Mystic River Watershed Steering Committee
June 4, 2020
10 AM – 12 PM

Meeting Summary

A recording of this meeting is available at https://mysticriver.org/epa-steering-committee.

Meeting Purpose: Provide an opportunity for participants to:

- Hear about the Mystic River Watershed Nutrient Study and alternative TMDL.
- Hear updates on current MWRA CSO variance work

Welcome and Introductions

Patrick Herron (MyRWA) welcomed everyone, noted the strong attendance (around 75 at this meeting), and acknowledged the challenges of working during both a pandemic and a civil rights struggle. He then reviewed the agenda.

The Newly Released Mystic River Watershed Nutrient Study/ Alternative TMDL and Next Steps (Phases 1-3)

Slides for this presentation are available at https://www.epa.gov/mysticriver/mystic-river-watershed-initiative#MeetingsEvents

Mel Cote (EPA) began by recognizing that the release of this report is a major milestone, which is the culmination of work that began over three years ago. The report itself was issued and emailed to the Steering Committee list last week. Mel acknowledged the partnership of several programs within EPA, DEP, MyRWA, and municipalities on this project.

Toby Stover (EPA Water Quality Standards Section) shared that in 2013, EPA came out with a new Clean Water Action section 303(d) Vision, recognizing that approaches other than TMDLs could help meet water quality standards in a more efficient way. For example, NPDES or MS4 permits, nonpoint pollution reduction projects, restoration activities, and other strategies can be effective. He compared traditional to alternative TMDLs, noting that the alternative is more flexible, faster, and less expensive because it is not bound to the strict regulatory framework.

Newt Tedder (EPA Stormwater Permits Section) compared the implications of traditional versus alternative TMDL for NPDES permits, and especially Municipal Separate Storm Sewer System (MS4) for heavily urbanized watersheds. Rather than specific numerical targets and timelines, there is more flexibility. Rather than on specific waste allocations that would be incorporated into a permit, the alternative TMDL approach in the Mystic focuses on long-term adaptive management and moves quickly toward implementation of new strategies.

Mel Cote then reviewed the timeline of this project. The project began in October 2016 and the report was completed in January 2020. The report is considered phase 1 and 2; phase 3 involved EPA providing technical assistance to six watershed communities (Winchester, Arlington, Reading, Lexington, Cambridge, Watertown). EPA will engage with all watershed communities in the coming weeks and months to discuss the report and to get community feedback and questions.

Mark Voorhees (EPA Stormwater Permits Section) noted that the study is scientifically robust, based on a large amount of data. He acknowledged that the findings indicate significant work for municipalities will be needed, and noted that EPA wants to focus on cost-effective solutions with multiple co-benefits, and emphasized that EPA will support this work for the long term.

He then noted the environmental challenges that have led to the need for this work and that nutrient-related issues are widespread throughout the watershed. He reviewed many collaborative efforts on the part of government agencies and MyRWA that have already taken place to address some of these issues. Mark then reviewed the study process, which included creating a technical steering committee (with representation from EPA Region 1, ERG, MWRA, MassDEP, and MyRWA; 25 individuals overall), developing models, estimating phosphorus load reductions needs, translating these reductions into stormwater management strategies, doing a technical review of the study, and finally moving into phase 3 work with municipalities.

The focus of this study is on the freshwater portion of the Mystic River watershed. The watershed is highly developed, with a large proportion of impervious cover. Subwatersheds were delineated in order to identify impacts on specific waterbody segments within the watershed. The study also showed that stormwater runoff is the largest source of phosphorus loading. Mark shared the numerical load reductions that are needed across various sources, including stormwater, CSOs/SSOs, and others. They reviewed some possible controls to reduce phosphorus loading in order to be able to provide recommendations, and did a demonstration study, which looked at about 10% of the watershed to identify cost effective management strategies, with a focus on cumulative benefits for a range of structural stormwater controls, including some that can be implemented quickly and strategically by municipalities. The model calculated reductions and costs for thousands of potential scenarios and found that there are many small and relatively low-cost control options that can have a significant combined impact. He also emphasized taking a strategic approach rather than implementing solutions piecemeal in order to optimize efficiency.

Suzanne Warner (EPA Stormwater Permits Section) described the Phase 3 technical assistance work that has occurred since 2018, with a goal of implementing the study findings with communities in the watershed. EPA asked for expressions of interest from communities and has worked with six: two in Phase 3 and four in Phase 3.5, which will run through this September. This phase has involved group meetings with municipalities, MassDEP, consultants, the UNH Stormwater Center, and MyRWA. The goal is for municipalities to learn from technical experts to introduce creative and efficient stormwater solutions. An effort has begun to create low-cost stormwater management structures in the right-of-way, piloted in Arlington and adapted by other

communities. Some of the deliverables from this work were recently added to EPA's Mystic River website for others to learn from.

Newt Tedder then noted that this work of getting communities engaged in stormwater management will all be taken into account for future MS4 permit requirements. Communities should start work now – no need to wait for future permit requirements, as credit will be given for past work.

Mel Cote discussed next steps, which will involve follow-up webinars (especially for municipalities and stakeholders not at this meeting), including repeats of this presentation and others with a more specific focus. EPA will continue to seek funding to continue to provide technical support to municipalities. A draft MS4 permit will be issued in the 2021/22 timeframe.

Laura Blake (MassDEP, Director of Watershed Planning) noted that MassDEP is excited about this nontraditional process piloted in the Mystic. The alternative TMDL allows focus and funds to move quickly to implementation. She noted that MassDEP will monitor water quality for impaired waters and could do a traditional TMDL later if water quality does not sufficiently improve. MassDEP began a nutrient monitoring program in 2019 for Spy Pond, Horn Pond, and Wedge Pond that might be used to develop TMDLs for those ponds; Barbara Kickham is the point person for that work.

Q&A and discussion:

Q: If there is a future permit with a reduction target, what is the cutoff date for stormwater controls implemented by municipalities that could get credit?
A: Newt Tedder: There is no cutoff date; EPA will be giving credit for all controls as long as they are maintained and functioned as designed.

Patrick Herron offered thanks to EPA and DEP for this work and noted that a lot of the same practices used for reducing flooding have co-benefits for water quality. He urged communities to stay involved in regional flood control initiatives that are happening through the MVP program and other resiliency efforts.

Mel Cote emphasized that EPA is interested in feedback from municipalities and other stakeholders, so even if people don't have questions today, EPA would like to hear from them in the future.

Q: What have the results or outcomes been from Phase 3 work with municipalities?
A: Michael Sprague shared that Lexington has gotten a lot of help from the UNH stormwater team to develop new small-scale green infrastructure projects. They've also worked on their regulations to make them clearer and more effective for phosphorus removal. Collaboration with other communities has also been valuable. Wayne Chouinard shared that Arlington worked on a stormwater ordinance change with the Horsley Witten team and has installed many infiltration trenches around town, which they will monitor next year. Maintenance will be crucial. They've also been working with MyRWA on new grants and collaborations. Arlington is also working with the building department to improve projects in the town.

Patrick Herron mentioned that MyRWA is submitting a grant application with Winchester, Arlington, Medford, and Lexington to install low-cost infiltration trenches; their proposal is for 70 new trenches and other communities are invited to collaborate.

Q: When will we see permit requirements related to this alternative TMDL?
A: There is no plan right now to include new requirements related to this study; the current permit does already include requirements related to phosphorus and a new permit will be issued in 2021-22.

MWRA Combined Sewer Overflow (CSO) Variance work in the Mystic River Watershed
Slides for these presentations are available at https://mysticriver.org/epa-steering-committee.

Somerville-Marginal CSO Facility and CSO Monitoring Performance Accessment and Reduction Efforts – *Brian Kubaska, Assistant Director of Engineering at MWRA*

The Somerville Marginal Facility has a tributary area of about 25% of the area of the City of Somerville. The facility was constructed in 1977 and was substantially upgraded in 2001; it provides water treatment for combined sewer overflows. During dry weather, sewage is sent to Deer Island. During wet weather, stormwater causes larger flows that trigger the facility to activate, which disinfects and screens the water. Brian showed how water flows through the facility, which is located under the highway. Flows are measured for reporting purposes and to pace chemical dosing for disinfection and dechlorinization. Samples are taken as water flows through the facility before it reaches an outfall. MWRA recently conducted an assessment, comparing their hydraulic model with metered data. The report of the results was posted in April and is available on the MWRA website. The report shows that the model predicts activation frequencies and volumes well.

The Authority's hydraulic model has been utilized over the past three decades to track CSO performance as the Authority and the CSO communities constructed long-term control plan (LTCP) projects. Over the years, the Authority has regularly made adjustments to the model to reflect changes in physical system conditions resulting from CSO project implementation efforts or improved system operations and understanding. However, during that time, a complete system review and full model recalibration had not been conducted. Model predictions over the years showed positive trends towards meeting the LTCP goals for volumes and activations. In 2017 and 2018 the model predicted that for the sum of all of the volumes, and in several basins (Alewife Brook, Upper Mystic River, Upper Inner Harbor, Fort Point Channel, Reserved Channel, Back Bay Fens), the Authority was meeting established LTCP goals. Specifically for outfall locations in Somerville at the Route 28/Fellsway Bridge and at Draw Seven Park, the LTCP goals were nearly achieved in those years. The Authority's recent model calibration now signals some additional locations where volumes or activations are not predicted to be met.

MWRA is examining recent construction projects and the Green Line Extension project to determine if this may explain additional storm flows getting to the facility. When making changes to the facility MWRA always considers the impact on upstream conditions and flood risk. They are also repairing a leaking tide gate to help reduce potential overflows into the Upper Mystic River Basin. Additional projects as required under variances granted for CSO discharges to Alewife Brook/Upper Mystic River Basin will study further system improvements that could reduce CSO discharge frequency and volumes passing through the Somerville Marginal facility.

Water quality sampling program – *David Wu, MWRA*

2019 water quality results will be available on the MWRA website on July 15. A brief update on Covid-19: safety is a priority, with staff working on split shifts, and they are not doing intensive monitoring after rain events, as they usually do. All field sampling is being done by a single person.

There are two major water quality monitoring sub-projects: bacteria monitoring and nutrient monitoring. Bacteria monitoring has been happening since 1989, and has focused on impacts of CSOs. Sampling occurs frequently throughout the Alewife Brook and Mystic River, and the season is approximately April – October. Over 1500 samples were taken in 2019. David showed a map of bacteria sampling stations. Nutrient monitoring has been happening since 1995 and focuses on phosphorus and nitrogen. Sampling for nutrients occurs year-round at the upstream and downstream ends of the Mystic, as well as at the confluence with the Alewife.

MWRA is currently developing receiving water quality models with its consultant (AECOM), as required by the CSO variance and a stipulated agreement that was filed with the Court. As part of model development, stormwater samples were collected at Cambridge, Somerville, Arlington, and Medford storm drains that discharge to the Alewife and Mystic. MWRA also collected samples at two untreated CSOs on the Alewife as input data to the model. The model will be calibrated with the bacteria monitoring data they've collected. The final report will be available in September 2021.

David then spoke about public notification of CSO discharges. MWRA currently has a webpage that notifies people about discharges from CSO facilities, but will be expanding reporting to include untreated CSOs. Cambridge and Somerville are working on notification independently as well. Notification is subscriber-based. It's not live yet, but will start later this summer.

Q&A and discussion:

Q: Where does the flow information for stormwater come from for flow weighting the bacteria data come from? Does the stormwater sampling include criteria other than bacteria?
A: Flow-weighting comes from stormwater models available to AECOM, who are also doing the flow weighting calculations. MWRA is taking grab samples for bacteria only. Field testing is done for temperature, pH, total chlorine residual, color, and odor.

Q: Is this CSO control work accounted for in the alternative TMDL described in the first presentation?
A: For CSO inputs, the alternative TMDL uses the volume and activation numbers from the MWRA's Long Term Control Plan. Unfortunately, there are no recent data on the nutrient concentrations in CSOs, so older data was used (or perhaps taken from the Lower Charles phosphorus TMDL?).

Announcements, Updates, and Funding Opportunities
Alicia Hunt from Medford shared that DCR is managing the Clippership Connector trail project in Medford, which had been expected to be constructed this season. However, delays due to easements have meant that they won't go out to bid until this coming winter with construction occurring next year.

Catherine Woodbury from Cambridge shared that the Cambridge River Festival is being replaced by an online Stream Festival this year. Cambridge DPW and MyRWA are participating under the "Climate Pavilion." There is good information and fun family activities there at https://www.cambridgema.gov/arts/Programs/riverfestival.

Patrick Herron from MyRWA shared that we are in the middle of the herring run, and herring counting is happening virtually this year at mysticherring.org. They expect between 800,000 and a million fish this year!

Wrap Up and Next Steps

Mel Cote thanked everyone for participating and mentioned that Caitlyn Whittle is out due to back surgery and is recovering at home now. Patrick echoed Mel's thanks.

Meeting Attendees:

Magdalena Ayed, Harborkeepers
Jeff Barbaro, USGS
Kathleen Baskin, MassDEP
Laura Blake, MassDEP
Todd Borci, EPA
Kevin Brander, MassDEP
Elizabeth Brown, NPS
Bryan Carignan, Town of Winchester
Naina Chawla, City of Medford
Larry Childs, Green Cambridge/
Friends of Alewife Reservation
Wayne Chouinard, Town of Arlington
Jay Corey, City of Woburn
Mel Cote, EPA
John Dickman, EPA
Sean Dixon, EPA
Denise Ellis-Hibbert, MWRA
David Elmer, Weston & Sampson
Tom Faber, EPA
Ona Ferguson, CBI
Jess Fosbrook, City of Somerville
Rona Gregory, Friends of Alewife Reservation
Chris Goodwin, MWRA
Doug Gutro, EPA
Patrick Herron, MyRWA
Ali Hiple, City of Medford
Marcus Holmes, EPA
Alicia Hunt, City of Medford
Rachel Kelly, City of Everett
Barbara Kickham, MassDEP
John Kilborn, EPA/MyRWA
Jeff Kopf, EPA
Allison Kreiley, MWRA
Brian Kubaska, MWRA
Lealdon Langley, MassDEP
Wendy Leo, MWRA
Jennifer Letorneau, City of Cambridge
Joe Lobao, Town of Wilmington
Lise Marx, MWRA
Darya Mattes, Urban Waters Federal Partnership
Timothy McGivern, City of Medford
Theresa McGovern, VHB
Ivy Mlsna, EPA
Hillary Monahan, MWRA
Karen Mullins, Town of Lexington
Steve Nutter, Green Cambridge
Rachel Olugbemi, EPA
Chris Orvin, EPA
Caroline Passalacqua, Weston & Sampson
Solanch Pastrana-Del Valle, EPA
Kathleen Pearson, MWRA
Catherine Pedemonti, MyRWA
Stephen Perkins, MyRWA volunteer
Tom Philbin, City of Everett
Elena Proakis Ellis, City of Melrose
Alex Rozycki, Town of Reading
Beth Rudolph, Town of Winchester
Nicholas Rystrom, City of Revere
Laura Schifman, MassDEP
Maret Smolow, MWRA
Michael Sprague, Lexington
Toby Stover, EPA
Angel Suero, CBI
Dave Taylor, MWRA
Newton Tedder, EPA
David Turin, EPA
Kathleen Vandiver, MIT
Mark Voorhees, EPA
John Walkey, GreenRoots
Suzanne Warner, EPA
Steven Winnett, EPA
Catherine Woodbury, City of Cambridge
Dave Wu, MWRA
7 phone callers (no names)