THE COMMONWEALTH OF MASSACHUSETTS

WATER RESOURCES COMMISSION

100 CAMBRIDGE STREET, BOSTON MA 02114

Meeting Minutes for April 10, 2025

Meeting conducted remotely via Zoom meeting platform, 1:00 p.m.

Minutes approved July 10, 2025

Members in Attendance:

Vandana Rao	Designee, Executive Office of Energy and Environmental Affairs (EEA)
Becca George	Designee, Executive Office of Housing and Livable Communities (EOHLC)
Kathleen Baskin	Designee, Department of Environmental Protection (MassDEP)
Tyler Soleau	Designee, Massachusetts Office of Coastal Zone Management (CZM) *(Joined at 1:30pm)*
Anne Carroll	Designee, Department of Conservation and Recreation (DCR)
Todd Richards	Designee, Department of Fish and Game (DFG)
Sarah Miller	Designee, Department of Agricultural Resources (DAR)
Thomas Cambareri	Public Member
Christine Hatch	Public Member (*Joined at 1:31pm)*
Kenneth Weismantel	Public Member
Samantha Woods	Public Member

Members Absent

Vincent Ragucci	Public Member

Others in Attendance:

Albelee Haque	MassDEP	James Laughlin	MassDEP
Alexander Surreira	DCR	Jeff Johnson	Town of Plainville
Alicia Brennan	MassDEP	Jennifer Durso	MassDEP
Andreae Downs	MWRA	Jennifer Pederson	MWWA
Bailey Mullins	DCR OWR	John Gregoire	MWRA
Beth Walsh	DCR	Jonathan Niro	BETA Group, Inc.
Caitlin Spence	EEA	Joseph Gould	DFG
Caress Rielly	MassDEP	Judith Schmitz	MassDEP
Chris Brainard	BETA Group, Inc.	Kate Bentsen	DFG
Colleen Rizzi	MWRA	Katie Paight	DCR OWR
Dan Harris	DCR	Kimberly Longridge	MassDEP
Dee-Ann Crozier	USGS	Kimberly Roth	MassDEP
Duane LeVangie	MassDEP	Kristen Thiebault	DFG
Edwin Sumargo	EEA	Lydia Olson	Mass Rivers Alliance
Ellen Douglas	AECOM	Margaret Finn	MassDEP
Emily Wilcox	MassDEP	Margot Mansfield	CZM
Erin Graham	DCR OWR	Maura Callahan	Callahan Consulting
Hank Webster	MassDEP	Melissa Simoncini	Concord Water
Hillary Monahan	MWRA	Mia McDonald	MassDEP
Hui Liang	MassDEP	Michelle Morris	MassDEP

Moussa Siri	MWRA	Sara Cohen	DCR OWR
Nadia Madden	DCR OWR	Sara Northrup	DCR
Nicolina Fraietta	MassDEP	Tara Manno	MassDEP
Pamela Lombard	USGS	Tom McGuire	MassDEP
Purvi Patel	EEA	Toni Stewart	DCR OWR
Rama Pulicharla	MassDEP	Tristan Lundgren	DCR
Rebecca Faucher	MassDEP	Vanessa Curran	DCR OWR
Robert Kearns	DER	Viktoria Zoltay	DCR OWR

Rao called the meeting to order at 1:03 p.m.

Agenda Item #1: Welcome and Introductions

Rao welcomed attendees and announced that the meeting was being recorded for the purpose of meeting minutes. All votes would be taken by roll call. She invited those who wish to speak during the meeting to indicate this in the chat window. Members and attendees introduced themselves.

Agenda Item #2: Executive Director's Report

Rao went over the attachments that were sent out in the meeting packet such as the January minutes, a MEPA comment letter, a summary of interbasin transfer projects, and quarterly project updates. The quarterly project updates were reviewed. Some highlights include:

- The hydro-risk project has been brought to the WRC before and is well underway. The climate projections piece is expected later this year and will feed into the statewide climate assessment and the Resilient MA plan.
- The low-flow study led by Zoltay has been completed.
- The groundwater flooding study is expected to be completed by the end of June. A technical advisory group comprised of groundwater modelers from USGS and academia was pulled together to help inform this project.
- A draft manuscript has been received for the drivers of low flow study. Climate has been found to be the strongest driver. This will be presented to the WRC at a later date.
- Funding was received to analyze and expand the streamflow and groundwater monitoring networks.
- Staff are reviewing the final report for the evaluation of the lakes and impoundments drought index and will pull together a recommendation.
- The WRC voted to release the drought plan guidance for local water suppliers which will be available to the public shortly.
- Drought Retrospectives for the last couple of droughts are with Rao for final review.
- Drought and water efficiency assistance and outreach – Lots of work has been done on creating messaging that will be easy to understand. The drought resiliency and water efficiency grant program will be able to fund 13 projects with awards totaling $500,000.
- The EJ and flooding study is almost to the final stages, and pilot work is being done in 3 communities (Brockton, Everett, and West Springfield). It is a statewide effort to determine where flooding has occurred in EJ areas and in Gateway communities, and this information will be used to focus on areas to understand causes of flooding and how it can be mitigated.

- For the state floodplain framework, all conversations around floodplain work are being brought together with the help of a consultant. A consensus report on how to move forward will be developed, but discussions are still ongoing.

Rao also mentioned that Governor Healey declared the month of March as March4Water Month. March also includes World Water Day, EPA's Fix-a-Leak Week, and a groundwater awareness week. Based on requests that came from the International Association of Plumbing and Mechanical Officials (IAPMO) and the Plumbing Heating and Cooling Contractors of MA, March will be March4Water Month in MA moving forward.

The Drought Management Task Force met earlier this week. The drought declarations were released, and conditions have improved although the state is not out of drought yet. Four regions are at a Level 1 – Mild Drought and three regions are at Level 2 – Significant Drought. It may take longer for the Cape and Islands to catch up to the rest of the state.

Rao introduced Mullins who recently joined DCR's Office of Water Resources as new staff to the WRC. He will be providing support to the Interbasin Transfer Act program and other programs as needed including water conservation and PFAS.

The June WRC meeting will be held in person along with a potential outdoor tour on the South Shore. The location for the meeting is still being finalized.

Weismantel has been studying the spread of PFAS in groundwater in Hopkinton. The Commonwealth requires notification to MassDEP of PFAS detections at high levels in private wells. However, homeowners may also be on the hook to hire consultants to prove that their property isn't the source of the contamination. This could be causing homeowners to choose not to test and not to disclose results due to potential liability. Point of entry treatment systems do have a cost but it is a known cost. The current policy leads to a lack of data and people drinking contaminated water. Baskin responded that MassDEP would be happy to set up a meeting to discuss this and any other concerns Weismantel has around PFAS. Cambareri suggested this should be discussed in a broader forum as it is a statewide issue.

Bentsen announced that DER's culvert replacement municipal assistance grant is now open for municipalities seeking to replace undersized culverts. Applications are due May 12 with a webinar grant briefing next week on April 16 with questions due by April 18.

Agenda Item #3: Update: Hydrologic Conditions and Drought Status

Rao introduced Graham to present the Hydrologic Conditions for March 2025.

- *Temperature*: Monthly average temperatures were above normal. Departures were mostly in the 3° to 5° range.
- *Precipitation*: Precipitation was mostly normal. There were a few sites in the below-normal and above-normal ranges. All Regions are showing deficits at the 6-months look-back period.
- *Snow Cover*: At the end of the month there was only some trace of snow in higher elevation areas. The season-to-date snowfall departure ranges from -10 to -40 inches.
- *Streamflow*: Streamflow improved compared to last month. There are still some gages in the below-normal and above-normal ranges, but most gages were in the normal range.

Cape Cod is the only Region at an elevated Index Severity Level (ISL). Most gages are reporting and no longer affected by ice. The time series shows improvements with events on March 5th and March 17th.

- *Flooding*: Several forecast points along the Connecticut River and one forecast point on the Hoosic River reached minor flood stage as a result of the March 17th event.
- *Groundwater*: Groundwater levels ranged from below normal to above normal. Regional medians improved in all Regions except for the Cape Cod and Islands Regions.
- *Lakes and Impoundments*: At the end of March, all but four of the reported lake and impoundment levels were below their 30th percentile. While most levels increased since last month, they are still very low for this time of year.
- *MA Drought status*: Rao gave an update of the MA Drought status during the Executive Director's report. The drought declaration issued March 9th improved all Regions one or two levels except for the Cape Cod and Islands Regions, which stayed the same.
- *US Drought Monitor (USDM)*: At the beginning of January there were some improvements made to the map reflecting the December precipitation. These improvements remained on the last January map, which showed areas of D2 (Severe Drought), D1 (Moderate Drought), and D0 (Abnormally Dry). Changes from the end of February to the end of March include the removal of D2 and some shrinking of D1. Today's map shows some improvements in the western part of the state and the degradation of Cape Cod to D2.
- *NOAA Climate Prediction Center outlooks*: The April outlook shows no strong signal for temperatures and precipitation. The seasonal outlook shows changes leaning for above-normal temperatures and no strong signal for precipitation. Both the monthly and seasonal drought outlook show drought removal likely in the central parts of the state and on Nantucket.
- Additional precipitation data shows departures since mid-August when the drought started.

Agenda Item #4:

Rao invited motions to approve the meeting minutes for January 2025.

VOTE	A motion was made by Weismantel with a second by Cambareri to approve the meeting minutes for January 9, 2025. The vote to approve was unanimous of those present.

Agenda Item #5: Presentation and VOTE: Draft Staff Recommendation for the Town of Plainville's Request for an Amendment to the 2004 Lake Mirimichi Wellfield Interbasin Transfer Act Decision

Rao introduced the agenda item and noted that if Commissioners felt it was appropriate, the draft recommendation and a vote may be done in today's meeting. The Amendment that is being sought by Plainville does not change where the Interbasin Transfer Act (ITA) volume is being assigned. Curran reviewed the basics of Plainville's request. The town encompasses parts of three major basins – Blackstone, Taunton, and Ten Mile - but only has water sources in the Taunton and Ten Mile Basins. Wastewater is discharged to North Attleborough in the Ten Mile Basin. In 2004, a maximum day request of 0.4 million gallons per day (MGD) was approved by the WRC for proposed wells adjacent to Lake Mirimichi in the Taunton Basin. This was jurisdictional because the wastewater crosses a municipal and basin boundary. This source had poor

performance and water quality and is not in use. A new water treatment plant is proposed for wells adjacent to Turnpike Lake to increase production from approximately 1 MGD to 1.5 MGD. Due to documented capacity prior to the ITA, only 0.082 MGD is jurisdictional. Therefore, Plainville is requesting to reduce 0.1 MGD of the Lake Mirimichi sources approval and transfer this volume to the Turnpike Lake sources, resulting in no increase in interbasin transfer. A summary table of volumes was shown in the presentation. The Staff Recommendation is to approve this reduction in Lake Mirimichi and approve the request for the Turnpike Lake sources. All Conditions such as water conservation requirement present in the 2004 approval still apply.

Comments, questions, and responses:
Cambareri agreed that this change seems straightforward. Richards asked whether the mix of water and wastewater transfers will remain the same. Curran clarified that both sources are water sources but the transfer is wastewater which is when the ITA applies. Total approved volumes of water and subsequent wastewater transfers will not change. Weismantel also agreed that the request was clear and straightforward and is prepared to vote today.

Curran introduced Plainville representatives in attendance – Jeff Johnson from the Plainville Select Board and Jonathan Niro and Chris Brainard from the Beta Group. Rao opened the floor to these representatives. Niro expressed appreciation for taking up the vote on the same day as the presentation and for Curran's efforts in making this happen. LeVangie asked whether the volumes were maximum daily volumes and whether wastewater was less than those. Curran confirmed that not all the volumes are being used. For example, the wells at Lake Mirimichi at 0.3 MGD are not used. LeVangie asked whether any wastewater is going back to Plainville or if it is all sewered. Curran noted that she followed precedent assuming that all the water is exported as wastewater. Full sewering was the plan for the town but it is unclear whether that was fully realized. Johnson clarified that sewering is only about two thirds complete and the same is true for water although slightly more people are served by water than sewer. Johnson also thanked Curran for her work on this project and the Commission for taking the time to consider this request.

See exhibits listed at the end of this document.

V O T E	A motion was made by Weismantel with a second by Cambareri to approve the Draft Staff Recommendation for the Town of Plainville's Request for an Amendment to the 2004 Lake Mirimichi Wellfield Interbasin Transfer Act Decision. The vote to approve was unanimous of those present.

Agenda Item #6: Presentation: Extending Groundwater Level Records Using Estimated Groundwater Records in Massachusetts (a Massachusetts-USGS cooperative study)

Rao introduced Viki Zoltay who introduced this cooperative study project. Zoltay explained that the MA Drought Management Plan (DMP) relies in part on a network of groundwater (GW) wells across the state. Current GW levels at individual sites are compared to the historical record at those sites to understand the severity of current conditions. A minimum of 10 years of historical data is needed for the statistical comparison to be valid, but that length of record does not exist for many wells that could otherwise be in the network. This project involves creating a synthetic

historical record for otherwise suitable network wells, enabling them to meet the minimum-year threshold for historical data, thereby expanding the spatial coverage of the GW Index in the DMP. The results are expected to lead to a more robust GW Index once implemented sometime in the next six months.

Pam Lombard, who leads the Hydrology and Hydraulics Section of the USGS New England Water Science Center, presented the details of the project. Presentation slides can be viewed here: https://www.mass.gov/info-details/review-the-meetings-of-the-water-resources-commission

Presentation Highlights

Overview & Background:

- The lead authors of the investigation are Liz Ahearn and Dee-Ann Crozier. This project aims to increase the number of wells in MA with a sufficient historical record (i.e., a minimum of 10 years) to be used for the GW Index under the MA DMP by developing synthetic data for wells with shorter records.
- The project was conducted cooperatively with MA DCR and MassDEP.
- Drought determination in the MA DMP is based on six indices, including the GW Index.
- The GW Index relies on GW wells within the Climate Response Network (CRN) that have more than 10 years of records.

Method:

- The method entails matching wells with short records with an appropriate long-record CRN well ("index well"), creating a linear relationship using a period of concurrent record.
- The linear relationship is then used to estimate extended values for the short-record site, using the historical record of the index site. The technique used, called the Maintenance of Variance Extension Method 1 (MOVE.1), has been used extensively to extend stream gage records, but had not previously been used to extend groundwater records. The equation for this method is shown in the presentation.
- The reliability of the synthetic data depends on the strength of the relationship between the records of the two matched wells during their concurrent period. In selecting the best-matched index well for a short-record well, the following factors are considered: distance between the wells, years of overlapping record (minimum of 1 year), similarity of geologic characteristics, similarity of topographic characteristics, and correlation coefficient (r) between the wells' data (must be >=0.8).

Outcomes:

- 27 of the 29 short-record wells in the study were able to have their records extended through this process, while two could not be paired with an appropriate index well. The extension increased the years of available record for the short-record sites from an average of four years to an average of 18 years.
- For most short-record sites, the extended record encompassed a greater range of values, which is useful for developing percentiles for a wider range of conditions.
- For each of the wells for which record extensions were created, monthly percentile values were calculated using the entire observed and estimated period of record for use in the GW Index of the MA DMP.

The project web page provides all the following for download: the Scientific Investigations Report, a free-standing abstract, individual data files and metadata, and the codes used for calculations so they can be re-run when additional data become available.

Discussion:
Rao thanked Pam for the work, which will help with all state analyses involving groundwater historical data across the state. She appreciated seeing MA on the cutting edge of techniques that could be useful in other regions. She also thanked Bruce Bouck and Julie Butler from DEP for their efforts on this project.

Cambareri thanked USGS for the study and acknowledged the informal historical use of this type of technique for many projects requiring analysis of groundwater sites with short periods of record. He pointed out that at least one of the "short-record wells" he was familiar with on Cape Cod had over 40 years of monthly measurements. He asked if the synthetic daily records generated coincided well with the actual monthly recorded values at this site. USGS said historical monthly values, when available, had been used in establishing the correlations but they were not certain if they were used for verification in the way that Cambareri was asking about and agreed to investigate that.

Pederson asked if the wells with synthetic values will be considered provisional for a while before being fully accepted for use in calculating the GW Index under the MA DMP. Rao and Zoltay agreed it would be useful to note that these wells had at least a partially synthetic record and to be thoughtful about how they were integrated into regional GW Index calculations moving forward.

Agenda Item #7: Presentation: Dam Removal in Massachusetts
Rao introduced a set of two presentations which was spurred by John Gregoire mentioning the Quinapoxet Dam removal project recently at a DMTF meeting. She explained that we have come a long way since the early 2000s when we first started to think about how to better support, increase, and streamline dam removal in MA. Rao noted that this two-part presentation will start with staff from the Division of Ecological Restoration (DER) providing an overview, followed by a presentation on the successful completion of the Quinapoxet Dam removal project. Rao introduced Joseph Gould from DER to present the DER overview. Both parts of the presentation can be viewed online at: https://www.mass.gov/info-details/review-the-meetings-of-the-water-resources-commission. Highlights of the presentation are below.

DER Dam Removal Program Overview:
Gould stated that he has been doing dam removal in MA for six years. He explained that his presentation will include an introduction to DER and specifically the dam removal program in which Gould works and will cover why dams should be removed, as well as some before and after pictures as people are often curious about the visual results post-removal.

DER's mission is to restore and protect rivers, wetlands, and watersheds in MA for the benefit of people and the environment. Their approach is process based and focuses on restoring natural processes. Dam removal is a great way to improve processes because dams are a barrier to many of the natural ecological and hydrological processes. Gould briefly reviewed the three branches

of DER, which include Habitat Restoration, the Partnership Program, and the Technical Services Branch.

The Dam removal program includes three staff members but relies heavily on agency partners. They have removed 70 dams over the last decade and reconnected about 350 miles of streams. The program conducts work through two mechanisms – Reconnaissance Studies and a Priority Projects Program. Five to seven Reconnaissance Projects are completed per year.

Gould reviewed the state of dams in MA based on data provided by the state's Dam Safety Program. Ten percent (10%) of our dams are high hazard and twenty one percent (21%) are significant hazard, yet only 2% of dams have been breached or removed, so there is still a lot of work to be done.

Gould briefly summarized the impacts of dams on rivers including mechanical and biological processes. These impacts include preventing fish passage, blocking sediments, increasing temperature, and reducing benthic biodiversity. Dam failures can also cause significant damage from flooding. Dam removal can alleviate many of these issues. Additionally, costs of inspection and maintenance can be avoided.

Gould concluded by sharing some before and after photos from several recent dam removal projects. He noted that with many projects, no post-removal seeding is needed because the natural seed bank returns and early successional trees come in quickly.

Rao noted how quickly the project areas returned on their own to a natural state without human intervention. Gregoire asked about regrowth and whether any studies have been done regarding what amount is natural vs planted. Gould replied that post-assessment is an area that needs more work, but in their experience, re-vegetation is quick and largely naturally occurring. Richards noted that regulatory agencies on a few projects were looking for the agency to conduct additional planting and channel reconstruction, but project results indicate that "getting out of the way" and letting natural processes work on their own to restore the area has worked well.

Hatch thanked Gould and asked about how to factor in climate change in these removals as we move towards a warmer regime. She asked if DER is considering the risk for a large influx of invasive species along with anticipated warming. Gould replied that invasives and climate change is an area we all are dealing with. He emphasized early detection where possible and suggested some planting could help but sometimes you cannot guarantee there will be no invasives as the scale is so large. Richards concurred with Gould that it is not realistic to preemptively plant and that it is better to monitor and then determine an appropriate response.

George asked about the non-jurisdictional dams and where all the dams are located. Gould replied that dams are everywhere due to our industrial history. Jurisdiction is based on height and impoundment size. These are small dams with typically smaller impacts. Kearns asked Gould to comment more on the public safety concerns. Gould responded that half the dams are privately owned, and dam removal is expensive, especially if there are contaminated sediments. Therefore, a lot more investment is needed and a lot more work can be done.

Quinapoxet Dam removal at Wachusett Reservoir successfully completed:

Rao introduced Gregoire to present on the successful Quinapoxet Dam removal project. Gregoire summarized that his presentation will cover a brief overview of the rational for this dam removal and highlights of design components including river bypass methods, turbidity monitoring, and concluding with physical dam removal including a time lapse video and presentation of some current post-removal site work.

The dam is unique and has an over-widened and deepened downstream channel to drop the sediment load downstream of the dam instead of upstream like most dams. The rationale for dam removal included that the dam is no longer needed to help with sediment load and water quality. The dam also needed a lot of repairs and it would have been very expensive to continue maintaining. Restoring the land-locked salmon and the natural riverine hydrology was a major ecological goal. The project team included MWRA, DCR Watershed Management, DER and SLR as design engineers, Lucciano for excavation, and the Town of West Boylston.

The project included an extensive four-year permitting process. One of the most critical aspects of permitting was turbidity and bacteria monitoring due to the drinking water quality concerns for the downstream Wachusett Reservoir which has a waiver from filtration and must meet strict filtration avoidance criteria. This resulted in the development of a very detailed water quality monitoring plan and use of turbidity curtains, which successfully controlled downstream turbidity. They also had to manage the river flow during the project, including bypass pumping during low-flow conditions and open channel bypass during high-flow conditions. Gregoire also explained how drought conditions in the fall of 2024 impacted the Quabbin transfers during the project and caused certain aspects of the project timeline to be accelerated.

Gregoire showed photos of the river channel following the dam removal. He showed the restored river channel downstream of the dam removal site, highlighting the embedded rootwalls which is a form of bioengineering to help control erosion and support wildlife. Gregoire then showed photos of the upstream riffle pool construction, as well as fish deterrent structures and kayak takeout areas.

Lastly, Gregoire compared photos of the river from 120 years ago with recent photos taken after the dam removal and showed a project time-lapse video. He concluded by explaining that the next steps for the project include bioengineering work such as installing erosion control structures, as well as increased public access amenities.

Rao thanked Gregoire for the presentation and commended the project team on a successful and important project. Richards also thanked Gregoire for the presentation. He added that DER has been monitoring the Quinapoxet over the past several years and will continue that monitoring to help describe the changes following the dam removal, especially related to fish passage. Gregoire noted that just over a week ago someone caught a 20 inch lake trout that had made it into the restored river, so results are already being seen. Gould also commented on the success of the project, and Gregoire added that it was a good example of collaboration between the state and other partners.

There were no other questions or comments. Rao invited a motion to adjourn the meeting.

VOTE	A motion was made by Weismantel with a second by Richards to adjourn the meeting. The roll-call vote to approve was unanimous of those present.

Meeting adjourned, 3:24pm.

Documents or Exhibits Used at Meeting:

1. WRC Meeting Minutes: January 9, 2025
2. Quarterly Update on WRC Special Projects
3. Draft Staff Recommendation for WRC Discussion and Vote, dated April 10, 2025, for a request under the Interbasin Transfer Act from the Town of Plainville for an Amendment to the 2004 Lake Mirimichi Wellfield Decision
4. Town of Plainville's Lake Mirimichi Wellfield Amendment Request, dated February 24, 2025
5. Letter dated March 28, 2025, from the WRC to MEPA regarding the Expanded Environmental Notification Form (EENF) for 75 North Street, 2 Commercial Street & 3 South Mason Street in the City of Salem
6. Interbasin Transfer Act project status report, March 28, 2025
7. Hydrologic Conditions in Massachusetts, March 2025 (available at https://www.mass.gov/info-details/monthly-hydrologic-conditions).

Compiled by: WRC Staff

Agendas, minutes, and other documents are available on the web site of the Water Resources Commission at https://www.mass.gov/water-resources-commission-meetings. *All other meeting documents are available by request to WRC staff at 10 Park Plaza, Suite 6620, Boston, MA 02116.*