name	2020	2021	2022	2023	2024
ENF	■				
Evaluation Of Alternatives		■	■		
Working Group Meetings		■	■	■	
Geotechnical Program		■	■		
EIR			■	■	
Preliminary Design			■	■	

13

Also have an expert review panel --



Expert Review Panel

- **Richard Fox – Owner, Mega Program Management, MWRA**
 - Adjunct Faculty, Merrimack College
 - CDM Smith
 - MWRA
- **Michael McBride – Tunnel Construction Management, MWRA, Owner**
 - Gilbane
 - HDR
 - Allston Development Group
 - MWRA
- **Erika Moonin – Owner, Mega Tunnel Program Management**
 - Project Manager – Lake Mead Intake No. 3, Southern Nevada Water Authority
- **Gary Brierley – Tunnel Boring Machine / Local Geology**
 - “Dr. Mole”
 - Brierley Associates
 - Haley & Aldrich
- **Gayln Rippentrop – Underground Construction / Tunnel Contractor**
 - Frontier-Kemper
 - Kewit

16

Final design 2024-27? And construction starting 2026-27

Balancing rate burden and need to finish the project quickly.

Shaft study area is constricted by development--so in some areas, like Cambridge, you won't be siting any shafts.

Another consideration is geological faults--don't want to tunnel along a fault. Reaching out to communities about shaft sites that will also benefit communities with redundancy.

Presentation to the MWRA board next week. There's a site with all the historic information on the metro tunnel system, check for updates.

Update on water main the break on Rt. 9, Steve Estes-Smargiassi

Near the Brookline reservoir--lot of cleanup and repaving/reconstruction. There's a lot of pipe o, and the amount of water there is just a fraction of what would be released if one of the main supply valves were to spring a leak.

Both reservoirs are back to normal.

Water use: while moving out of the center cities, still within the metro area. Uptick during the summer in suburbs for lawn watering. Everything looked different month to month this year in water demand, between COVID and the drought.

Lead and copper--Medford, Melrose and Boston had higher than acceptable results in the last round of testing.

12/10 Water Resources Commission

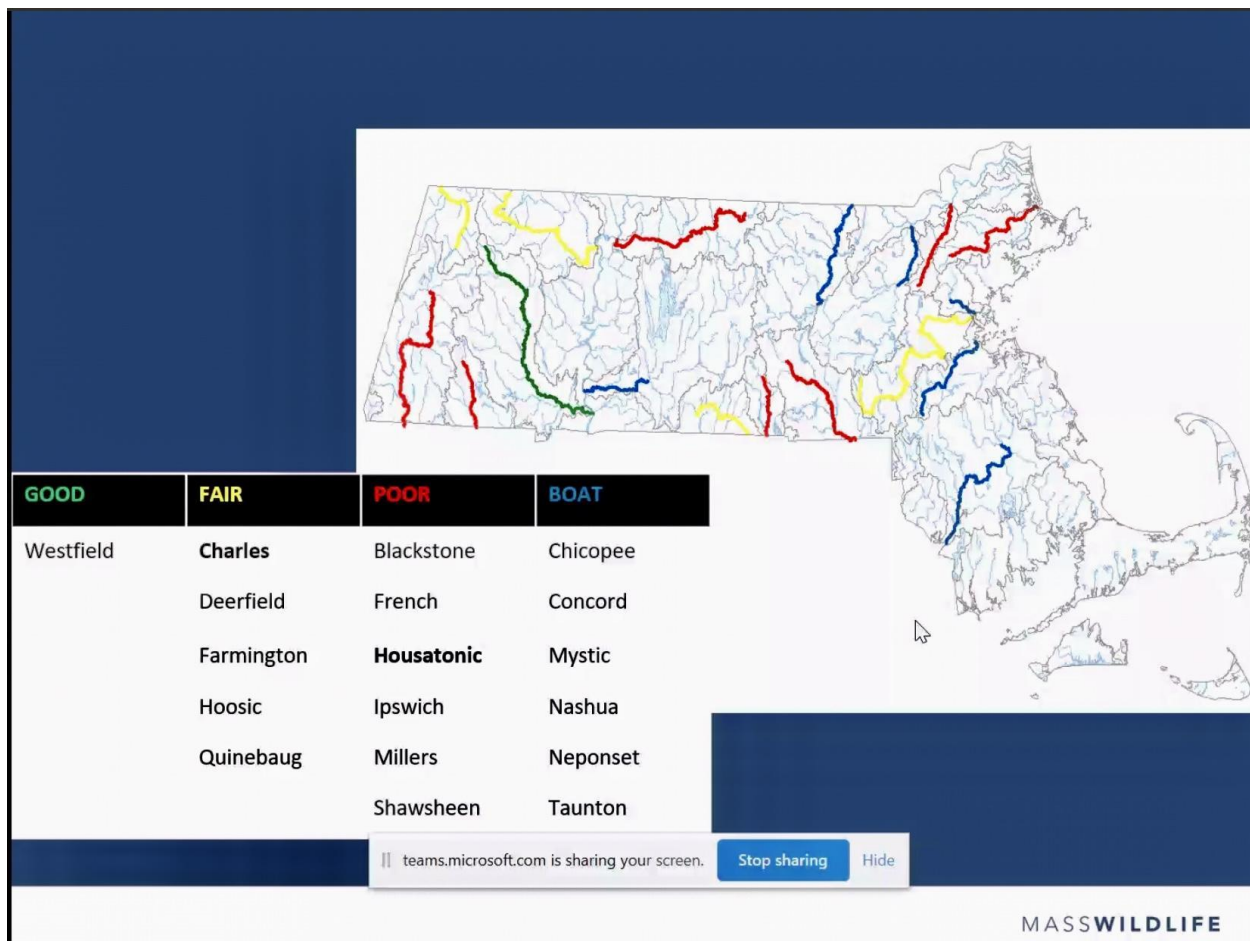
Hydrologic Conditions: November precipitation was normal to slightly below normal (CT valley and Cape & Islands). Streamflow has improved. Groundwater levels--some are below normal, some beginning to recover, some worsening. Lakes are still on the low side, but starting to recover. Southeast reservoirs are taking longer because they started lower. Snowfall below normal. This November was among the warmest.

Response to a question: our land use changes have had more effect on stream flow and groundwater levels than climate changes--not enough recharge (esp. changes in tree cover).

Annual Report--significant accomplishments--drought plan, Interbasin approvals (many). Approved.

Mass Wildlife presentation on large rivers across the state, and fish assemblages in them.

Work used by DEP to determine if the river is clean enough to support aquatic life, and by Wildlife to determine where restoration may be most beneficial.



Large rivers are defined as those freshwater rivers that drain a substantial watershed (Taunton is a large river. Buzzards Bay is not)

Determine the fish species in feeder streams and compare with receiving river. If fish abundance is 75% or better of what's in the streams, then considered good condition.

Good: Westfield
 Fair: Charles
 Poor; Housatonic

Charles moved from a lower category into a better one. Housatonic in a worse one, in part because of a new invasive species of fish.

The CT and Merrimack are just too large for Wildlife to do a comparison.

Over time on rivers such as the Westfield and the Farmington--seeing some changes in the fish population over time--indication of larger changes in the environment.

Drivers of change: Precipitation, temperature, land use, water management, barriers (dams)

Next steps

- Understanding drivers of significant findings (GLzMs)
 - Δ Precipitation
 - ↑ Temperature
 - Land use
 - Water management
 - Barriers
- TFC's/similarity analysis for rivers with boat surveys

|| teams.microsoft.com is sharing your screen. [Stop sharing](#) [Hide](#)

MASSWILDLIFE

Drought overview

Heat in MA, RI, CT higher this summer than normal. Precipitation abnormally low already dry in June, intensity higher in southeast, by Sept. record-breakingly low near Boston. Can call a flash drought within a drought, specifically in August.

This drought very similar to the 2016 drought. Flash onset, above normal/record setting temps

MWRA Board 12/16

REPORT OF THE EXECUTIVE DIRECTOR

Was hoping to get the Board a report on watershed staffing today, but does not have it. Covid is a focus. 35 confirmed cases. A number of employees out for symptoms or having close contact. Revolving door of people in & out. Have on-site testing, Chelsea, Southborough, Deer Island. Get results in 12-15 hours. Offered it to the board members.

Construction at Nut Island was shut all week because one of the superintendents had the virus, and all his team was quarantined. Winthrop lost water. Scrambled with 2 crews, both south of the city. Watersheds are getting ready for the snow. 400 work-from-home employees will not get a snow day.

DI Fish Pier is now open (no formal dedication yet).

Brookline Reservoir water main break \$213K cost. Using the Brookline contractor.

Pursuing green lumber certification in the watershed.

WATER POLICY & OVERSIGHT

Metro Tunnel Update:

- Staffing up. Bringing in the expertise to support the program, plan for the future (and retirements). Structure of the staff is similar to the Boston Harbor Project.
- Lists the schedule--technical assistance, final design, manager & contracts, construction (2026-7)
- Assembling working groups in all 10 communities
- Expert review panel is meeting--looking at risk management, design work plan, geotechnical investigation plan

Questions on location of the pipe, which communities (shaft sites difficult), and the makeup of the expert review panel

Approvals:

- Ashland into the metro water system. 90K gallons/day via Southborough.
- Burlington added to the water system. 2 phases: 1. 886K gal average/day via Lexington.
2. May be 3.5 mgd, can go higher

PERSONNEL & COMPENSATION

Nick Zitello appointed energy program manager for Deer Island.

Extended copy & supply contract

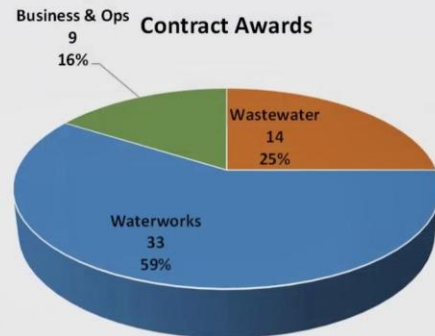
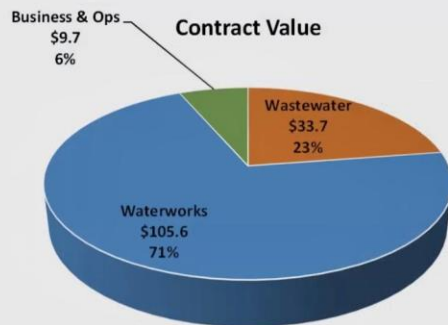
ADMINISTRATION, FINANCE & AUDIT

Financial update: Revenue at budget. Investments under estimate (interest rates down). In sum--even. Expenses under budget by \$7.8m. Debt expenses driving it (lower interest rates). Direct expenses under by 5%. Indirect expenses are up by 6.6%. HEEC cable is driving it. \$3.1m over budget.

FY22 Capital Improvement Program submitted to Advisory Board--proposed at \$888.1m, down from last 5 years. Asset protection in proposal at 68% of the upcoming expenses. This year at 54%. More spending on waterworks, relative to wastewater, in FY22 contracts.



FY22 Proposed CIP – Proposed FY22 Contract Awards



\$s in millions

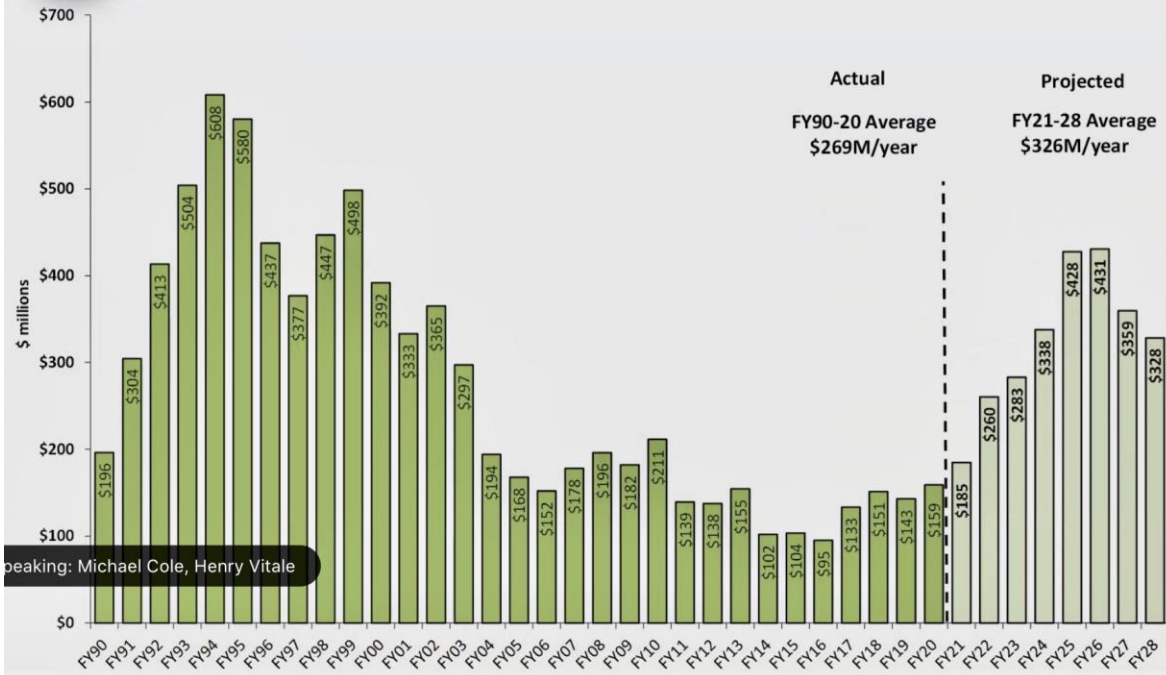
Speaking: Michael Cole, Henry Vitale

56 contracts projected to be awarded in FY22 for \$149 million.

Bulk of ongoing projects is Wastewater. Major drivers--Nut Island HVAC, DI clarifier rehab, Prison Point HW--total contract \$42.4m, should go out shortly to bid; DI fire alarm replacement (30 years old); Northern Intermediate High redundancy, tunnel redundancy design & MEPA...



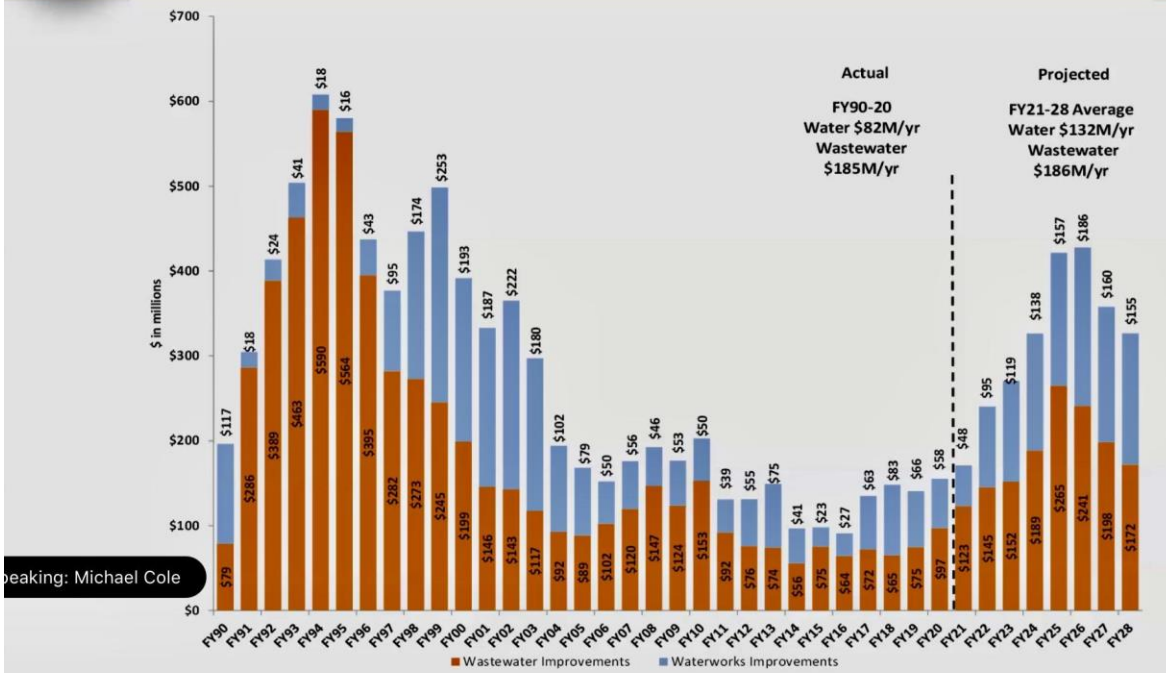
Historic and Projected Capital Improvement Spending



Peaking: Michael Cole, Henry Vitale



Historic and Projected Capital Improvement Spending by Utility

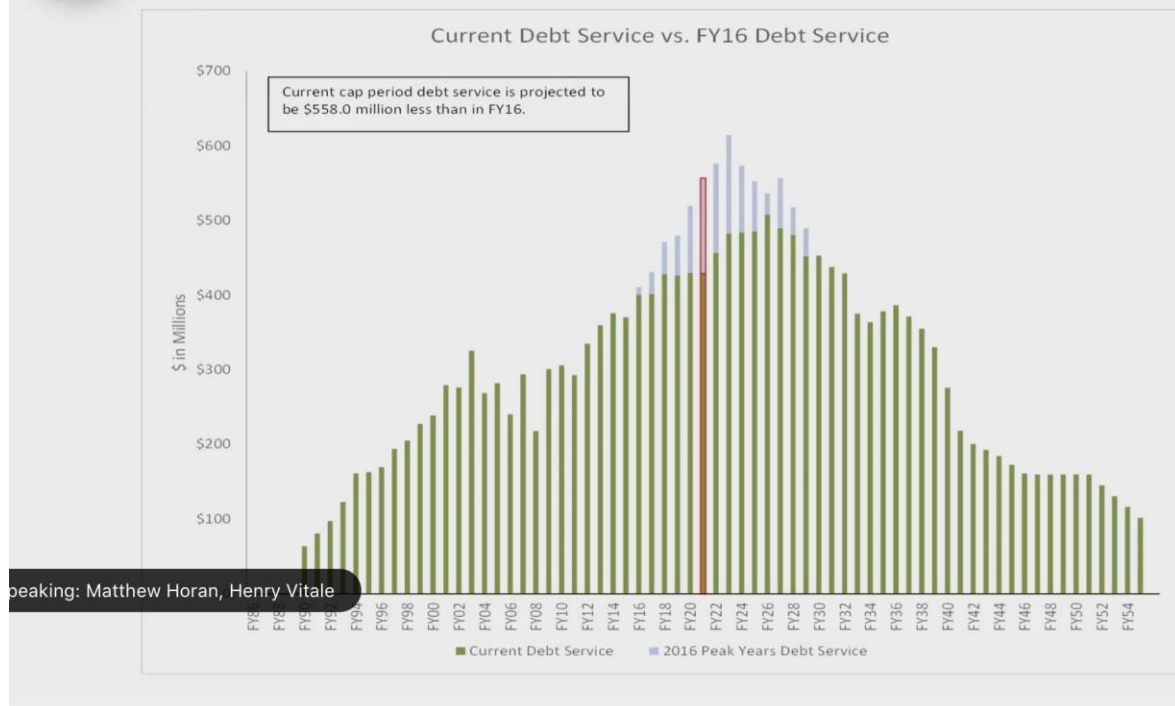


Peaking: Michael Cole

Debt mountain--now below \$500m in principal owed.



Level of MWRA Indebtedness



Now looking to learn from Chelsea HW, continue asset protection, move forward with tunnel redundancy

WASTEWATER POLICY & OVERSIGHT

COVID data from wastewater sampling. Current sole-source contract ends Dec. 31. Clearly, needed data. First ranked firm was again Biobot--industry leader. Only firm that specializes in wastewater epidemiology. Very fast turnaround--1-day.

Contract award: Ward St. and Columbus Park HW upgrades--major work.

Executive session on

A Litigation

1. Cross Harbor Cable - DPU Tariff Proceeding/Litigation

B. Real Estate

1. Wachusett Reservoir Railroad
2. MWRA Office Space Needs

1/6/21 Mass. Municipal Association Environmental Policy Committee
State legislation finished at 4:15am Jan. 5. New and returning members sworn in this morning.

MMA has two new bills and one old one for the new session--including water banking and improvements to net metering (renewable credits).

The just-passed Climate Bill, if the Governor signs it, will be subject to an MMA workshop at the annual conference. Includes environmental justice provisions and requirements that the Department of Public Utilities consider climate as one of the factors in its approval decisions. Also establishes interim targets before 2050, and a Net Zero building code opt-in provision. Municipal power plants must start including renewables in their portfolios, with interim targets.

Sara Burns at The Nature Conservancy: Nitrogen pollution and alternatives to septic tanks. On the Cape housing is so far apart that sewers are not economically feasible. One system, the NitRoe tank, is an addition to a septic system that uses wood chips to convert nitrogen to gas. Will need a Regulatory Management Entity (new policy proposal) to ensure O&M, other compliance, well-qualified installers.

The diagram, titled "Supplemental NitROE® Tank Addition", illustrates a wastewater treatment process. It shows a cross-section of a house with a "House Vent" on the roof. Below the ground level, a "Septic Tank" feeds into a "NITROE® Tank". This tank is divided into an "Aeration Chamber" and a "Wood Chip Chamber". Above the Aeration Chamber, a callout states "Converts Ammonia-N to Nitrate-N". Above the Wood Chip Chamber, a callout states "Converts Nitrate-N to Nitrogen Gas". An "Air Pump" is connected to the Wood Chip Chamber. "Sampling Ports at Surface" are located on top of the NitROE Tank. The effluent from the Wood Chip Chamber goes to a "Leachfield / Drainfield Effluent Absorption" area. A "100 percent gravity flow" arrow indicates the direction of wastewater movement. The diagram is branded with "Clean Water" in the top right corner.

The Nature Conservancy
Barnstable CLEAN WATER Coalition
Horsley Witten Group Sustainable Environmental Solutions
Quantified

Sara Burns

12:07 PM Wed Jan 6

Leave Zoom Unmute Start Video Share Screen Participants More

An effective RME provides several critical services for I/A septic systems

MANAGERIAL SERVICES	<ul style="list-style-type: none"> • Keep inventory of installed systems and their level of performance • Issue operating and discharge permits for installed systems
FINANCIAL SERVICES	<ul style="list-style-type: none"> • Provide competitive financing for homeowners • Collect maintenance and operation fees or warranty costs
TECHNICAL SERVICES	<ul style="list-style-type: none"> • Qualify standards and certifications for practitioners to maintain I/A and Title V septic systems • Monitor, Compliance, O&M services provided at flat rates costs.

An RME designed on the principle of 'Flush and Forget' provides similar conveniences to homeowners

I presented on wipes. They are interested, and want to view the bill, once it is filed.

1/8/21 NEBRA Lunch & Learn on feedstocks for co-digestion

Bob Winner, energy systems group & Chris Muller, Brown & Caldwell.

FOG has 4x the methane potential of sewage sludge.

Synergistic digestion reduces overall solid residuals (but adding more solids overall means more solid residuals)

Is synergy a C:N issue, or is it more complex?

Table 3—BMP results.

Waste	Concentration range tested (g COD/L)	BMP (mL CH ₄ /g COD)	Biogas methane (%)
ADF	0.50 to 2.2 ^a	350 ± 30	61 ± 15
→ Yeast production	0.50 to 2.5	2270 ± 340 ^b	60 ± 3
Food flavorings production	0.05 to 0.25	940 ± 450 ^b	69 ± 1
Restaurant	0.60 to 12	490 ± 260	68 ± 2
Brewery	0.50 to 2.5	410 ± 20	58 ± 6

^a Higher concentrations caused inhibition and lower BMP values (Zitomer et al., 2001).

^b Suspect value that is significantly greater than the theoretical maximum of 400 mL CH₄/g COD.

- Zitomer (2008) – noted enhanced methane production with the digestion of yeast waste with sewage sludge, 4-18 percent additional COD destruction needed to balance.
- Attributed the improved digestion to supplemental nutrients and co-factors in yeast from production process
- Produced more gas than is theoretically possible without digestion of the sludge

Citation: Zitomer et al (2008), Municipal Anaerobic Digesters for Codigestion, Energy Recovery, and Greenhouse Gas Reductions” Water Environment Research, 80, 3, 229-237.

Brown and Caldwell

5

Currently the subject of more research

Other issues: exploding sludge, management of biosolids is changing (PFAS)

Exploring how much a digester can take--the process can take non-sludge additives at higher rates. Make-up of the organics is important. Can have an effect on the resultant wastes and on the digester.

1/11 Interview with Duest

Mention of wipe clogs--at Deer Island, wipes (or rags) found when primary sludge pumps clog. When have a primary clarifier failure--often ragging with wipes wrapped around gearing or the chains--really creates a mess.

Pellets--the new contract includes doubling of the cost of marketing & disposal, which is the cost of PFAS uncertainty. But with concessions in other parts of the contract, kept the increase to 2.9%

PFAS--DEP is collecting data from all WWTP with biosolids

COVID--vaccine distribution to MWRA is not clear yet. They are Phase 1B

Wastewater testing--MWRA and other data is being included now in a CDC database

1/12/21 WSCAC

Reported on PFAS---interest in a joint meeting (perhaps our March meeting on TRAC and DEP research)

Reported also on wipes. WSCAC members eager to support the legislation.

Watershed Protection: come to a dead end--A&F has said "no exceptions" to the hiring freeze. Martin Pillsbury suggests using the MWRA board members to get directly to the Gov. also use R. legislators, if anyone has one from their district.

Argument besides environment is that filtration would cost a lot more. There are no second chances. Filtration also costs more in carbon emissions.

WSCAC is looking to get the forestry re-certified as "green"--Laskey has agreed to bring the item to the board. This would require DCR to apply for the certification. DCR is reluctant, saying it's too expensive, but with Water Supply Trust and MWRA pressure, it might be possible.

Next meeting is on reservoir operations--winter draw-downs, water demand.

CSX is buying PanAm railroad. MWRA is considering a security camera for the rail line to ensure no idling over the reservoir, no speeding, and placard #s.

Discussion with membership: Issues of importance to members

- Climate change (Paul)--water conservation success is a clear indication that society can also shrink its emissions. Can we measure how MWRA has done in reducing emissions? Demonstrate to the public? Publicize? MWRA has a great story, but nobody is publicizing it.
 - Lots of emissions savings because of Covid--no flying or driving to meetings.
- Water levels and keeping the lower Sudbury River healthy
- Dam removal (Martha); water releases downstream of the MWRA reservoirs--flooding, unseasonable water levels
- CSO notification bill (Andrea)
 - Martin--caution that WSCAC and WAC not become lobbying groups in legislature, but instead focus on lobbying the Board

Ace leaving WSCAC employment.

1/12 Water Infrastructure Alliance

I presented on wipes legislation. When language is ready, Abbie Goodman will send around for individual organizations and the alliance to support

PFAS and sludge disposal--getting much more expensive and landfills are out of capacity.

Kathy Baskin: DEP is collecting data on residuals, land application, see the concentrations, impacts to soil and groundwater.

Jenn. Pederson--legislation to request more \$\$ for systems that have to monitor or filter PFAS

February deadline for legislation filing.

Leah Robinson, MAPC--they have a number of bills, none water-related. Budget is the focus for this sector. Asks for some ideas on where to focus.

Letter reminding legislature that they want to fund MS4, PFAS, more. Because this is too much for the state alone to fund, also sending a letter to the Federal legislators to ensure that they include the water sector in infrastructure funding.

Leadership in the state house (Mariano) is friendly to MWRA. Freshman class letter?

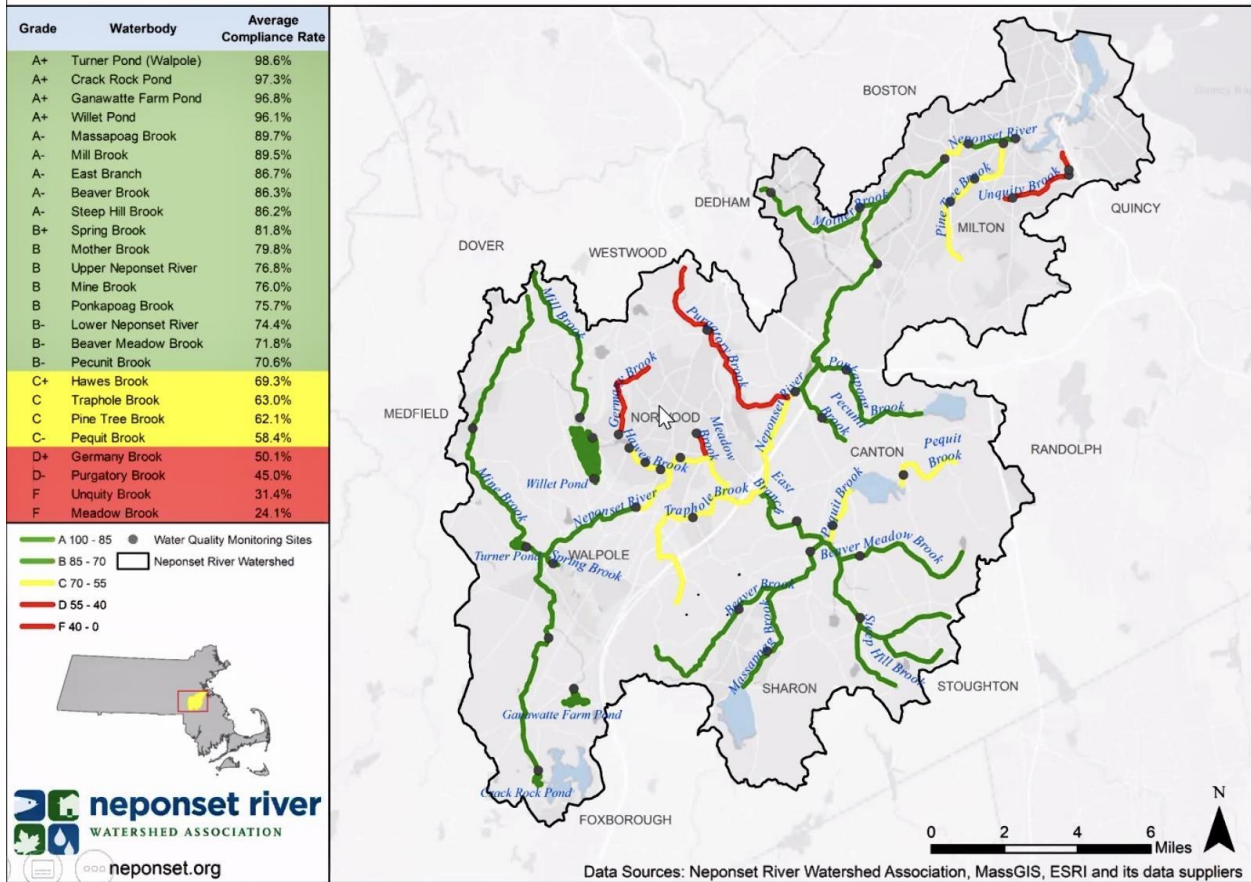
1/13 NepRWA Water Quality report

14 cities and towns

E. coli in the river--sources are sewer system leaks, SSOs, other issues; stormwater

2020 Neponset River Watershed Report Card - Bacteria Grades

Based on 2018 - 2020 E. coli Data

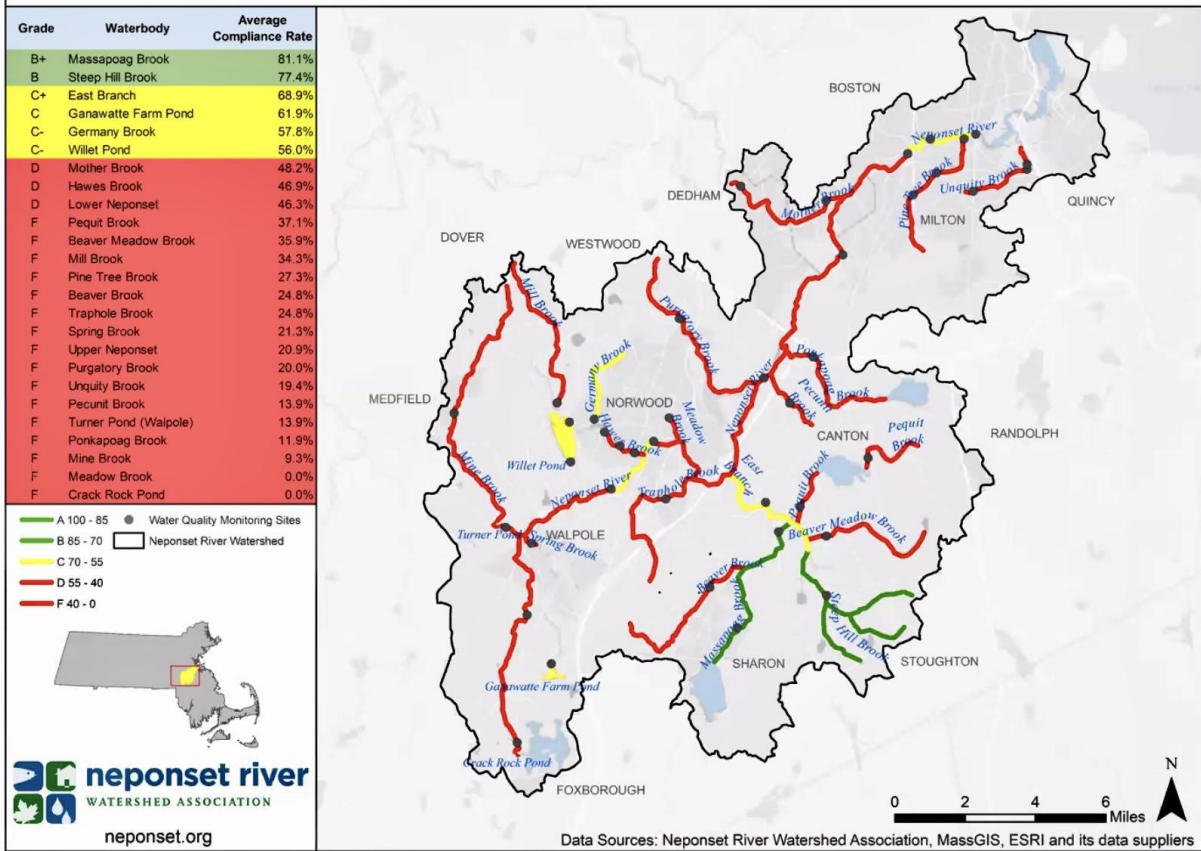


Key is development--more sewers, more impervious surface (stormwater)

Phosphorus: mostly via stormwater. From fertilizers, septic systems, organic materials, car exhaust.

2020 Neponset River Watershed Report Card - Total Phosphorus

Based on 2018 - 2020 Data



1/14 Water Resources Commission

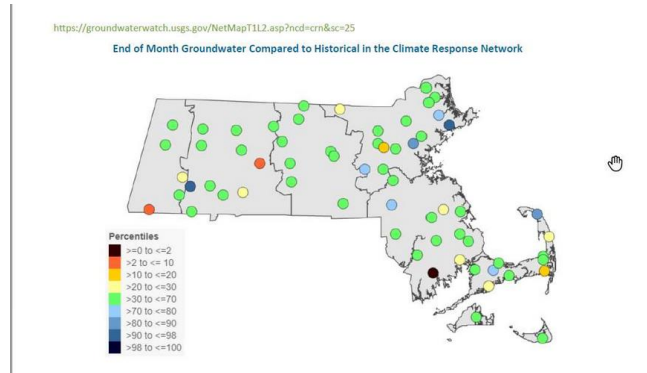
ED report: comment letters received on some Interbasin transfer applications. Need more data.

Drought now over, officially.

Hydrologic report--With the rains & then snow/melt, some stream flooding. Groundwater is returning to normal.

Well indices:

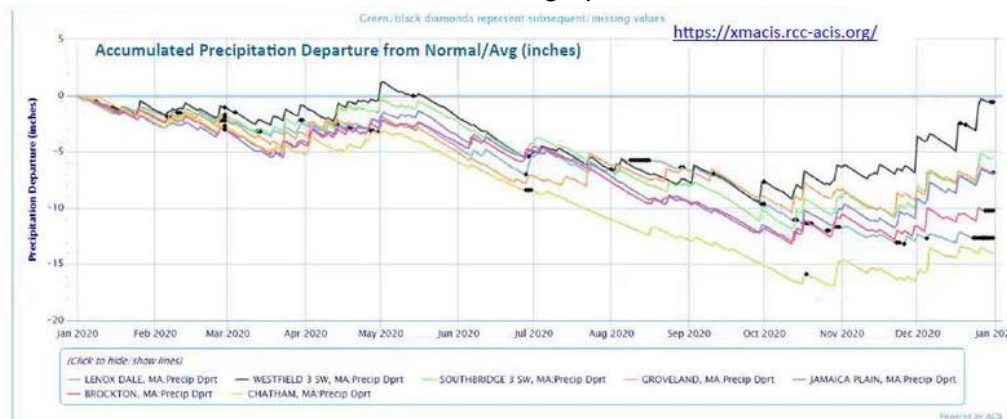
Lakes and impoundments are normal.



back to

2020 average temperature was above normal all over the Northeast for every month. Boston 5th warmest year on record. Likely that January will be warmer than normal.

Water deficit graph:



Communities wanting to update meters or do other in-home work (testing for lead & copper) are prevented by COVID worries (both parties). Financial fallout of the virus also already being felt.

Presentation on water pricing and conservation

ACEC Mass. state markets conference 1/19

Fred Laskey--COVID response:

--identified core functions, sent office staff to work from home. Guidelines for remaining critical staff.

Procedures in place, masking, mustering, how to drop off samples, etc. Still need lots of persuasion around necessity of masking.

Do cleaning and contact tracing. 75 have tested positive. Most get COVID outside of work.

Had one project meeting--presenter had COVID, when realized--whole project shut down for a week.

Maintenance metrics took a dive in March-May as a result. Laskey is now a fan of work from home, after being a skeptic. No face-to-face meetings. No visitors.

What is the new normal going to be?

Questioning staffing levels, need for CNY, child/adult care issues, teleworking, on-line training.

Display of CIP projects that engineers might be interested in bidding on. Includes: removing Quinapoxet Dam, combined heat & power at Deer Island.

Question on salary cap--now raised to \$75/hour

Maria Pinaud--overview of the Clean Water Fund (SRF) and Drinking Water SRF.

DW--focus on lead removal and PFAS treatment

CW enhanced subsidies -- 0% loan for nutrient reduction, particularly surface water or source water. \$600m for wastewater projects. \$2m in grants for asset management plans.

Despite limitations of COVID, they are getting plenty of interest. But short time period to use extra funds.

With Airbnb tax, cape cod communities can access more funds to address their nutrient issues.

Kathy Baskin, DEP: on PFAS in drinking water

Oct. 22 Drinking water standard in MA, 20 ppt for 6 PFAS.

Turns out that the state's mosquito spray includes PFAS.

Studying wastewater residuals; effluent. WWTP as permits renewed are being asked to measure influent, effluent, solids quarterly for PFAS.

Also testing rivers & streams upstream and downstream of WWTP, but also those without WWTP.

Actively looking at land-applied residuals--between 29-35 approved entities which can land-apply residuals. Asked these entities to start monitoring these residuals quarterly now.

Building a body of data. Using NH data now. Stakeholder process looking at groundwater and leachate modeling for residual soil applications and expected resulting groundwater levels. Looking at what risk might be/if there's a risk. Large generators of residuals. 38% land-applied in MA. Historically been a very important beneficial re-use. Have public health experts on the stakeholder process. Also inviting academics from across the country; looking at all aspects of land-application.

COVID response--MWRA has been a model. Ensuring enough wastewater treatment operators despite virus risks. Concerns about vaccines and how to access them. Suuberg is advocating directly to the Governor's task force on WWTP behalf.

CSO notification law will affect DEP and local WWTP.

PFAS sources to groundwater? Free testing for water suppliers (many sources groundwater) Private well monitoring as required by supplemental budget funding. IF DEP finds a PFAS source, then the Bureau of Waste Site Cleanup investigates wells around the source to determine the extent of contamination.

Presentation on a dam in the middle of Haverhill--possible removal pros & cons. Next to a derelict mill that Haverhill would like to rehabilitate for re-use.

MWRA Board 1/20

Katie Theoharides: EEA--drought officially declared over. DEP assisting water suppliers to address pandemic-related issues. PFAS--MA is one of the few states in nation to have stringent drinking water standards for PFAS. Monitoring ongoing. \$2m in remediation grants. DCR watershed division staffing--DCR committed to filling the vacancies--4 new hires this month. 4 additional positions interviewed. Will bring staffing to 138 (optimal, per DCR, is 150).

Fred Laskey: Thanks KT for DCR news. 75 employees have contracted COVID. Starting to strain operations. Most infections happening not at MWRA worksite. Have onsite testing 3x week.

Lots of interest in MWRA wastewater testing.

-Steve Rhode: sampling every day since early Nov. Command center wants that until surge is over- Highest results in entire program Jan. 8-11. DPH saw that spike on Jan. 8-12. Little bit of early warning because the test results (on people) are delayed. Data is tracking together.

Brief update on Lead & Copper Rule

-Steve Estes-Smargiassi--new technique on the test--will mean higher lead results. Every community needs a complete inventory of lead service lines and annual testing of them. A plan to replace all of them at high lead levels (now 10ppb is considered high). Testing at child care centers and schools. MWRA will need to re-evaluate its corrosion control.

Brian Rozowsky retiring from internal audit.

MWRA continues reviewing future needs for space and technology.

Annual Meeting--election of officers, committee chairs

Administration & Finance

Halfway through FY21. Economic uncertainty--but MWRA budget is stable. Debt service is down because of lower interest rates. \$5.6m allocated to defeasance.

Wastewater:

Change orders--

Chelsea Creek HW--the grit pit is flooding during high water events. New instrumentation for the automated grit removal was damaged. Making it immersion proof.

Nut Island HW odor control--making room for fire suppression piping

Gravity Thickener Rehab--three changed items and 98 days more time

Water

Replacement of pipeline near the Neponset River likely to be relocated because of poor soils.

New contract on some water quality issues--UMass Amherst. How to prevent disinfection byproducts, cyanobacteria & toxins, and how to better monitor the railroad through the Wachusett.

Repair of river road near Wachusett Aqueduct--damaged in a landslide.

Adjourn to Executive Session

EBC Leadership Webinar with EOEEA Secretary Theoharides

Decarbonization roadmap -- net zero by 2050

Range of options for Comm. looking for low-cost and sustainable.

2030 emissions limit 45% below 1990. Looking for cost-saving turn-over transition points for cars, heating equipment, power plants in 2020s. Scale and transition. "One of the most ambitious in the US"

TCI--reduce pollution from vehicles >26% by 2032. Over \$160million/year in tax revenue (carbon tax) to invest in clean transportation. Looking at EV chargers, public transit, new bus routes, electrification, bike lanes, resiliency, wireless & broadband, rebates to low-income & rural residents. Raises gas prices 5-9 cents/gallon in 2023. Does not impact home heating fuels. May not see at the pump.

Expanded rebates for EVs

Looking to expand solar adoption and expansion.

Investigating the future of natural gas, how to transition away from gas while “securing safe, reliable, affordable natural gas”

Geothermal demonstration project with Eversource to test scenarios of how geothermal network could work.

MVP--mitigating effects of climate change. \$44m in awards to date. 312 communities.

Advisory Board 1/21

Favaloro: DCR is hiring in the watershed. Good progress, but AB will be keeping on top of them.

Water Redundancy tunnel project--Kathy Murtaugh

Added two new staff this week. Growing the department, which is helping with non-tunnel projects as needed.

Preliminary design has begun. Should last 3.5 years. ENF by 2021. Alternatives evaluation by 2022, geotechnical investigations beginning. Preliminary design by Dec. 2023

Even with everyone remote, adapted to the virtual platform and have fluid conversations.

Construction should begin in 2026 or 27 -- lots of test borings.

Evaluating bidding and value engineering, through the end of construction. Not run-of-the-mill work. Need specialized expertise--construction manager.

Hoping to do parts of it ahead of 2027.

Planning on sharing their raw core samples—store it so it doesn't get damaged or lost. Deer Island will lend one of their lower galleries for a period. Many outside entities interested in the cores.

Study area in the south has expanded. North area is very dense and complicated. 10 communities involved.

Beginning community and stakeholder outreach group; forming this winter/early spring. Including 10 communities and AB.

Expert review panel formed Nov. 2019. Going well. Look at risk management, preliminary design work plan and this month geotechnical investigation work plan--the core borings are expensive, so they want to be sure they are doing them right and exploiting them to the extent possible.

Recommendations--work on shaft siting and land acquisition; staff some positions sooner, use a geotechnical approach, keep collaborating. MWRA hasn't done a big tunnel project for 20 years, so they are needing to review their contracts.

Sept. meeting--looking over the scheduling. Recommended a master program schedule for all pieces, so if something gets hung up you understand the ramifications and don't get derailed. Locate shaft sites--look at time, inflation and delay costs. Reviewed risk management approach.

A link on the tunnel program is on MWRA.com

How many shafts? --three types--big construction shafts (launching and receiving)--at least 4

REPORTS

Cross-Harbor cable is pretty much complete. Discussions on how to proceed. Moving toward resolution, with some benefit to ratepayers. Nothing final yet. Next phase through DPU.

Debt service: Gov. vetoed. Legislature overrode. \$1.2m in budget. Even though the financing looks secure, Gov. could still cut before end of FY.

Other \$\$: Hopes for federal assistance for infrastructure, similar to the 2009 Obama administration's grants. Asks AB members for good information primarily through the water-sewer rate survey, so AB can better advocate for the communities. Esp. interested in delinquencies, liens, shortfalls and even budget surpluses.

Rates & assessments: Boston's assessment increase next FY is likely to be small, zero, or less than zero. Rest of communities would pick up the difference. Assessments likely to be in the 3.4-3.5% range, but for those communities picking up more of the pie, it can mean much higher rates.

New Lead & Copper Rule:

Many years in the making. Highlights:

- New requirement for notification of exceedance of lead action level within 24 hours.

- Changes to how sampling done--all of the lead service lines tested annually; aim to get at water sitting in the line.
- Need a plan in place before then, and notifications to all homeowners of lead lines or unknown materials
- Need a plan to replace all those lines

Steve Estes-Smargiassi will produce a summary specific to MWRA communities

The Biden administration may delay these rules somewhat, as they are allowed to poke at them.

Changes in corrosion control at MWRA are likely.

Laskey: dominant task ahead is COVID. So far 75 employees infected. Dozens quarantined after direct contact. Have had a rush of retirements, some in key positions, maybe as a result. Instituted testing for employees 1x/week.

Vaccines? Yes, MWRA in the queue, just don't know how soon. Stressing to DPH how important it is for DPWs and MWRA to get the vaccines.

Wastewater testing so valuable, governor is insisting on daily results. Everyone looking at as early warning system; it does show trends, but is now more concurrent with testing as testing ramps up.

Q on the CSO notification law--it applies to all overflows. Looking for confirmation on that