DRAFT FOR REVIEW

North Shore Water Resilience Task Force Meeting
February 5, 2025 – Virtual Meeting
DRAFT MEETING SUMMARY

Purpose

- Hear update from the Earmark Subcommittee and vote on request for subcommittee authorization to move forward with facilitation contract at approximately $164K
- Hear update from the Conservation and Demand Management Subcommittee and vote to approve a grant application for software to help evaluate qualitative interview data
- Hear update from the PFAS Subcommittee
- Engage in Q&A and discussion on recently distributed completed studies by Dewberry and Horsley Witten/Weston & Sampson

Attendees

State and Congressional Legislators and staff: Senator Bruce Tarr (chair); Representative Kristin Kassner; Representative Sally Kerans, Victoria Daigle (Office of Sen. Tarr), Ian Hatfield (Office of Rep. Robertson); Bob McCarthy (Office of Sen. Lovely); Chloe Mitchell (Office of Rep. Kerans); Alice O'Neill (Office of Sen. Crighton); Michael Searles (Office of Rep. Walsh); Rochelle Sport (Office of Senator Lovely); Caroline Freedman (Office of US Senator Warren); Katie Morfill (Office of US Senator Markey); Claudia Runk (Office of US Congressman Moulton)

Task Force Members, Stakeholders, and Other Attendees (Task Force member official designees for the meeting are noted by showing the community or organization they represented) : Rachel Belisle-Toler; Anne Carroll; Erin Bonney Casey (IRWA); Emilie Cademartori (Lynnfield); Peter Calderazzo; Zach Calderón; Chuck Dam; Rick Dawe (Lynn); Joe Domelowicz (Hamilton); Jen D'Urso; Jim Engel; Paul Goodwin (Middleton); Vicki Halmen (Ipswich); Kevin Harutunian (Topsfield); Daniel Heiter; Sandra Howland; Stephen King (Danvers); Karen Lachmayr; Duane LeVangie; Joe Lobao (Wilmington); Erik Mansfield (Wenham); Hillary Monahan; Lydia Olson; William Paulitz (Peabody); Jen Pederson; Brad Perron; Peter Phippen; Steve Poulos; Ross Povenmire (Boxford); Neal Price; Giovanna Recinos (Salem); Colleen Rizzi; Joscelyn Ruelle-Kersker (Beverly); Alan Taubert (SBWSB); Andrew Walker

Facilitators: Sara Cohen, Martin Pillsbury; Leah Robins; Jason Duff

Introduction

The facilitation team welcomed participants and reviewed the agenda. Task Force member designees were requested to add "VOTER" to their zoom name to facilitate roll-call voting.

Updates from the Subcommittees

Earmark Subcommittee –

- Alan Taubert reported that the Earmark Subcommittee received one proposal for the facilitation contract, from the Consensus Building Institute (CBI). The proposal presented a logical and appropriate approach to the scope of work that involved a realistic amount of effort

from a skilled team with lots of relevant experience. The proposed budget is $163,677. The Subcommittee requested approval from the Task Force to move forward with contracting at the requested amount. MAPC is currently holding $180K in earmarked funds on behalf of the Task Force with another $200K in process. He also reported they received four proposals for the Decision Support Tool and expect to finalize selection of a vendor soon.

- **In a roll-call vote of all present Task Force members, the subcommittee received unanimous approval to contract with CBI for up to $164K.**

Conservation and Demand Management Subcommittee (C&DM) –

- Rachael Belisle-Toler reported that the C&DM Subcommittee is developing an interview protocol of all Task Force communities, building off the priorities ranked by the Task Force last June. The interviews will help the Subcommittee focus actions where they will be most beneficial to member communities. The Subcommittee applied for a grant of $5,795 under EEA's new Drought Resiliency and Water Efficiency Grant Program, which had a submission deadline of Jan. 31, 2025. If funded, the proposal would allow the subcommittee to purchase software to help conduct qualitative analysis of the community interviews.
  - **Rachael sought and received unanimous approval from all present Task Force members to proceed with the grant, if funded.**

PFAS Subcommittee –

- Jason Duff reported that the PFAS subcommittee has had three meetings and has begun gathering information on PFAS treatment status, treatment technology options and costs, and potential funding sources. This subcommittee also expects to interview Task Force communities to explore options for addressing timing gaps between the federal PFAS compliance deadline and the availability of alternative regional sources.

<u>Q&A and Discussion on Completed Task Force Studies</u>

The facilitation team provided a high-level review of the studies to be discussed:

The Dewberry study looked at the extent to which supply resilience in the Lower Basin could be improved by communities using interconnections to share surplus, when it is available. They also looked at the merits and feasibility of building out a new reservoir in Topsfield and a variety of configurations of expanding both the MWRA and SBWSB in the Basin to create more supply resilience and reduce the amount of supply in the Basin coming from groundwater withdrawals, particularly in the summer. For all these scenarios, they provided high-level cost estimates and some important considerations around feasibility, timeline, water chemistry, and regulatory/ financial/legislative issues.

The Horsley Witten / Weston & Sampson (HW/WS) study looked at a variety of metrics related to streamflow, asking how they might improve if summertime withdrawals stopped for each community currently relying on basin groundwater, as well as a scenario in which they all stopped. The study focused on relative benefits, more than absolute benefits. This is because their mass balance model is not intended to represent all hydrogeologic factors that affect streamflow, and even those factors it could potentially account for, like below-WMA-threshold withdrawals, lack sufficient data at the subbasin scale to incorporate at this time.

Discussion

- Representatives from DEP's Water Management Act (WMA) program had numerous questions and concerns about how WMA metrics were used, and in some cases altered, in the HW/WS study in ways not intended under the WMA. DEP also noticed the Scenario 6 map was missing.
  - ➔ *HW/WS and DEP agreed to meet off-line to review DEP's questions in detail. Both agreed that it was important for readers to understand that any new or recalculated metrics in the study will not be used for regulatory purposes and that it may be worthwhile to add disclaimer language and clear definitions of terms to the report along these lines. HW/WS also intends to correct their omission of a map for scenario 6, the cumulative scenario incorporating all the other scenarios.*

- The Representative from Boxford shared that the Boxford Conservation Commission is currently reviewing an application for artificial turf to be installed just upstream of where the proposed intake would be on a new reservoir in Topsfield. He wanted to ensure the fields would not pose water quality concerns for any future reservoir in that location.
  - ➔ *SBWSB reported they are coordinating with Boxford to evaluate the potential impacts of these fields on any future reservoir intake.*

- A question was raised about whether the term "sustainable yield" was the correct term for the threshold of commercial well withdrawals that would not be harmful to the ecosystem.
  - ➔ DEP suggested the WMA tool could help explore how additional groundwater withdrawals in a particular subbasin would impact the WMA metrics in that subbasin, as one lens for environmental impact. If the well volume will be over the WMA threshold, it would go through a WMA permitting process, which would assess those and other impacts. No one provided an opinion on whether "sustainable yield" was the right term for these questions.

- The facilitation team and the attending representative from Salem shared the following series of questions and comments submitted prior to the meeting by the Salem Town Engineer who was not able to attend the meeting:
  - The Task Force would benefit from identifying criteria by which to define water supply resilience and ecosystem health to clarify the group's goals and help define success.
  - Similarly, the Task Force should consider criteria to assess the acceptability of factors such as water quality mixing, regulatory and legislative complexity, sustainability, and other elements of regional scenarios to be evaluated.
    - ➔ The facilitator pointed out that the Decision Support Tool should help the group define some collective values and acceptability thresholds around these factors.
  - Is the MWRA system sufficiently resilient to provide all the water represented in the scenarios investigated by the two studies?
    - ➔ *Colleen Rizzi from MWRA explained that the MWRA system has about 40-50 MGD of capacity to serve additional communities without compromising reliability for their current customers. The consultant teams added that the Ipswich groundwater communities represent a total demand of something less than 10 MGD.*
  - What makes new surface water sources so rare or difficult to permit?

- ➔ *DEP representatives, the consultant teams, and others spoke to significant wetlands regulations barriers, existing development/lack of available land, substantial costs for treatment of surface sources, and the fact that the MWRA currently already has substantial surplus within its existing system. DEP confirmed that they have not had a new surface water source permitted for a very long time.*

- With so much attention being paid to the importance of groundwater withdrawal reductions, was sufficient attention given to solutions that increase groundwater recharge?
  - ➔ *The facilitator shared that neither study looked at the effect of groundwater recharge and noted that the opportunities to address low flow through groundwater recharge would generally be on the same scale as the proportion of the problem caused by impervious surfaces. A USGS study from 2010 examined the influence of impervious surfaces on low flows in the Ipswich watershed and found the influence was very small, except in a few highly urbanized subwatersheds. As a result, stormwater recharge in most of the watershed is unlikely to improve streamflows at a scale large enough to counteract the impact of groundwater withdrawals. However, impervious surfaces are a significant contributor to water quality impairment throughout the basin, and recharging runoff from impervious surfaces can significantly improve water quality.*
  - ➔ *DEP shared that if communities are asking for increased withdrawal allocations under the WMA, they are required to mitigate that increase, and a few have used stormwater recharge as mitigation. However, the units of mitigation achieved with stormwater recharge are not anywhere near the scale of the PWS groundwater withdrawals and are not capable of driving flow restoration. He also noted that the highly impervious areas in communities relying on Ipswich drinking water are generally outside the basin boundaries, such as in Lynn, Salem, Beverly, and most of Danvers, so recharge in those areas would not help the Ipswich. However, he agreed the recharge benefits for water quality were much larger.*
  - ➔ *Peter Calderazzo added that studies by Kleinfelder in 2017 looked at opportunities to return some of the exported wastewater from the basin, which has the potential to address the problem on a larger scale, at almost 16 MGD. At the time of that study, the infrastructure challenges associated with wastewater return were deemed prohibitively large, but at this point with the infrastructure challenges associated with all the options better understood, it may be worth re-looking at wastewater return among the options.*
  - ➔ *A participant noted that the aquifer storage capacity in the Ipswich is somewhat limited when it comes to high volumes of storage over long periods. HW/WS confirmed this and added that in other parts of the country that are more water stressed, high-volume groundwater injection is used to store flow from the high season for augmentation during the low season. These techniques have not been looked at here and he didn't know how feasible they would be, given our thinner aquifers. Lastly, he noted that opportunities for stormwater recharge are generally much better in new development than through retrofits of existing development.*
  - ➔ *Another participant noted that the larger-scale usage of cisterns for roof runoff might be another out-of-the-box approach to consider along with others.*

- A participant asked whether there was any consideration by the MWRA of taking on or taking over management of other sources beyond their existing ones?

- ➔ *The MWRA representative explained that their sources yield very high-quality water due to watershed management efforts and are collectively treated at the Carroll Treatment Plant for distribution. Also, their demand has dropped from a high of 335 MGD to a current 198 MGD, creating significant surplus capacity. For both these reasons, they are not looking to take on new sources of raw water.*

- A participant asked how the Task Force could address the proliferation of private wells for irrigation, expressing concern that the Task Force could spend large sums of public money to solve a flow problem that will then be recreated by the proliferation of private irrigation wells or the continuation of wastewater export or other factors. This comment led to significant discussion, throughout the course of the meeting, including the following points:
  - ➔ *To model the flow impact of private wells, location by subbasin and timing of withdrawals needs to be known – data that currently don't exist. During their 2019 Below-Threshold Withdrawal Study, DEP observed that record-keeping on private wells varied across communities, and a participant noted that such data is not readily available to PWSs.*
  - ➔ *HW/WS emphasized that provided all non-PWS-withdrawal factors are held constant (affecting all scenarios equally), including below-threshold withdrawals, these wouldn't change the conclusions in their study of the relative streamflow benefits from different communities ceasing or reducing groundwater withdrawals. They agreed, however, that the modeled benefits may not arise if other factors increase at the same rate as the decrease in public groundwater withdrawals and that this may be worth noting in the study.*
  - ➔ *The group discussed drivers of private well proliferation and some expressed hope that there were no trends on the horizon likely to drive large additional numbers of people to dig irrigation wells moving forward. Others commented that migration from public supply to private wells may be at least partly controlled through local regulations and ordinances. The regulatory approach taken by the Town of Ipswich, requiring private wells to adhere to the same restrictions as those on public water, was called out by DEP as an approach that could go a long way if adopted more widely within the watershed. The facilitator suggested that the Conservation and Demand Management subcommittee may want to explore how communities could collaborate on regulatory solutions to help address this migration, as well as potentially think about data collection for this issue. Jen Pederson suggested including Bruce Bouck for these discussions, who runs DEP's Well-Drillers Database.*
  - ➔ *A participant urged care in terminology, noting that "private well" also refers to private drinking water wells, many of which are on septic systems and return most of the water they withdraw through septic recharge. These don't pose the same problems as irrigation wells.*
  - ➔ *Rep. Kassner emphasized a widespread misunderstanding that private wells draw from a different source than public wells, when they actually all draw from the same aquifers.*

- A participant noted that in some of the modeled scenarios, replacing local sources with out-of-basin sources like the MWRA in areas where users discharge locally through septic systems, this could lead to a net import of water.

- A participant noted the interesting conclusion in the HW/WS study that withdrawal reductions in the headwaters provided some of the most cost-effective improvements to flow of all the scenarios and asked for additional clarification of this conclusion.

➔ *HW/WS confirmed that eliminating pumping in Wilmington improves flow along the mainstem downstream of Wilmington, which is essentially the whole length of the river, which is why so much benefit can be ascribed to that scenario*.

- A commenter noted the apparent opportunities provided by the hybrid scenarios in the Dewberry report, which rely on a combination of expansion of the SBWSB and the MWRA in the region. These scenarios require significant infrastructure upgrades but save substantial costs relative to the alternatives evaluated in the 2022 MWRA analysis of expansion on the North Shore. He asked if regulatory complications of the hybrid scenarios are a significant obstacle.
  - ➔ *DEP replied that the water chemistry/mixing issues would need to be further studied to ensure water quality. For any new reservoirs, the impacts of new diversions would need to be studied, both in terms of local impacts and streamflow capacity. Wetlands permitting and engineering concerns would need to be accounted for with a new reservoir, too. However, any complications of shifting WMA permit limits between communities for various hybrid scenarios would generally be solvable using existing permitting flexibility*.
  - ➔ *MWRA stated that new communities joining their system would have to be approved under the Interbasin Transfer Act (ITA). Mixing/quality issues might be a problem especially if communities are wheeling MWRA water on a partial/supplemental basis*.
  - ➔ *SBWSB pointed out that some of the interconnections described in the Dewberry study that would be used for wheeling in the hybrid scenarios may be insufficient for wheeling water on a permanent basis for full supply, so the actual costs for this infrastructure could be higher than the estimates in the Dewberry report. Peter from Dewberry confirmed that the wheeling infrastructure identified with cost estimates in his report was in the context of sharing water on a mutual aid basis between communities and not necessarily long-term full-time wheeling, for which it may be insufficient*.

- A commenter noted that Peabody's recent purchase of the Eastman Gelatin Company wells should be tracked for its relevance to Task Force deliberations and options. Another participant noted that these wells are in the North Coastal basin, so any shift of demand from Peabody's Ipswich sources to these wells could provide some relief in the Ipswich.

- HW/WS commented that empirical studies by state hydrologist Viki Zoltay have corroborated that the reductions in groundwater pumping over the last two decades have translated to streamflow improvements, at least in the upper watershed, suggesting that the further potential improvements predicted by the scenarios in their modeling study do hold real potential, provided we can ensure these reductions are not just replaced with other non-regulated increases.

- The facilitator reminded participants that the scale of PWS reductions modeled in the HW/WS study and the scale of estimated below-threshold withdrawals in the DEP study, though modest on an annual basis, were significant as a percent of streamflow during the summer, when low flows create ecological pinch points.

- Peter Calderazzo commented that while opportunities to increase streamflow were all worth exploring, none of them would likely be sufficient to enable drinking water sustainability and resilience for the future without drawing on some alternative sources.

Next Steps

- ➔ The full Task Force will continue to meet nearly monthly through the spring.
- ➔ The subcommittees will continue moving full-steam ahead on their respective priorities
- ➔ We will be bringing the two vendors on board very soon to help develop the decision support tool and facilitate the Lower Basin Subcommittee negotiations. Both vendors will be contacting many of the Task Force members as they dig into their respective tasks.
- ➔ The facilitation team will send around a draft meeting summary from this meeting.