



THE COMMONWEALTH OF MASSACHUSETTS
WATER RESOURCES COMMISSION
100 CAMBRIDGE STREET, BOSTON MA 02114

Meeting Minutes for February 10, 2022

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

Minutes approved May 12, 2022

Members in Attendance:

Vandana Rao	Designee, Executive Office of Energy and Environmental Affairs (EEA)
Linda Balzotti	Designee, Department of Housing and Community Development (DHCD)
Kathleen Baskin (until 1:56 p.m.) then	
Duane LeVangie	Designee, Department of Environmental Protection (MassDEP)
Anne Carroll	Designee, Department of Conservation and Recreation (DCR)
Kate Bentsen	Designee, Department of Fish and Game (DFG)
Hotze Wijnja	Designee, Department of Agricultural Resources (DAR) (joined 1:35 p.m.)
Thomas Cambareri	Public Member
Vincent Ragucci	Public Member
Kenneth Weismantel	Public Member
Samantha Woods	Public Member (joined 1:18 p.m.)

Members Absent

Todd Callaghan	Designee, Massachusetts Office of Coastal Zone Management (CZM)
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Others in Attendance:

Marilyn McCrory	DCR/OWR
Katharine Lange	Mass Rivers Alliance
Read Porter	EEA
John Scannell	DCR, Division of Water Supply Protection
Katie Ronan	MWRA
Kara Sliwoski	DCR/OWR
Becca George	DHCD
Sara Cohen	DCR/OWR
Aaron Weieneth	AECOM
John Macone	Merrimack River Watershed Council
Lexi Dewey	WSCAC
Erin Graham	DCR/OWR
Viki Zoltay	DCR/OWR
Gregory Stewart	Associate Director, Hydrologic Monitoring Program, USGS New England Water Science Center
David Hilgeman	MassDEP
Andreae Downs	WAC
Vanessa Curran	DCR/OWR
Jennifer Pederson	Massachusetts Water Works Association
Lisa Rhodes	MassDEP Wetlands Program Chief
Tim Stagnitta	Rhode Island Water Resources Board
Sarah Bower	Mass Rivers Alliance

Duane LeVangie	MassDEP
Ghazal Shabestanipour	Tufts University, PhD Candidate
Pamela Lombard	USGS
Greg Woods	Auburn Water District
David Roman	CEI Engineers
Anne Malenfant	CDM Smith
Jon Lamontagne	Tufts University
Michelle Rowden	EEA
Adam Schlosser	MIT
Steve Miller	MassDOT
Danielle Desmarais	RCAP Solutions

Rao called the meeting to order at 1:05 p.m.

Agenda Item #1: Welcome and Introductions

Rao announced that the meeting was being recorded and 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. A roll call of members in attendance was taken.

Agenda Item #2: Executive Director's Report

Rao announced that EEA's Drinking Water Supply Protection Grant Program is accepting applications for funding to protect land around wells and reservoirs. Grants of up to \$300,000 are available, and applications are due March 18, 2022 (more information at <https://www.mass.gov/how-to/apply-to-the-drinking-water-supply-protection-program>).

Executive Order [594](#) "Leading by Example: Decarbonizing and Minimizing Environmental Impacts of State Government" was signed by Governor Baker in 2021 and requires agencies, among other things, to reduce water consumption by following the Massachusetts Water Conservation Standards. It also calls for training to facility managers on water efficiency and other topics. Rao announced that the guidance documents to help implement the E.O were recently released by the Leading by Example program. This program works with public entities across the state managing energy and resource use. The guidelines are comprehensive and have sections about water, mention WRC roles, the State Water Conservation Standards, and the Water Conservation Tool website.

Rao opened the meeting to Commissioner announcements.

Baskin thanked the WRC for voting on the sewage notification rules in December. The rules are in effect now, and feedback from the regulated community has been good. Baskin will give updates once implementation starts in July.

Agenda Item #3: Update: Hydrologic Conditions

Rao introduced Erin Graham of DCR to provide an update on hydrologic conditions for January 2022. Graham reported that January temperatures were normal to below normal with a greater departure from normal in the western part of the state. Precipitation was below normal in the Western and Connecticut River Valley regions and normal to above normal for the rest of the state. The two-month and three-month look-back periods are still showing deficits because

November and December were dry. Streamflow was mostly in the normal range with a few individual gages below normal and a few individual gages above normal.

All regions are at Index Severity Level 0 for streamflow, although the Southeast and the Cape regions are close to the 30th percentile value for Level 1. Many gages were affected by ice during January and only a subset of the gages shown were able to provide data. Streamflow was mostly green (normal range) throughout the month. Groundwater levels were in the normal to above-normal range throughout much of the state with some exceptions, particularly some individual wells in the Central, Cape Cod, and Islands regions. All regions are at Index Severity Level 0 except the Islands Region, which is at Index Severity Level 1. The monitored Nantucket well is showing an Index Severity Level 2 and is at its 10th percentile value. The well has been in decline since last May but showed a decrease in the rate of decline in January. Other wells nearby on the island that are not part of the Drought Monitoring Plan network show a similar pattern.

Of the Lakes and Impoundments reporting, all are in the normal to above-normal range. January had several snowstorms including one on January 8th, another on January 17th, and then a Nor'easter on the 29th, which affected the eastern part of the state. Snowfall for the season remains below normal except in the Southeast, Cape Cod, and Islands regions, which received the most snow from the January 8th and January 29th storms. According to the Northeast Regional Climate Center, the Boston Climate site had its 4th snowiest January on record, and Worcester had its 15th snowiest January on record. Snow cover remained throughout the state at the end of the month. Both the Massachusetts Drought Plan and U.S. Drought Monitor are showing no drought conditions in Massachusetts. For both the January and three-month outlooks the National Oceanic and Atmospheric Administration (NOAA) is showing chances for above-normal temperatures and there is no strong signal for precipitation. Both the monthly and seasonal NOAA drought outlook show no drought development. The accumulated precipitation departure graph over the past 12 months - and at the end of January show most sites were above normal, with two sites, Edgartown and Hyannis, closer to normal.

Agenda Item #4: Vote: Meeting Minutes, November 2021

Rao invited a motion to approve the meeting minutes for November 10, 2021.

V O T E	A motion was made by Weismantel with a second by Ragucci to approve the meeting minutes for November 10, 2021. The roll call vote to approve was unanimous of those present.
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Agenda Item #5: Presentation and Discussion: Draft Staff Recommendation on the Auburn Water District's Interbasin Transfer Act (ITA) Application to Purchase Water from the City of Worcester

Rao introduced Curran, Assistant Director of the Office of Water Resources, and Curran recognized Greg Woods of the Auburn Water District (AWD) and David Roman from CEI Engineers, AWD's consultant.

Curran presented facts pertaining to the AWD application. The AWD distribution system is mainly in the Blackstone River Basin. The sources consist of twelve groundwater wells. These wells are

vulnerable to contamination due to the proximity of multiple major roadways where deicing chemicals and fuel spills are of concern. A supplemental source of water is needed when supplies are offline for maintenance or potential contamination, or during periods of high demand. AWD is proposing to purchase a maximum of 0.54 MGD from Worcester of which 0.36 MGD is subject to ITA. Worcester's sources are in the Nashua and Blackstone River Basins.

Curran presented the ITA regulatory schedule. The Secretary's Certificate on the Final EIR was issued on October 29, 2021, and it stated that no further MEPA review is needed. The WRC accepted AWD's application as complete on December 9, 2021. Public hearings were held via Zoom for the donor and receiving basins on January 20 and January 26, 2022. No public comments were received.

Curran gave an overview of the seven ITA criteria and highlighted the applicable ones. She then presented each of the applicable criteria. Curran discussed Criterion 2 Viable In-Basin sources. AWD's sources have both water quality and capacity challenges due to threats from accidents and spills. Alternatives considered were no action, add treatment for existing sources, bring new sources online, and purchase from neighboring in-basin towns. The recommended alternative was a new interconnection with Worcester.

AWD meets most of the Performance Standards for Criterion 3 Water Conservation including: full metering, leak detection, unaccounted-for-water (uaw), water rates, and residential gallons per capita per day (rgpcd). AWD completed a written water conservation plan in July 2021 which was submitted as part of the FEIR. Over the last 5 years (2016-2020), rgpcd averaged 61 and UAW averaged 9%. Staff are recommending conditions to fully meet ITA Performance Standards for a few other items including billing, drought plan, public education/outreach, and industrial commercial institutional (ICI) use.

Curran presented Criterion 5 Reasonable Instream Flow and Criterion 7 Cumulative Impact. ITA regulations require consideration of a broad range of environmental information including drought and low flows, intermediate and high flows, and impacts to fisheries and rare and endangered species. Criterion 7 requires evaluation of impacts of all past, authorized, or proposed transfers on streamflow in the donor basin. The analysis looked at the incremental 0.36 MGD transfer as well as the cumulative 0.77 MGD, which includes the Cherry Valley & Rochdale Water District transfer (previously approved by the WRC in 2015). Worcester's system has an approved safe yield and authorized Water Management Act volume of 29.5 MGD. Results of the analysis include little to no expected impact to intermediate flows or high flows. There are only 18 additional "no-spill" days estimated over 10 years for all of Worcester's Nashua River Basin reservoirs. There will be no impacts to low flows as reservoirs are not spilling during periods of low streamflow. There are no impacts to other resources listed in the regulations (e.g., fisheries, endangered species). Staff determined that "reasonable instream flow" remains and there are no adverse impacts to resources.

Curran presented the recommended conditions of the approval. AWD must commit in writing to abide by any required conditions. Conditions include: redesign of bills to include usage in gallons and trend data; revisions to the AWD drought plan to match the MA 2019 Drought Management Plan; expansion of public education and outreach efforts; annual outreach to top ICI users to encourage conservation; continued efforts to remain at or below 65 rgpcd and 10% uaw.

Curran presented the remaining ITA regulatory schedule. Today is the presentation of the Draft Staff Recommendation. Wednesday March 2 at 1:00 p.m. is the public hearing on the Draft Staff Recommendation. April 14 is the presentation and vote on the Final Staff Recommendation at the WRC meeting. May 1, 2022 is the deadline for the WRC vote.

Rao asked Roman if he had any comments. Roman replied that this has been a long process and AWD has been looking for an alternative source since 2016. He offered to answer any questions.

Rao asked if Commissioners had questions. Weismantel asked AWD if they are comfortable with the recommended conditions? Greg Woods replied "yes," they seem reasonable and he had worked with staff to draft. Weismantel commented on the uaw percentage and asked what is their best practice that seems to keep uaw below 10%? Greg Woods replied that he has only been at AWD for ten months, so he can't say, but AWD does do a lot of leak detection and they stay on top of what is pumped per day. Weismantel asked about a meter replacement program. Woods answered there was a very big replacement program about 15 years ago, and they have started to do another overhaul.

Weismantel commented that he thought the draft staff recommendation was well written and the conditions were reasonable.

Samantha Woods asked about streamflow releases. Curran answered that Nashua is the donor basin and that Worcester has no mandated releases. The reservoirs spill when full and there is seepage. Carroll elaborated that there is no ability to do releases; the dams are not built to do controlled releases and it is outside the ITA jurisdiction. Curran added that the analysis compared potential conditions with the transfer to existing conditions and that ITA is not considered a restoration act. Rao said in this case the analysis is about the incremental volume and impact on existing flows and resources.

Rao asked the Commission to submit comments on the Draft Staff Recommendation by email. Comments are due by March 9. She then took questions from the public.

Pederson asked that since Auburn has a WMA permit, must they follow those drought restrictions or the more stringent drought restrictions as part of the ITA conditions? Rao answered in this case the ITA drought restrictions will be followed. LeVangie added that in general ITA conditions are eventually incorporated into WMA permits when there is a renewal or other action.

Pederson asked for clarification about the condition regarding restructuring the tier 2 rate and about use of the term "gallons per capita day" (gpcd). Use of the term "gpcd" implies that not only residents should change their behavior, but that everyone including businesses should.

Cohen answered that because AWD has a single rate structure for all its customers the term "gpcd" was used instead of "rgpcd." The 165 gpcd that appears in the draft staff recommendation (which signifies the threshold between Tiers 1 and 2) was calculated for a residential household of average size for AWD. Cohen will go back and look at this section because the intent is to incentivize residential savings. Pederson is concerned that if the restructuring is intended to promote water conservation for residences, it might impact

businesses who need the water. Cohen answered that having one rate structure is AWD's decision. There isn't an effective price signal for residents. If AWD is concerned about the potential effect on businesses, they can change the rate structure, but the ITA conditions currently do not require them to do something for the businesses.

Agenda Item #6: Presentation: Massachusetts Climate and Hydrologic Risk -Pilot Watershed Project

The slides from the presentation can be found on the WRC website at

<https://www.mass.gov/doc/presentation-ma-climate-and-hydrologic-risk-project/download>

Rao introduced Jonathan LaMontagne from Tufts University and Gregory Stewart from USGS. They are part of the team working on the MA Climate and Hydrologic Risk Project. In January the WRC heard a presentation about the weather model. This month the presentation is about the calibrated watershed model that uses input from the weather model.

LaMontagne gave an overview of the MA Climate Risk Project and how the watershed model fits in. With climate change there will be changes in precipitation intensity and thus changes in the hydrologic regime including both the frequency and intensity of high streamflows and low streamflows. Planners and engineers need to know what to expect to plan for and design infrastructure.

The watershed model will be used to look at changes in precipitation and temperature to see how streamflow is affected. Watershed models typically perform well capturing average conditions but not extremes; the models tend to underestimate floods and extreme low flows. This part of the MA Climate Risk Project is taking a closer look at the errors to better model the extremes.

More details of the watershed model were presented. A deterministic USGS precipitation runoff model is being used with variability of error added back in to better capture the extremes. Another key part of the project is changing how floods are characterized; instead of referring to a return period, which can be confusing because of climate change, the risk of exceeding the current 100-year flood under different scenarios is used. With this work better capturing the variability, the watershed model will not only reflect how climate change affects the average streamflow conditions, but also floods and droughts. There is now the ability to track how different degrees of warming will magnify or suppress different design statistics like flood events and drought events. This can be done in a way that captures the true distribution of these events.

In addition to the watershed models, there are two visualization products being developed by USGS. One product is for climate data visualization of the weather model and the other is for hydrologic risk visualization. Stewart showed an example of each.

The presenters answered questions. Stagnitta asked if these models and methods could be adapted to other regions and states. LaMontagne replied generally yes, and they would work well in Rhode Island.

Wijnja commented on a recent National Public Radio segment dealing with the current limitations in infrastructure design standards based on historic data and provided a link in the chat. <https://www.wbur.org/npr/1078261183/an-unexpected-item-is-blocking-cities-climate-change-prep-obsolete-rainfall-reco>.

Weieneth asked if the work that Cornell, Tufts, and USGS has been performing is related to work being done by NOAA et al. regarding impacts of climate change on precipitation frequency estimates, or if there has been coordination, and put in the chat a link to a report issued last month, which is focused on the Northeast:

https://hdsc.nws.noaa.gov/hdsc/files25/NA14_Assessment_report_202201v1.pdf. LaMontagne answered that Scott Steinschneider, who presented last month, has been closely connected to NOAA.

Pederson asked what is the expectation of this work with respect to grants and Municipal Vulnerability Preparedness (MVP) funding? Rao answered that the outputs are getting fed into the RMA (Resilient MA Action Team) process, which feeds into the MVP program. Regarding the hydrological piece discussed today, so far it has only been applied to one basin. The idea is to understand how it works, and then apply it to the rest of the state. Moving forward it can be used in planning and decision making.

Rao thanked LaMontagne and Stewart for their presentation and invited a motion to adjourn. Weismantel made the motion, with a second by Cambareri. The roll-call vote to adjourn was unanimous of those present. The meeting adjourned at 3:02 p.m.

Documents or Exhibits Used at Meeting:

1. WRC Draft Meeting Minutes: November 10, 2021
2. Notice of Public Hearings for Auburn Water District's ITA Application
3. Interbasin Transfer Act project status report, February 4, 2022
4. WRC Staff Recommendation on the Interbasin Transfer Application from the Auburn Water District to Purchase Water from the City of Worcester dated February 10, 2022
5. Presentation "Auburn Water District's Proposal to Purchase Water from Worcester, WRC Draft Staff Recommendation, February 10, 2022" (available at <https://www.mass.gov/service-details/review-our-meetings>)
6. Presentation "Massachusetts Climate and Hydrologic Risk -Pilot Watershed Project" (available at <https://www.mass.gov/service-details/review-our-meetings>)
7. Hydrologic Conditions in Massachusetts, January 2022 (available at <https://www.mass.gov/info-details/monthly-hydrologic-conditions>)
8. Correspondence dated January 14, 2022 from the Water Resources Commission to the Town of Mansfield regarding compliance with its 2016 Interbasin Transfer Act Amendment

Compiled by: eg

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 251 Causeway Street, 8th floor, Boston, MA 02114.