



Minutes

May 12, 2023

Remote via zoom

WAC Members: Kannan Vembu (vice chair), Craig Allen, George Atallah, Adrianna Cillo (BWSC), James Ferrara (National Grid), Stephen Greene, Karen Lachmayr, Martin Pillsbury, Alfredo Vargas

Absent: Philip Ashcroft, Wayne Chouinard (chair), James Guidod (AB), Taber Keally, Dan Winograd,

Staff: Andreae Downs

MWRA: Wendy Leo, Brian Kubaska, Jeremy Hall, Margie Johnson, Wenley Kilbride, Devon Winkler, Maret Smolow, Chris Goodwin, Denise Ellis-Hibbett, Rose Souliotis, Katie Ronan, Sally Carroll, Michael O'Keefe

Guests: DEP: Susy King, Joseph Nerden, Areeg Abd-Alla, Claire Golden
Juliet Simpson (OMSAP), Joe Savage (SH/SB), Scott Neeson (ADS)

Save the Alewife: Eugene Benson, Gwen Speeth, David Stoff, David White, Kristin Anderson
CRWA: Julie Wood, Sarah Traore, Max Rome

VOTE: April Minutes

REPORTS:

Director—full report attached—Went to Water's Worth It lunch and Engineers' and Land Surveyors' lobby day on Beacon Hill. Wipes bill supported by hundreds of DPW directors and contractors. Attended the MAPC's webinar on flooding and stormwater. See link in report below.

MWRA: Wendy Leo: CSO signs installed by Memorial Day around Metro Boston. MWRA is all moved out of Charlestown, but still moving into the new spaces in Chelsea & Deer Island.

Construction: Braintree-Weymouth--starting

Nut Island headworks--nearly complete, hope to have full access this summer for park recreation

Deputy Chief Operating Officer and Chief Engineer retiring soon, and MWRA has many job openings as well as internships on mwra.com.

CSO variance approval process has started. Could be 7+ months. Draft may be out this summer, so be prepared to comment on that.

Deer Island Draft NPDES permit is likely happening soon. Estimated to be out May 31, and that starts the 60-day clock for comment.

WAC may need a July meeting to talk about the permit and finalize comments.

PRESENTATION

Brian Kubaska, assistant director of engineering; Wenley Kilbride, project manager, Planning; Jeremy Hall, program manager, Engineering

Overview of the second of three annual reports required per a compliance order from the courts as part of the original variance.


Summarizes 2022 model results and compares to Typical Year and Long-Term Control Plan (LTCP)

Also reports progress on the 16 sites not meeting the LTCP

Model dates from 2017

Updated [report link](#)

MWRA updates its hydraulic model whenever new information comes in



Hydraulic Model Updates

Why is the MWRA updating its hydraulic model?

MWRA, BWSC, Cambridge, Chelsea and Somerville continuously inspect and improve the sewer systems. Including these updates in the MWRA's hydraulic model allows for an accurate comparison of model predictions against meter data.

The updates allow us to also provide updated Typical Year CSO performance results for comparison with the Long-Term Control Plan activation and volume goals.

Location	Summary of Change
CSO Facilities	Updated the Real Time Control (RTC) to include the storm-by-storm operation of the facilities based on facility operation data provided by MWRA.
BOS046, Boston Gate House #1	The model RTC was updated to reflect the actual gate conditions at Gate House #1 during the January 1, 2022 – December 31, 2022 period (the Typical Year version of the model will open the gates in accordance with BWSC's updated SOP's).
East Boston BOS005	Closed regulator RE005-1 (outfall BOS005).
East Boston BOS014	Updated the model to include a new dry weather flow connection at BOS014.
East Boston RE003-2	Closed RE003-2 (discharged to outfall BOS003).
East Boston RE003-7	Closed RE003-7 (discharged to outfall BOS003).
East Boston RE003-12	Updated the configuration of the restricted interceptor connection at RE003-12 by replacing the existing dry weather flow (DWF) connection with 24-inch line and removing a manhole.
Roxbury Canal Sewer (RCS)	BWSC piping configuration for the RCS connection was imported to better represent existing conditions.
MWR018-019-020 Tributary Area	The MWRA's model was updated to include georeferenced subcatchments in the Back Bay and trunk sewers in the Old Stony Brook system to enable further alternative analysis.

Typical year or TY rainfall--model results are based on this. Use this for LTCP. Use actual year and compare to ensure that model predictions are in-line with measured CSOs. Table on the right is a summary of the changes in the model since 2021 report.

This also includes completed construction projects

Rainfall amounts and intensity are analyzed , and compared to Typical Year storm events.

2022 Rainfall Analysis

Frequency of Events Table	Total Rainfall (inches)	Total Number of Storms	Number of Storms by Depth				
			Depth	Depth	Depth	Depth	Depth
			< 0.25	0.25 to 0.5	0.5 to 1.0	1.0 to 2.0	≥2.0
			inches	inches	inches	inches	inches
Typical Year	46.80	93	49	14	16	8	6
2022 Average	33.63	93	53	19	13	7	1

- 2022 average of 93 storm events, and an average annual rainfall depth of 33.63 inches
- The Typical Year has 93 storm events and a total rainfall depth of 46.80 inches
- Based on the analysis performed, it is evident that the storms during 2022 were significantly less in depth than those in the Typical Year

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One reason 2022 was so dry may be that the rainfall in most storms was considerably lighter than typical.

Summary of 2022 Modeled and Metered CSO Discharges

	Meter Volume (MG)	Model Volume (MG)
TOTAL UNTREATED	2.58	1.19
TOTAL TREATED	105.26	113.15
GRAND TOTAL	107.84	114.34

Noted differences at: CAM401A, BOS009, BOS003, BOS070/DBC & Union Park

This table shows that the model was able to accurately replicate the CSO responses for most of the storm events. Notable differences in the model vs. actual performance at the outfalls noted above.

It is not possible to model for every meter and every storm event. The combination of rainfall differences, transient conditions in the system and the accuracy of rainfall gauges and outfall meters all contribute to variances.

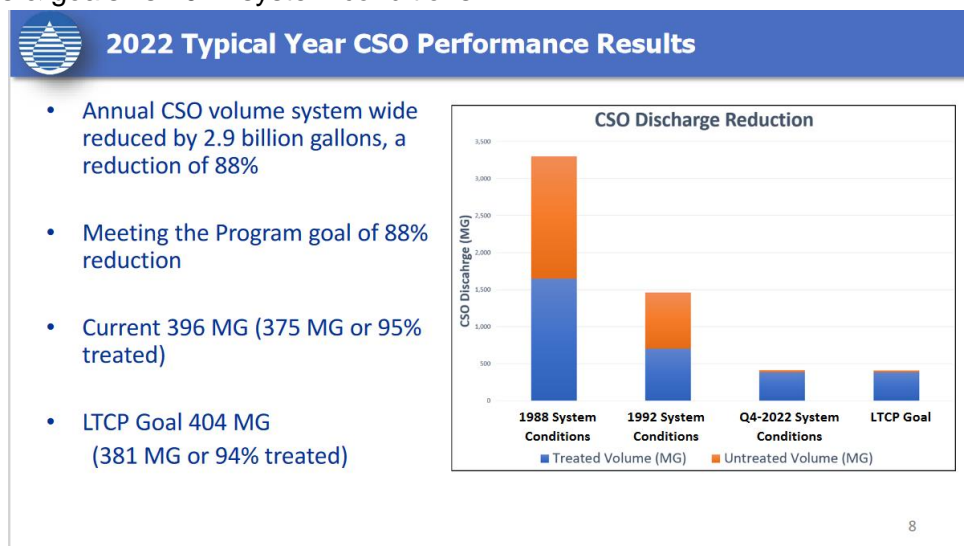
How does MWRA track progress?

To calculate the Typical Year, MWRA took the 40-year-average and added or subtracted some extreme years to get to a more accurate average.

Every outfall has a specific goal.

For instance, CAM001--5 activations, total volume .19mg

Reductions & goals vs 2022 system conditions:



MWRA is showing an 88% volume reduction, consistent with LTCP. And 95% of what is released is treated. The projected release of 396MG treated is actually 8MG less than the LTCP goal of 404MG.

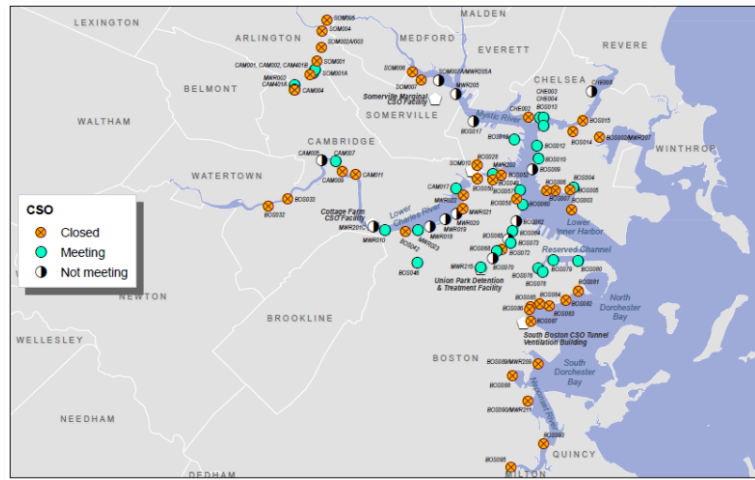
MWRA has exceeded goals of both treated & untreated CSO. More specifically, MWRA is reporting 375MG under the 2022 conditions compared to 381MG predicted by the model, or 6MG less for the treated CSO sites.

Performance Assessment by outfall:



Results of Performance Assessment Activation Frequency and Volume by Outfall

- 86 outfalls identified in LTCP
- 36 outfalls closed including 11 outfalls not required to be closed by LTCP (*BOS005 closed in 2022*)
- 72 of the 86 outfalls meet LTCP goals for activation frequency and volume as of the end of 2022 (*was 70 - BOS003 & 014 now meet*)
- 8 CSO have projects under designs or construction with projected completions by the end of 2024 (*was 10 - BOS003 & 014 complete*)
- Investigations nearing completion at 6 particularly challenging CSOs



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MWRA has closed 36 of 86 outfalls in the LTCP. The map is hard to read, so reference table 3.1 in [the report](#)

72 of the outfalls are meeting the LTCP's levels of control (closing BOS003 and BOS14 increased the number over last year from 70-72).

MWRA still making progress. 8 outfalls are subject to projects that will be complete by the end of 2024 and should bring those into compliance.

List of outfalls not meeting LTCP goals as of 12/21:



Progress on 10 of 16 CSOs not meeting as of December 2021 Report

OUTFALL	LOCATION	SYSTEM IMPROVEMENT(S)*	TO BE IMPLEMENTED BY	TENTATIVE SCHEDULED COMPLETION
MWR205	Somerville Marginal CSO Facility	Construct new connection from the facility influent conduit to the interceptor and replace tide gate. Project is currently in the design phase. The project is being coordinated with several other MassDOT projects in the area. The project is scheduled to bid in fall 2023, completed in Fall 2024.	MWRA	2024
SOM007A/ MWR205A				
BOS003 (Complete)	East Boston	Complete BWSC Sewer Separation Contract 3, including upgrade of interceptor connection at regulator RE003-12. Construction began in August 2021 and is ongoing. As of March 1, 2023, separation is complete for approximately 92% of the area to be separated. Regulators RE003-2 and RE003-7 were closed in May of 2022. The reconstruction of the restricted interceptor connection at regulator RE003-12 was completed in May of 2022. Remaining separation work is expected to be completed in Winter of 2023.	BWSC	2023
BOS009				
BOS014 (Complete)				
CHE008	Chelsea Creek	Replace/upgrade interceptor connection. Final design is complete and the construction contract was awarded in December 2022. Construction is scheduled to begin in April 2023 and be completed in Summer of 2023.	MWRA	2023
BOS017	Mystic/Chelsea Confluence	Modify existing siphon structure. Design is in progress. Construction is estimated to be completed in 2024.	BWSC	2024
BOS062	Fort Point Channel	Modify existing regulator structure. Design is in progress. Construction is estimated to be completed in 2024.	BWSC	2024
BOS065		Modify existing regulator structure. Design is in progress. Construction is estimated to be completed in 2024.	BWSC	2024
BOS070		Construct a new relief pipe parallel to the BMI. Design is in progress. Construction is estimated to be completed in 2024.	BWSC	2024

MWRA is working on 10 of 16 CSOs not meeting goals

At Somerville Marginal, adding another pipe with a gate to take advantage of Interceptor capacity during smaller storm events.

In East Boston, BOS009, doing additional sewer separation, which will be finished by 12/23

Chelsea, CHE008, --adding a larger pipe to MWRA sanitary sewer, which should be done this summer.

Four CSOs with BWSC to make improvements based on the hydraulic model, including Charlestown (BOS017) and three that discharge to the Fort Point Channel.

But we do have six remaining challenging sites--five within the Charles River, and Somerville 1A, which currently discharges to Alewife Brook.

MWRA is struggling to find ways to modify these such that they can contain the small amount of remaining discharge above the LTCP.

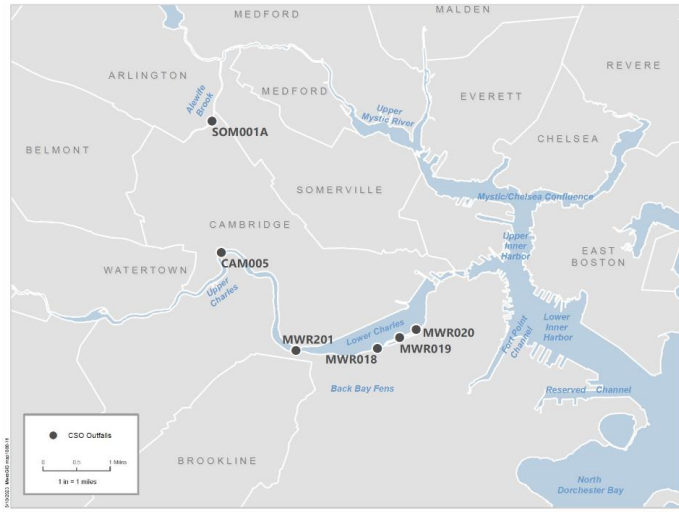


Six Challenging Sites

Alewife Brook
SOM001A

Upper Charles River
CAM005

Lower Charles River
Cottage Farm
MWR018
MWR019
MWR020



SOM001A: Is not meeting its goal there with volumes. Six overflows can discharge into the Alewife. Since 1992, substantial improvements have been made there. The brook used to receive about 12MG, and is currently down to 6.26MG and 8 activations, and is below the LTCP goal of 7.29MG for the total volume to the brook.



SOM001A

OUTFALL	TYPICAL YEAR			
	Q4-2022 SYSTEM CONDITIONS MODEL		LONG TERM CONTROL PLAN	
	Activation Frequency	Volume (MG)	Activation Frequency	Volume (MG)
SOM001A	8	4.47	3	1.67

Alternative identified that would meet the LTCP goals but causes MWR003 to exceed goal by 0.11MG.

- Raising the weir in the SOM001A regulator 3-inches
- Increasing the size of the orifice connection to the Alewife Brook Conduit (ABC) from 32x32-inch to 56x32-inch with a modulating gate to restrict the opening during large storms to prevent system flooding.
- Relining the ABC and Alewife Brook Branch Sewer (ABBS) from approximately the location of SOM001A to the Alewife Brook Pump Station to slightly increase the conveyance capacity

Next Steps

- Developing cost estimate.
- Working with the City of Somerville to evaluate whether flood mitigation alternative will also support CSO control.
- Assess the cost/benefit of further work at this time.

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Alternative identified, but might overwhelm the sewers upstream--which would bump MWR003 over the goal. Fairly complicated, and we don't want to cause issues elsewhere.

Developing costs for this alternative--evaluate whether some of the things Somerville's consultant is looking at can mitigate floods and get fewer CSOs. Also looking at cost/benefit.

MWRA is also looking to tweak two additional discharges into the Charles: CAM005 and MWR201.

CAM005 is upriver of Cottage Farm

CAM005

OUTFALL	Q4-2022 SYSTEM CONDITIONS MODEL		LONG TERM CONTROL PLAN	
	Activation Frequency	Volume (MG)	Activation Frequency	Volume (MG)
CAM005	8	0.75	3	0.84

Alternative identified of raising and lengthening the CAM005 weir brings the outfall closer to meeting the LTCP goal for activations. (5 Activations, 0.68 MG)

Next Steps

- Cambridge completing outfall cleaning
- Determine weir constructability
- Evaluating green infrastructure and sewer separation with weir alterations.
- Further develop the concept design to include optimal configuration and materials
- Develop cost estimates
- Assess the cost/benefit of further work at this time

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Volume at this discharge is considerably down from 1992. Volumes are under the goal, but number of activations are over the goal. Looking with Cambridge at feasibility of adjusting the weir. Still developing the concept and the costs.

MWRA201, (Cottage Farm)--the Authority has achieved dramatic reductions here, from over 200MG to 7.8MG since 1992. Met the activations, but a little high on the volume.

Cottage Farm (MWR201)

OUTFALL	TYPICAL YEAR			
	Q4-2022 SYSTEM CONDITIONS MODEL		LONG TERM CONTROL PLAN	
	Activation Frequency	Volume (MG)	Activation Frequency	Volume (MG)
MWR201 (Cottage Farm)	2	7.81	2	6.30

Investigations into alternatives that could reduce the volume at the Cottage Farm CSO Facility have included

- Upstream sewer separation and targeted groundwater infiltration removal
- Facility operation optimization
- CSO storage (*only viable alternative*)

Next Steps:

- Develop layout and costs associated with CSO storage sized to reduce the Typical Year discharge to meet the LTCP goal
- Assess the cost/benefit of further work at this time

Upstream sewer separation and infiltration is difficult and expensive. Have optimized as much as we can, so looking at CSO storage, alternatives in those storage options & costs.

MWR018/19/20--these are on the Charles River by the Esplanade. These are challenging because have a large tributary system via the old Stony Brook--a large amount of water that extends all the way to Roxbury; it's flat, and relieves the Back Bay system.

MWR018/019/020

OUTFALL	Q4-2022 SYSTEM CONDITIONS MODEL		LONG TERM CONTROL PLAN	
	Activation Frequency	Volume (MG)	Activation Frequency	Volume (MG)
MWR018	2	0.42	0	0.00
MWR019	2	0.16	0	0.00
MWR020	2	0.05	0	0.00

Investigations into alternatives that could reduce the activation frequency and volume at outfalls MWR018/019/020 have included:

- Sewer separation
- Separate stormwater removal from the collection system
- Green infrastructure/subsurface stormwater infiltration

Next Steps

- *Develop combinations and costs of sewer separation, stormwater removal and green infrastructure to meet LTCP goals.*
- *Assess the cost/benefit of further work at this time*

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Roxbury canal work reduced some of the volumes here in 2022.

Discharges down by about 88% since 1992. Have been investigating how to reduce the amount of water in this part of the system. Some of it is already separated, but the issue is how to get stormwater to the river or other pipes. Exploring feasibility of green infrastructure, combinations of different methods to meet the LTCP goals.

In summary, 2022 actual discharges were about a quarter of the Typical Year estimates. Shows variation in CSOs when compared to past years. Total CSO volume is now below the LTCP goal by 8MG.

MWRA and the communities are continuing to work on bringing all outfalls in line with the goals.

All the planned MWRA projects will continue to reduce the volumes of CSOs. Communities are also doing projects.

Questions:

Where is MWRA with the outfalls not meeting the LTCP goals?

So currently 14 outfalls are not meeting goals. We have projects for 8 of them. There are 6 that remain relatively challenging, and we anticipate large projects with large costs to get us over the goal line.

On the Charles: Cam005 MWR 18-19-20

Where can we find more info about what green infrastructure alternatives MWRA has evaluated? Will you take public comment? What are the storage volume requirements?

More info--past MWRA CSO reports get into more detail. This report doesn't go back into alternatives that we have already investigated. The first effort is conceptual, what acreage would we need to capture that first half inch or so. Look at what's needed to get there, then at where it could be sited. We don't yet have enough information to lay out for people, but we are getting close.

CRWA would love to be part of that process and could help you find sites.

MWRA will be meeting shortly with the watershed groups.

When and if the MWRA meets its LTCP, will it continue to make improvements, or does it declare success & walk away?

We are getting closer to our LTCP goals, which are court-ordered. MWRA is also required per our variances for the Alewife and Charles to develop updated CSO control plans to take the next step. Working with Cambridge and Somerville to update the Typical year, or 2050 TY. That will result in higher volumes than our 1992 TY. MWRA is committed to continuing to work on CSO issues and continue to update our plans.

What is the end game? Do you exceed the plan, or just meet it?

We don't know when we are "finished" because we haven't developed that next CSO plan.

Are the 2022 model results for activations and volume adjusted to equate the results to a typical rainfall year or are the 2022 results solely based on the 2022 rainfall total?

Actual 2022 amounts. We take the rainfall data & run it through the model for each year.

On p22 of the CSO annual report, MWRA identifies re-lining the ABC and Alewife Brook branch sewer from Som001A to Alewife Brook Pump Station to slightly increase the conveyance capacity as part of its preferred control plan. When will public input on this project occur, as it impacts the Alewife Brook Greenway?

This is a concept design. If the work were to proceed, there would be public outreach. Lining sewers means we insert a liner through existing manholes. It does not involve a lot of digging and destruction of the surface. This increases the slipperiness of the sewer lines and increases the capacity of the pipe.

It also keeps outside stormwater out.

Why not divert from one outfall to another in Alewife (Tannery Brook to Prison Point)?

MWRA investigated this option--it's not easy because there's a hill between the two systems. It didn't show a meaningful effect. Somerville is doing some work on the other side of the city--that work includes a large stormwater conduit & some sewer separation. MWRA was not able to move enough water to have an impact.

Can you speak about the regional system capacity problems, during large storm events, downstream of Alewife Brook Pump station?

In terms of system capacity, the MWRA system is not designed to convey every storm event. We can only handle a certain sized storm. CSO discharges prevent flooding of streets and homes upstream. To contain all of the flow would be a very large effort. In some parts of the system, we have added some capacity, but nothing to the extent that would be required to add capacity downstream of Alewife Brook. Flows now to Chelsea Creek Headworks, which is close to capacity, and the tunnel that flows to Deer Island, and once you get to Deer Island the North Main pump station would also have to be increased, as would the capacity at Deer Island. So, understand the chain reaction that would be required.

How can the Alewife be helped if the problems downstream cannot be addressed:

That's what we are working towards. Further CSO reduction.

Tannery Brook drain--is there a natural spring? There used to be a brook there, and I wonder if that's contributing to the problem at SOM001A during heavy rain events.

Don't know enough about the history there to be able to speak to that. Maybe a Somerville municipal official could help.

Belmont has separated sewers, but untreated sewage from Belmont seems to be discharging into the Little River/Alewife Brook. Why is MWRA003 connected to Belmont's sewer trunk?

MWR003 is the regulator for the Alewife brook conduit. As the levels in that conduit rise--which is not solely Belmont's flows causing the overflow at that outfall; it can be more water entering downstream--this can cause the upstream pipe to overflow.

Why are there no green stormwater infrastructure and storage solutions being proposed for Tannery Brook drain area? There is quite a lot of state land that could be used for that kind of infrastructure.

We focused more on gray infrastructure to solve the issue at the regulator and upstream of the system. Working with Somerville on flood mitigation efforts along with this, and seemed to be meeting our court ordered limits. Green infrastructure requires land acquisition, and needs to be coupled with other things to achieve the kind of reductions we need. Green infrastructure also needs the right soils beneath it.

DEER ISLAND PERMIT discussion

Should WAC ask for more comment time? Members in favor of asking for time.

Wendy--may give you half of what you ask for, but doesn't hurt to ask.

Enterococcus--Karen Lachmayr had suggested language. Feels the Advisory Board focus on swimming isn't that helpful--enterococcus is a standard measure for human fecal contamination, and impacts many aspects of the ecosystem. But feels the uniqueness of the system and the dilution factor should be taken into account.

Major Storm Event Planning & co-permittees: goes out decades. No funding to address. Longer than the 5-year permit term, but planning out 40-80 years?

Members -- WAC should weigh in.

Wendy--time to make the plan is also only 12 months to develop and implement, which may not even be feasible for a town to vote the money to start planning.

Take time this month to read over Billerica permit and the MWRA comments

Next Meeting June 2

Director's Report April-May 2023

Water Resources Commission 4/13

Hydrologic Report: MA entirely out of drought as of the end of March.

Outlook: no strong signal for spring temperature or precipitation. State likely to be hotter this year than last, on average.

Presentation: Water Conservation Social Media Products

Using "go gold" instead of "let your lawn go dormant"

Also promote native plants and reducing lawn size.
Consulted with the Water suppliers' association.

Presentation: Water Smart Landscaping Programs

a. North and South Rivers Watershed Association

Water Smart South Shore Mostly education--where water comes from, goes, and how to be better stewards of it.

South Shore is mostly residential. Educate on stormwater, water supply, messages to businesses. Look to the North South River Water Association website for materials--some cute videos available that can be used in any community.

b. Association to Preserve Cape Cod: Much like NSRWA, lots of education--[native gardens](#), low water use.

Differences: look at water quality issues--excess nutrients impacting water quality--educate on vanishing native species (birds, etc.) and fertilizer/pesticide applications (80% residential).

What can we do?--send out information about native plants that support butterflies and wildlife.

Have a plant selector tool on their website. Identifies plants native to the Cape that work well, based on soil and light types, moisture, and bloom time.

Also have a rain barrel program that now delivers to residents' doors.

DCR has a whole section of its [website](#) on pollinator plants

MWRA Advisory Board 4/20

Awards for former & current MWRA Executive Directors: Paul Levy, Phil Shapiro, Doug MacDonald, Fred Laskey. Also to all AB communities.

Vote to elect Lou Taverna as Advisory Board representative to the MWRA Board--filling John Carroll's term (1 year) and next term (3 years).

Budgets:

AB budget--save on rent by moving to Chelsea. Full staffing -- 4 full time, but some reductions because Joe will be gone & AB might not fill vacancies right away. Printing & mailing line item down. No copier, since using MWRA's. Total reduction about \$100K.

Rate Revenue Requirement: MWRA estimated wholesale increase is 3.42%. AB request is 2.4% (advertised as 2.4 by '24 for years), down from 2.85% in FY23 (as approved).

How: Debt Service Assistance of \$1,187,297 in FY23 state budget

Personnel: MWRA is still 111 short of full staffing, which means \$9m in underspending. So AB recommending funding with a vacancy rate expected to save \$2.7m--just lowered expectations, not lowering FTE count



Pension

Exploring ways to utilize water utility rate stabilization towards water utility pension costs

Offsetting water utility pension costs by reallocating OPEB contributions

Short term approach of MWRA Retirement Board and PERAC working together to operate with a rolling fully funded date using the 2040 PERAC deadline

Long term approach of legislation to enable PERAC to grant nearly funded agencies like MWRA to utilize a rolling fully funded date

Waiting for the actuarial study to show the extent of the unfunded liability. MWRA nearing its pension full funded date. But with the unfunded liability remaining, and shorter payoff date, the

amount of risk that MWRA will have to find a larger chunk of money to reach full funding increases.

Slide showing comparison of where MWRA is compared to various communities:

Board Name	Funded Ratio	Valuation Date	Investment Return Assumption	Fiscal Year Amortization Completed
Leominster	119.40%	1/1/22	5.50%	N/A
Shrewsbury	105.80%	1/1/22	7.50%	N/A
Watertown	103.60%	1/1/22	7.70%	N/A
Quincy	101.20%	1/1/22	6.75%	N/A
Massport	98.40%	1/1/22	6.75%	N/A
Greater Lawrence	97.00%	1/1/21	6.50%	2027
MHFA	94.80%	1/1/21	7.00%	2021
Brockton	94.50%	1/1/22	6.75%	2035
Minuteman Regional	94.20%	1/1/21	7.00%	2027
Concord	93.40%	1/1/22	6.50%	2028
Winthrop	92.70%	1/1/21	6.75%	2026
Cambridge	90.60%	1/1/22	7.10%	2026
Dedham	90.00%	1/1/22	7.00%	2029
MWRA	89.00%	1/1/22	6.90%	2030
Milton	88.60%	1/1/21	7.00%	2026
Easthampton	88.50%	1/1/22	6.85%	2028
Hull	88.50%	1/1/22	7.40%	2030
Stoneham	88.40%	1/1/22	7.00%	2026
Berkshire County	87.40%	1/1/21	6.75%	2028
Montague	87.00%	1/1/22	6.85%	2030
Chicopee	85.70%	1/1/21	7.25%	2026
Dukes County	85.30%	1/1/22	7.00%	2031
Blue Hills Regional	85.30%	1/1/22	7.00%	2029

Director’s Report: System expansion continues (water side). Sudbury is key in metro-west as all the pipes run through them. Burlington is coming online. Votes will come soon.

Operations Committee: Outlines issues with co-permittee language and climate change planning for communities.

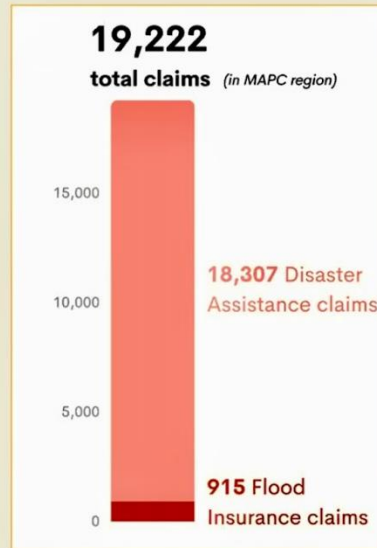
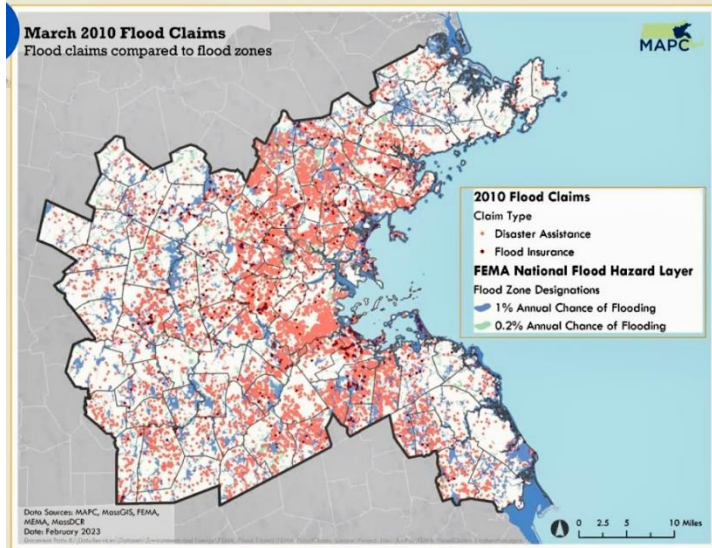
5/3 MAPC Workshop on Flooding

[Stormwater flooding report:](#) Insights and policy prescriptions

March 2010 flooding: 17 days >17 inches.

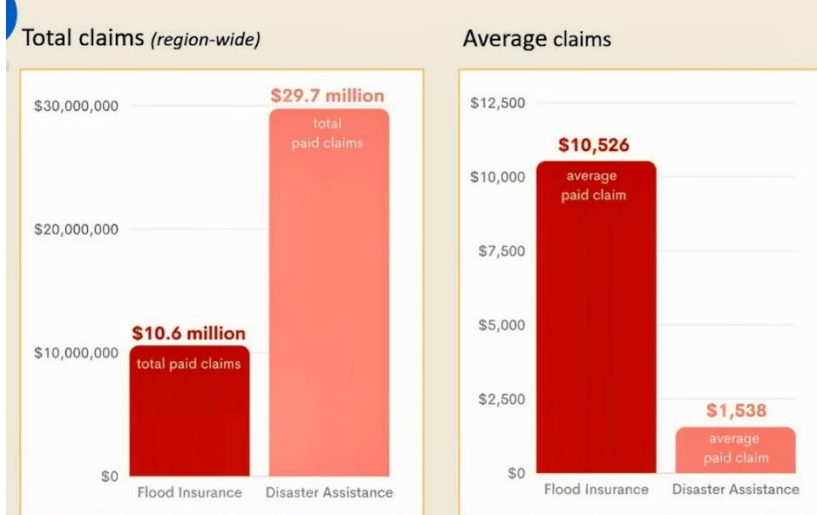
Disaster and flood insurance claims: 19K+

March 2010 Flood Claims



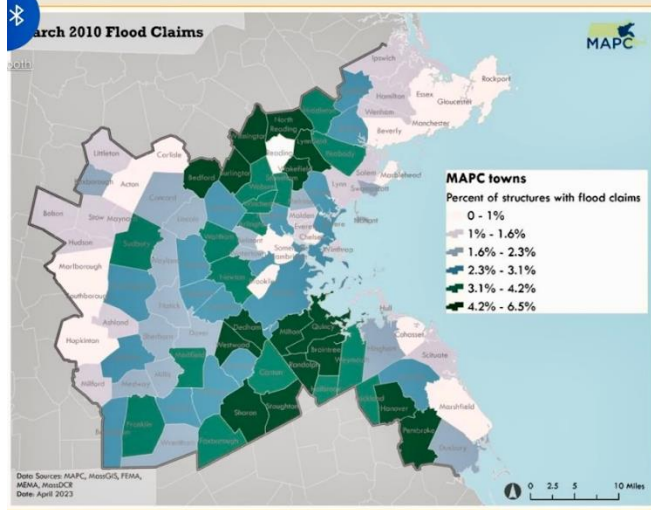
Total and average claims:

March 2010 Total and Average Claims



The difference in claim payments has to do with coverage limits

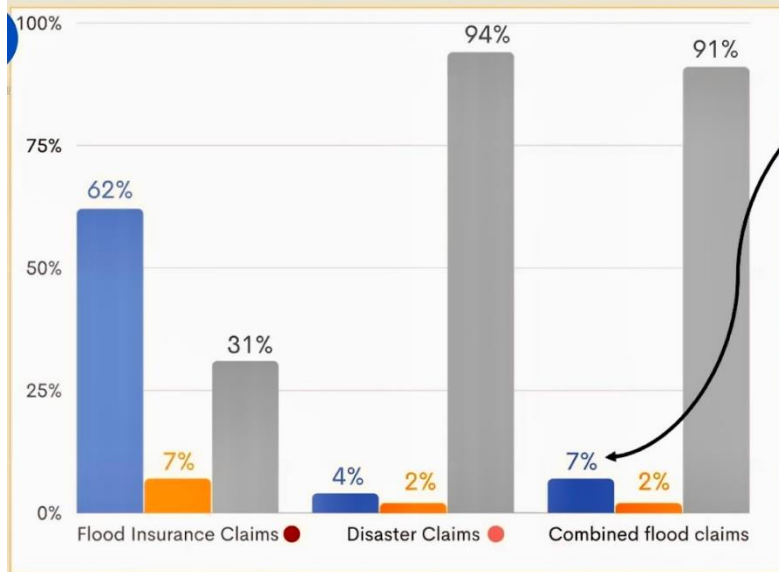
March 2010 Flood Claims per municipality



Municipality	Total number of claims	% of structures with flood claims
Randolph	551	6.5%
Sharon	358	6.3%
North Reading	281	6.1%
Milton	467	5.8%
Stoughton	447	5.8%
Braintree	587	5.7%
Wilmington	415	5.6%
Bedford	222	5.6%
Burlington	351	5.0%
Lynnfield	195	4.9%

Where claims were filed. 6+% is relatively high, since filing is a hassle.

March 2010 Flood Claims vs Flood Zones



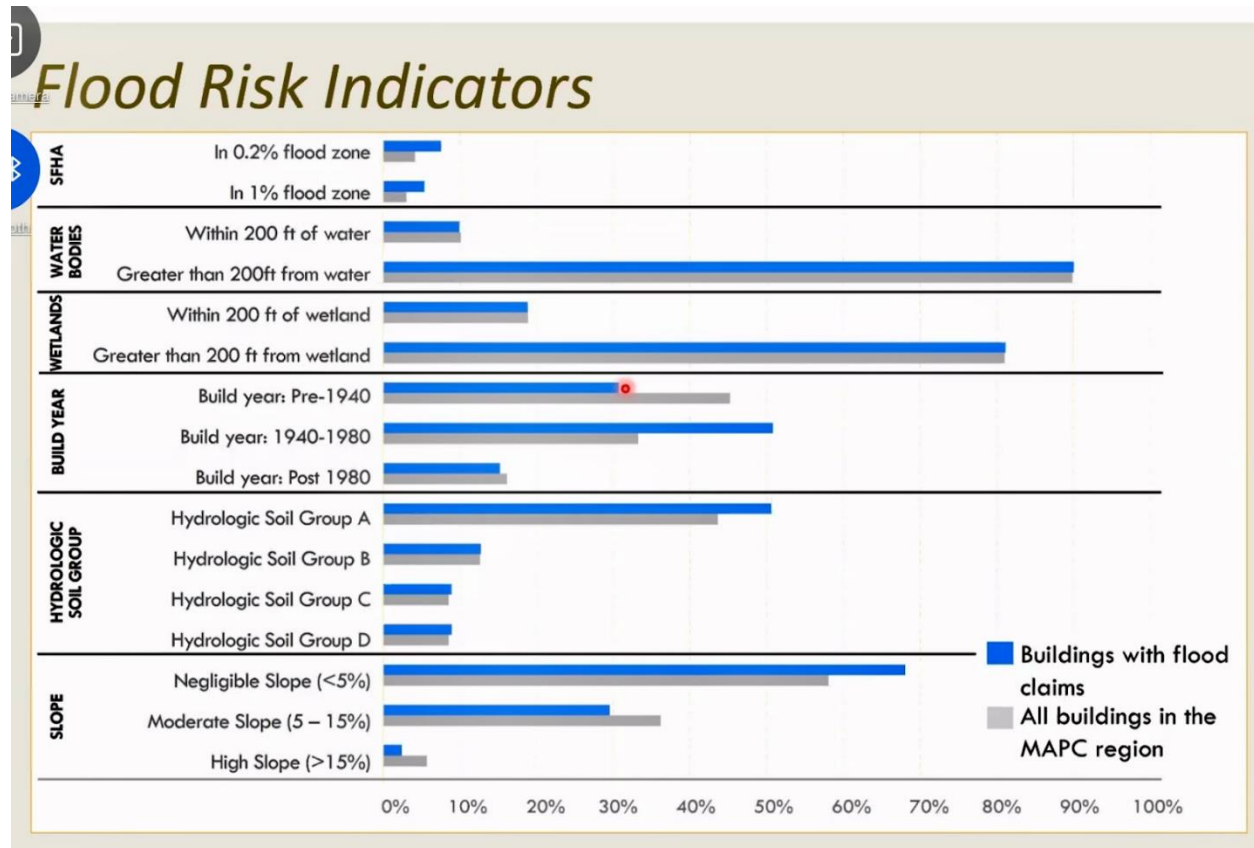
Only 7% of all claims were in the 1% chance flood zone.

Percent of claims located in specified flood zone

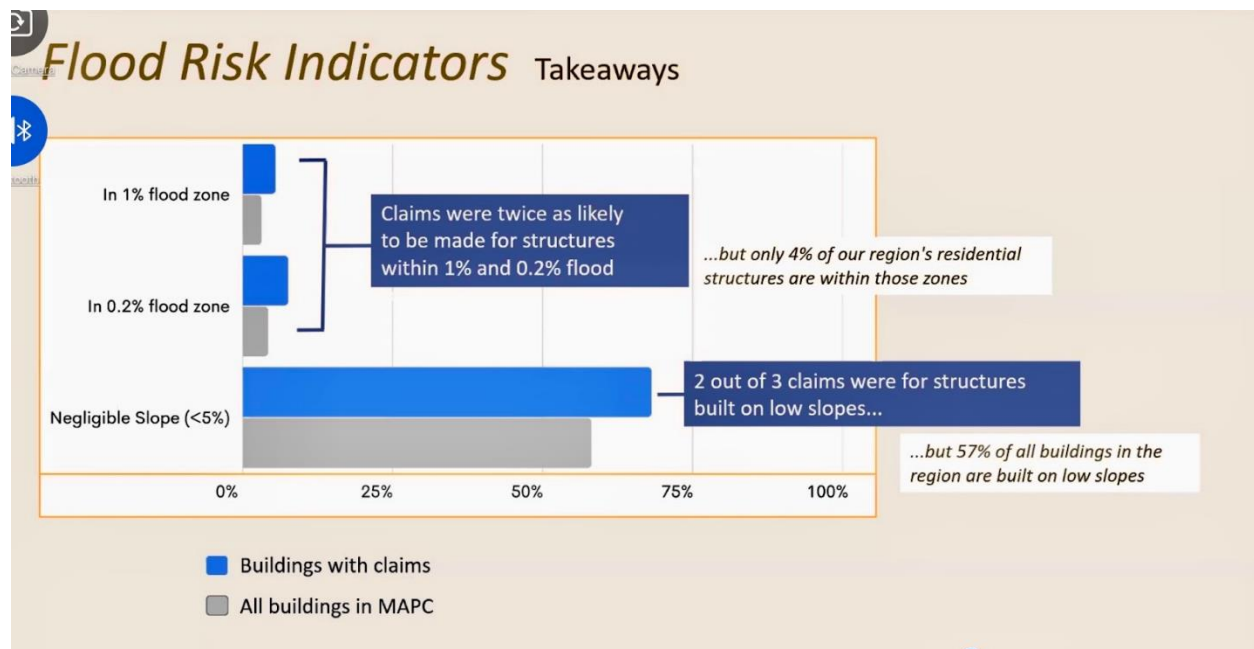
More flooding is likely under climate change future scenarios

Only 7% of claims were in the 100-year flood zone. Since homeowners don't usually take out flood insurance if live outside of a flood zone, we understand why the 95% **disaster** claim rate, (if not why they flooded)

MAPC looked at flood risk indicators:

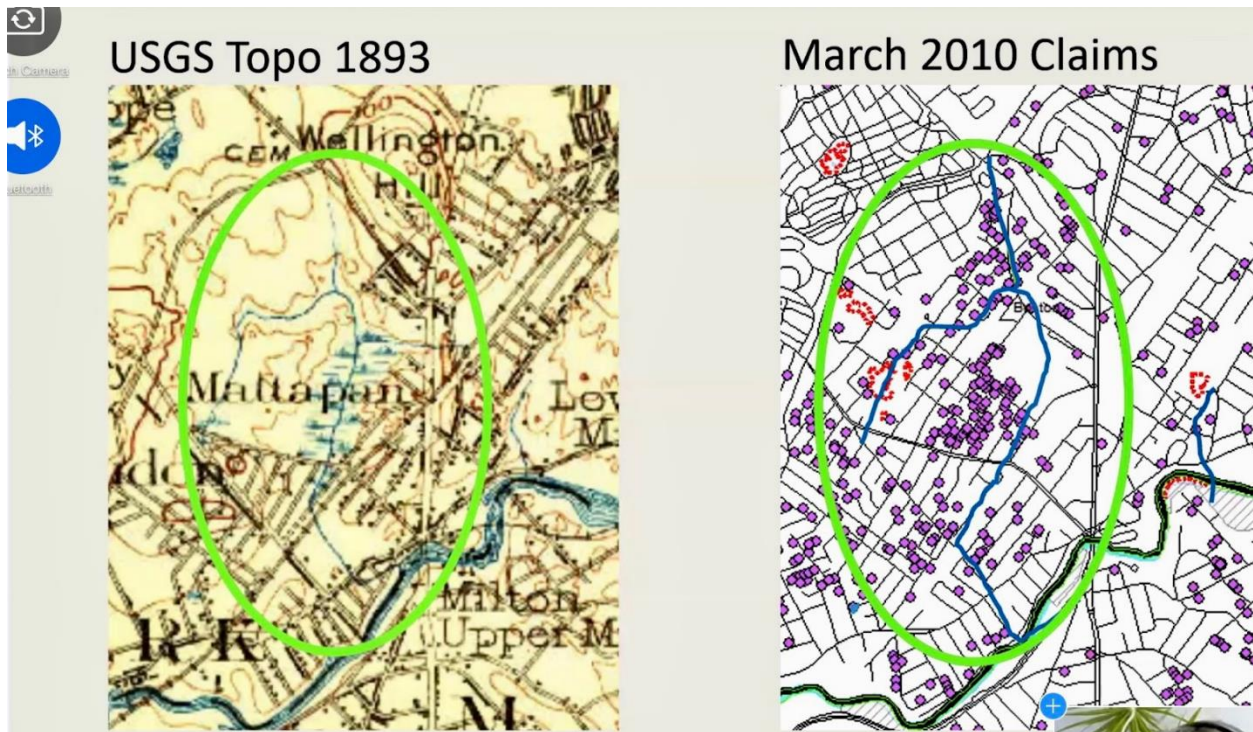


Takeaways from the data comparison:



Age of structure plays a part--before 1940 were further from water bodies. Since 1980, may have other factors that spared the homes, like wetlands regulation.

Relationship between filled wetlands and flooding--the brooks here are underground or filled now:



56-72% wetland loss. But not sure has policy impact. MAPC will continue to investigate.

Woburn: more claims than average. Claims across the city, clusters unconnected. Most people were unaware of their flood risk, and so were unprepared. Sump pumps, basement sealing and french drains are only partly helpful.

Strategies:

Stormwater Strategies



1. Make data available
2. Promote and subsidize property retrofits
3. Strengthen development regulations



Boston.com; Milton

Poorer residents will be impacted more.

Data:

1. Repeal federal privacy restrictions
2. Require flood history disclosure--Ma is one of 15 that does not require at point of sale.
3. Collect local data--fire departments log calls for flooding. Not subject to privacy law. Map this data & share with residents.

Property retrofits

1. State revolving fund needed
2. Provide retrofit assistance
3. Develop local assistance programs--target low-income families.

Regulations

1. Elevate utilities
2. LID & s/w regs
3. Create s/w utilities
4. Update [climate rainfall](#) estimates

Reduce/address flooding. Woburn--website of information; brochures at every permitting department on the issue of flooding and best practices. Underutilized resource: building and Inspectional Services departments.

Dedham has new regulations that EEA recommended as a model for other municipalities

Other resources: [bioretention practices](#): (national academy of science)

