Minutes
Nov. 20, 2025
Remote

Attendees:

WAC Members: **Kannan Vembu** (Chair), **Dan Winograd** (Vice Chair)**, Adriana Cillo** (BWSC)**, Craig Allen**, **Wayne Chouinard** (Belmont), **George Atallah**, **Dr. Karen Lachmayr, Martin Pillsbury** (MAPC), **Taber Keally** (NepRWA), **Alfredo Vargas** (Newton), **Christine Bennett (**Advisory Board), **Jonathan Smith** (Somerville), **Felina Silver** (LWV), Zhenyu Tian (Northeastern). **(**Members in attendance in **bold**).

Guests: Moussa Siri (WSCAC), Emily Norton (CRWA), David Stoff, David White (StAB), Matt Romero (AB), Richard Raiche, Lucica Hiller (Somerville DPW), Paul Lauenstein (WSCAC)…

Staff: Andreae Downs

VOTES: October Minutes

CSO LCTP Discussion:

Andreae summarized the development of the Partners (Somerville, Cambridge, MWRA) proposal for the DRAFT Combined Sewer Long Term Control Plan (CSO LCTP) to date—

1. Months of Partner public meetings and meetings with watershed groups (CRWA, MyRWA and StAB)
2. 37 alternatives, and decision trees
3. $800m alternative presented to the MWRA Board, with explanations for that particular selection vs. alternatives explored (not just cost, but flooding, water quality—including phosphorus, constructability, length of disruption for residents, disruption and removal of parks, etc.)
4. Board decision to put off a vote in order to get more information, mostly on rate impacts of various alternatives.
5. DEP instructions to take more time on that vote—30-90 days expected.

Andreae explained that the Partners accepted the watershed organizations suggestion that they account for climate change in the plan. This means that instead of using a 40-year average for the Typical Year (TY, used in planning to have a metric to build to), the Partners are using rainfall estimates for the 2050 TY accounting for climate change. Andreae explained that no other CSO system uses a forward-looking TY, and noted that TY is used for modeling and planning, but that most years will not be TY—some will be dryer, others wetter.

Andreae shared data from MWRA sources showing that stormwater accounts for most of the fecal indicator bacteria currently in the rivers—that CSO is relatively clean:

Water Quality

- In all CSO water bodies, stormwater accounts for the majority of the fecal indicator bacteria

TY or Typical Year here is based on a 40-year (backward-looking) rainfall record

Table 5-1. Summary of Annual Compliance with *E. coli* Single-Sample Maximum Criteria, Typical Year, CSO Sources Only

Waterbody	Annual Compliance with Single-Sample Maximum Criterion, Typical Year, CSO Sources Only
	E. coli
Charles River	99.6%
Alewife Brook	98.7%
Upper Mystic River	95.8%

Slides are attached and sent directly to members.

Andreae shared charts showing that bacteria start to enter the Alewife/Mystic before CSO discharges, and above the outfalls:

Alewife/Mystic loading chart by location

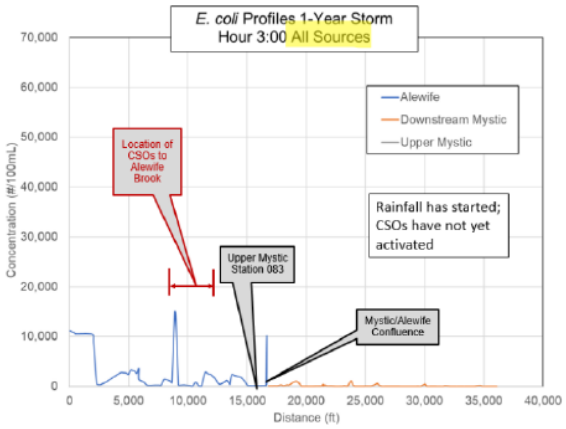


Figure 4-5. *E. coli* Profile at Hour 3:00, 1-Year Storm – All Sources

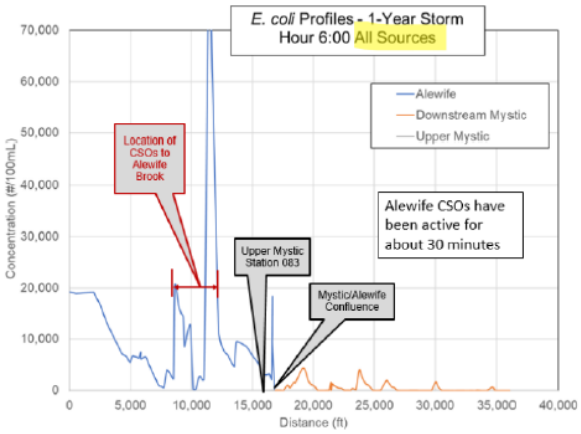


Figure 4-6. *E. coli* Profile at Hour 6:00, 1-Year Storm – All Sources

This and other data show that most of the combined sewage bacteria hit the Mystic below the Alewife Brook, which seems to be the source of most of it.

The Partners' data showing what the 2050 TY would look like without any of the changes proposed:

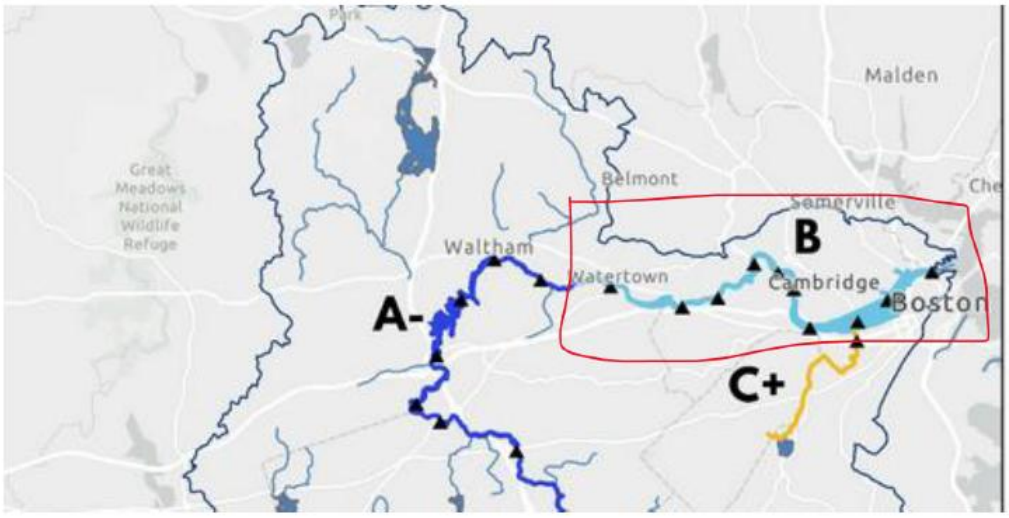
Water Quality Modeling Results – Alewife Brook / Mystic River

Percentage Time Entire Modeled River is in Compliance*				
Model Run	*E. coli* (410#/100mL)			
	All Sources	Non-CSO Sources	CSO Only	Stormwater Only
Alewife Brook				
2050 Typical Year	41% (150 days)	41% (150 days)	99% (361 days)	43% (157 days)
Mystic River				
2050 Typical Year	52% (190 days)	52% (190 days)	96% (350 days)	54% (197 days)

Source: MWRA presentation slides 10/29/25

Moving to the Charles, Andreae shared a CRWA map showing where the water fails to meet standards according to CRWA data—which includes cyanobacterial blooms as well as high e-coli sampling:

CRWA map of grades (source CRWA)



MWRA data for the river area highlighted above:

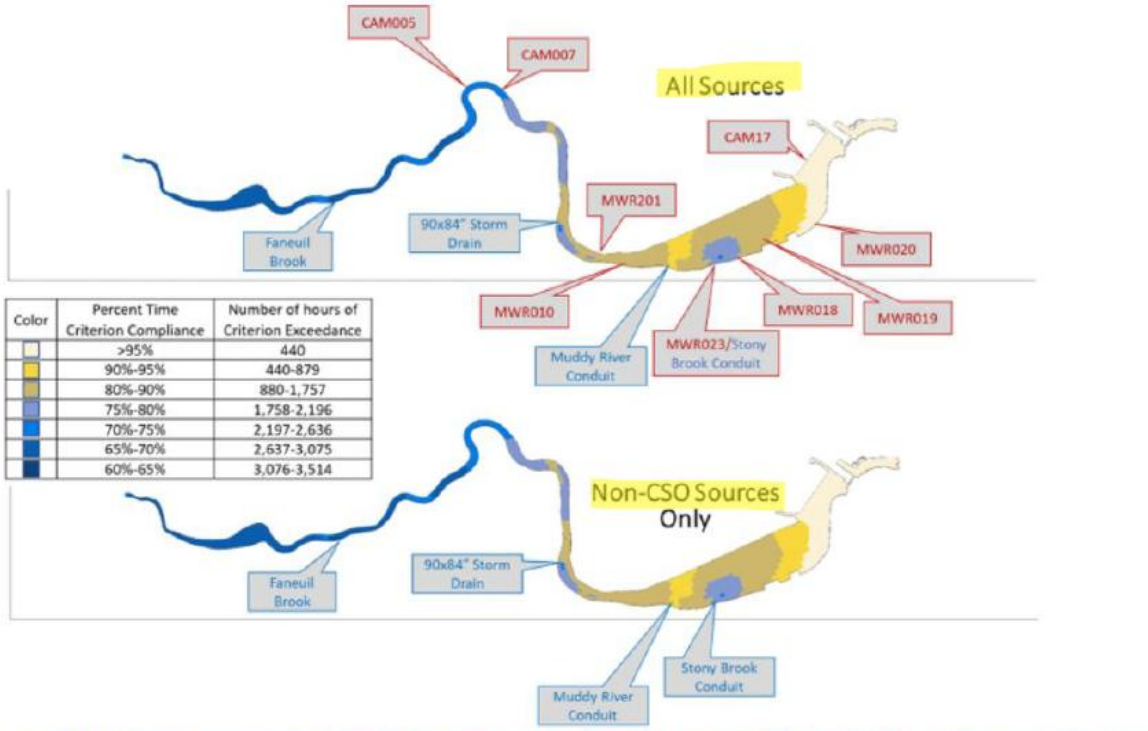


Figure 3-5. Hours of Exceedance and Percent Compliance with 235 Colonies/100mL *E. coli* Single-Sample Max. Criterion for the Typical Year

Source: 2011 MWRA CSO model report—Typical Year (current)

Note that dark blue areas are dirtier than yellow or tan.

Projected inputs in the 2050TY are similar—some pollution coming from Boston outfalls. Boston is not part of the Partners' LCTP proposal.

Andreae then explained the tools the Partners considered to further control CSO:

1. Aggressively removing inflow & infiltration (I/I) was ruled out after analysis showed it would not make a substantial impact on CSO.
2. Sewer separation—sends less water to Deer Island, less sewage into the rivers via combined sewer pipes. The street reconstruction presents an opportunity to add green stormwater infrastructure (GSI). BUT—can increase local flooding (would normally discharge to the rivers—particularly on the Alewife), construction is long and disruptive, adds phosphorus and other pollution (including sewage from leaky sewer pipes) to the rivers.
3. GSI—benefits include cleaning the dirtiest first inch, carbon capture, shade (when trees are used), increased aesthetic beauty for neighborhoods, traffic calming. Partners are including GSI in sewer separation projects. BUT – current research shows only limited effect on CSOs, and the land available is very limited.

4. Storage—very effective to capture flows for later treatment. BUT—hard to site, expensive to construct, land, pumping and odor control needed. Much of the land that might be used is under parks, which would have to be closed during construction and parts may need to be taken & not returned.
5. Conveyance—can move water to another area for storage—BUT limited opportunities to do so and need bypass systems during construction
6. Regional Tunnel—same issues as tank storage

As of Oct. 29th, the Partners proposal looked like this:

Receiving Water	Level of Control	Hydraulic Model Predictions 2050 TY			
		Activation Frequency		CSO Discharge Volume (MG)	
		Baseline Conditions	Recommended Plan	Baseline Conditions	Recommended Plan
Upper Mystic	1 – Limited CSOs in 2050 Typical Year	8	2	29.3	6.7 Treated
Alewife Brook	2 – Zero CSOs in 2050 Typical Year	13	0	20.9	0
Charles River	1 – Limited CSOs in 2050 Typical Year	6	4	38.4	1.2 Untreated 26.8 Treated

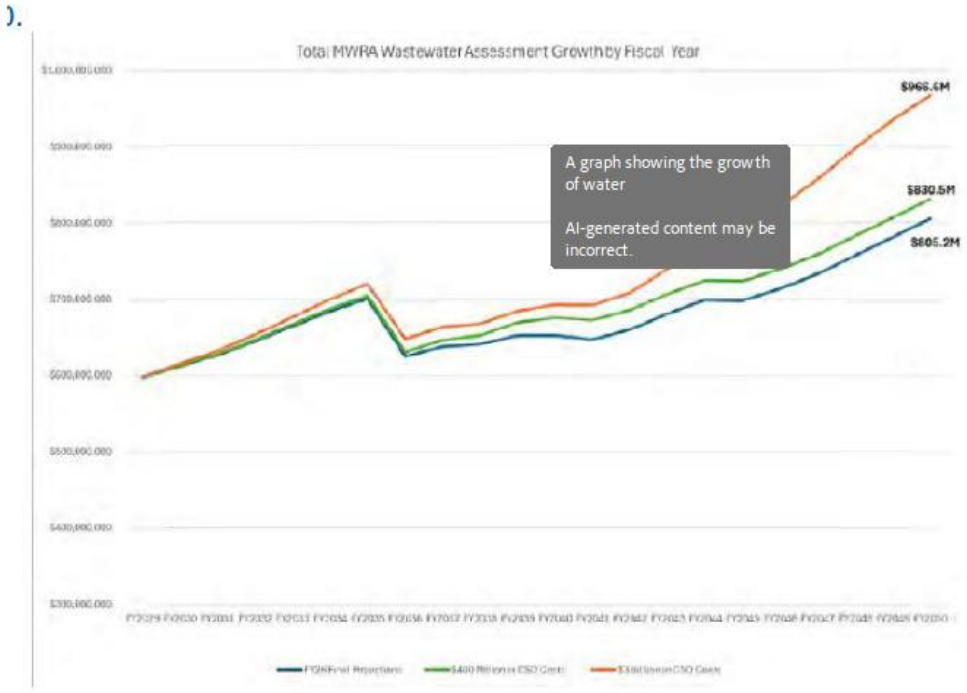
And here are the costs and duration of this proposal:

Basin	Recommended Alternative	2050 Level of Control	Estimated Cost (2025 $)	Duration
Alewife Brook	Hybrid 2 — two underground storage tanks, microtunnel connection, and 8 acres of sewer separation	0 CSOs in 2050 Typical Year	≈ $340 M	13–18 yrs
Upper Mystic River	Hybrid 1 — 2.7-million-gallon storage tank and 95 acres of sewer separation	Limited CSOs (≈ 2 treated events per year)	≈ $170 M	5–10 yrs
Charles River	Hybrid 1 — 2.5-million-gallon tank, 268 acres of partial sewer separation, and storage conduit	Limited CSOs (≈ 4 treated events per year)	≈ $360 M	23–28 yrs

Total cost: ca. $870 million. MWRA portion: ca $400m.

The MWRA finance folks took a look at the proposal, the most expensive alternatives, and one that would be mid-way, and projected out how that would affect rate increases:

Rate increases—why they matter for water quality



Andreae explained how municipalities try to mitigate water/sewer/stormwater increases by holding increases steady on budgets where they have discretion—like repairs to their water/sewer/stormwater pipes—when they have a sharp increase in one budget (for instance, Newton's increased costs for phosphorus control in stormwater meant that this year the water & sewer budgets were not increased).

Thus—if MWRA rates increase sharply, communities will try to balance by lowering their investments in repairing sewer and stormwater pipes. Given the high bacterial concentrations in stormwater, that may lead to more bacteria in the rivers. Andreae noted how much research is needed to figure out why the stormwater bacterial levels are so high and what the best practices would be to control them.

DISCUSSION

Q: Isn't there a consent decree that sewer separation must happen?

A: Andreae will check on this. Sewer separation will still happen in all three watersheds under the $870 million proposal, but the Partners decided not to pursue complete sewer separation for reasons noted above—sanitary sewer overflows, flooding, phosphorus pollution, and cost (the complete separation would cost over $7 billion and 50 years).

Q: Not to suggest cost should not be limiting factor, but since WAC's early days sewer separation has been a focus of this committee. In WAC discussions in the 1990's, some WAC members felt a portion of the funds slated for building Deer Island at its current scale should be directed instead towards more sewar separation, and the plans for the Deer Island plant should be scaled down. Sewer separation should continue to be a focus of WAC. Of the alternative CSO LTCPs studied, it would be appropriate for WAC, while considering cost, to favor one that involves significant sewar separation. Q: Why was the Dorchester Tunnel built in the first place? Why not put out the three levels of control for the communities to choose from, each with a price tag?

A: The community choice part would come after a draft plan is released. The Dorchester storage Tunnel was possible because of the amount of room it would take and the space was available.

Q: Appreciate that we consider what won't be funded if the more expensive options are adopted. Also should consider community impacts, and the time that construction will take vs. the benefits that the waterbodies will see.

Andreae offered to get the Partners in for a presentation of how they arrived at the current proposal.

Several members said they would like that.

David Stoff (StAB): Noted that his group had presented alternatives to the Advisory Board in the meeting just preceding the WAC meeting. Thinks the cost of stormwater in the system needs to be re-evaluated to incentivize communities to clean up their stormwater. Suggested the small number of people interested in water quality should be working together. Concerned that current wastewater assessments are not equitable.

A: Andreae noted that the sewer rates were a long negotiated, and that volume is a factor in those rates. The more stormwater a community adds, the more they pay for treatment.

Andreae invited Richard Raiche to talk about the impacts of the $800m plan on rates in Somerville.

Raiche: The alternative presented would make Somerville's sewer rates triple over the next 5 years, under the current negotiated split between the Partners==20-50% increases over the next 5 years. Somerville City Council has to approve those increases, and they put forward a resolution that they passed on to the elected state delegation that MWRA pay more of that cost.

Andreae noted that when Deer Island was built, the state committed to pay debt service assistance to help with the cost—but subsequently has rarely stepped up to make those payments.

Andreae offered to find any additional information members request between now and the next meeting. She noted conversations she has had with BWSC about their bacterial levels in stormwater, and the need for more information on those pollution levels.

Members thanked Andreae for the presentation and agreed that the Partners' presentation would be helpful.

Next meeting is Friday January 16th 10:30 am - noon