



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

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**Meeting Minutes for January 12, 2023**

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

*Minutes approved March 9, 2023*

**Members in Attendance:**

Vandana Rao	Designee, Executive Office of Energy and Environmental Affairs (EEA)
Linda Balzotti	Designee, Department of Housing and Community Development (DHCD)
Duane LeVangie	Designee, Department of Environmental Protection (MassDEP)
Tyler Soleau	Designee, Massachusetts Office of Coastal Zone Management (CZM)
Anne Carroll	Designee, Department of Conservation and Recreation (DCR)
Todd Richards	Designee, Department of Fish and Game (DFG)
Hotze Wijnja	Designee, Department of Agricultural Resources (DAR)
Thomas Cambareri	Public Member
Christine Hatch	Public Member
Vincent Ragucci	Public Member
Kenneth Weismantel	Public Member
Samantha Woods	Public Member

**Others in Attendance:**

Erin Graham	DCR/OWR
Joy Duperault	State NFIP Coordinator
Sara Cohen	DCR/OWR
Vanessa Curran	DCR/OWR
Viki Zoltay	DCR/OWR
Jennifer Pederson	Massachusetts Water Works Association
John Scannell	DCR
Kate Bentsen	MA DFG/DER
Katie Ronan	MWRA
Lexi Dewey	WSCAC
Lynn Gilleland	EPA Region 1
Nadia Madden	NFIP
Read Porter	EEA
Katharine Lange	Mass Rivers Alliance
Jason Duff	DCR/OWR

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Rao called the meeting to order at 1:07 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 mentioned the EOEEA has a new secretary, Rebecca L. Tepper and that she had not had the chance to meet her as yet. Rao invited those who wish to speak during the meeting to indicate this in the chat window. Cohen conducted roll call.

**Agenda Item #2: Executive Director's Report**

Rao started by discussing the letter to MEPA commenting on the town of Falmouth's comprehensive wastewater management plan. She explained that the town is considering putting their treated wastewater in an outfall, but the location is not known. If the outfall crosses a basin boundary, it would be an interbasin transfer and so the ITA might apply. Rao reminded the commission that WRC staff review MEPA filings to look for projects that could be relevant to the ITA and reach out to communities to determine if the act does apply, and this Falmouth wastewater outfall is an example.

Rao briefly mentioned the multi-day influencer training through the Narragansett Bay Research Reserve that many staff will attend and how it relates to a lot of the work that WRC staff does in terms of outreach efforts. The training is at the end of January and hopefully will provide WRC staff with some new insights to help get water related messages across to the public.

Rao opened the conversation to other members, and Woods said they just started their weekly "winter water" watch lecture series held in person and on Zoom. It is a free lecture series that runs every Wednesday night at 7pm. She explained that they have one coming up that will include water suppliers impacted by PFAS and Kathy Baskin from DEP. The idea is to get information to the public and answer their questions. Carroll asked her to share the link (<https://www.nsrwa.org/protect-our-waters/education/2023-waterwatch-lecture-series>). They are also doing a "climate change leads to action" workshop to try to get people motivated to do things like solar panel installations by having conversations with trusted peers. Woods also requested the link to the influencer training that Rao previously mentioned and it was put in the chat (<https://www.eventbrite.com/e/influencer-behavior-change-training-jan-23-27-2023-tickets-483326321037>).

Cambareri said he's working with the Silent Spring institute and Hyannis on a grant to create a history of PFAS in public water supplies. Cambareri also mentioned going to the Drought Management Task Force meeting and how he was impressed with how the meeting was run and the data presented and urged other members to attend. He also mentioned the DEP regulations (Title 5 and Watershed Permitting) and said there continues to be a lot of public angst about it, that the comment period has been extended, and they will be having some more public meetings regarding it. Rao added that DEP will come back to the commission to vote on that regulatory package.

Rao ended this section by saying that EEA would be sending out the press release with the Secretary's drought declaration in the next couple of days.

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

Rao introduced Graham to present the Hydrological Conditions Report for December 2022 (<https://www.mass.gov/doc/december-2022-hydrologic-conditions/download>).

- *Temperature*: Mostly normal or above normal.
- *Precipitation*: Normal to above normal. Index Severity Levels remain elevated at 6-months and longer look-back periods for multiple regions. Middleton stands out for accumulated precipitation departure as still at about 10-inch deficit for the year.

- *Streamflow*: Mostly normal to above normal, with only Cape Cod elevated at index severity level (ISL) 1.
- *Groundwater*: Ranged from below normal to above normal. Northeast and Cape Cod at ISL 1, and Islands at ISL 2.
- *Lakes and Impoundments*: Levels varied across state with some levels below the 30<sup>th</sup> percentile. The Central and Northeast Regions at ISL 1 and Cape Cod at ISL 2.
- *Keetch Byram Drought Index and Evapotranspiration*: Outside of their reporting seasons.
- *Flooding*: December 23<sup>rd</sup> storm caused some minor flooding in western MA and urban flooding in Fitchburg.
- *Snowfall*: Below normal across the state. Only western part of state still had snow cover.
- *NOAA February Outlook*: Chances likely for above-normal temperatures and equal chances for below-normal, normal, or above-normal precipitation.
- *NOAA 3-Month Outlook*: Chances leaning toward above-normal temperatures and equal chances for below-normal, normal, or above-normal precipitation.
- *Drought Status*: Press release hasn't come out yet, but after last meeting the DMTF recommended improvements for CT River Valley to level 0, Northeast and Cape Cod from level 2 to level 1, and Islands remaining at level 2.
- *US Drought Monitor*: At end of December conditions improved (see map in HCR report).

Woods asked about predictive capability for temperature and precipitation outlooks. Rao explained that NOAA seems to have more confidence in temperature forecast than precipitation. She also said they have more confidence closer to today than further out. There was some more discussion regarding the difficulty in predicting precipitation further out than a day or two because of how weather patterns can change so suddenly. Cambareri asked what the capacity is under the Drought Management Plan to deal with excess water and flooding issues or if it is the responsibility of a different group. Rao said it has been a responsibility of the Commission and was one of the reasons the Commission got started in the early 1950s dealing with flood management and mitigation. Now there are staff at DCR that administer flood hazard programs (i.e., dam safety). She also described that we now feel that we have a good drought management process in place, but we are starting to work on the flood side to try to establish the most effective process.

Rao asked if there any additional questions before moving on to agenda item number 4 and there were none.

**Agenda Item #4: Vote to approve meeting minutes for meeting held on October 13, 2022**

Rao invited a motion to approve the meeting minutes for October 13, 2022.

V O T E	A motion was made by Weismantel with a second by Hatch to approve the meeting minutes for October 13, 2022.
	The vote to approve was unanimous of those present.

**Agenda Item #5: Presentation: Updates from the Flood Hazard Management Program**

Rao introduced the presentation by providing history of flood management in the state. The National Flood Insurance Act (NFIP) in 1968 brought about the opportunity for communities to participate in the NFIP by agreeing to regulate their floodplains according to the federal code. Governor Dukakis signed Executive Order 149 in 1978 that directly responded to the Flood Act. The order designated the WRC as the state agency to implement flood plain management criteria and that the WRC should encourage efforts to remediate flood hazards. The flood hazard management program then was set up under the Office of Water Resources. She said today's meeting is intended to give an idea of the work that the staff is doing, on behalf of the WRC. Rao introduced Joy Duperault as the state coordinator of the National Flood Insurance Program for the state and the Director of the DCR's Flood Hazard Management Program (FHMP).

Duperault started by introducing their new staff member Nadia Madden who was able to be hired due to increased federal grant funding. Madden was formerly a conservation agent for Lunenburg and has two MS degrees and an undergrad from MIT. She also has background in water resources, GIS, and local municipal work. Madden said she was excited to be working in her home state and in the water field and wants to help build resilience to floods statewide.

Duperault spoke about the status of the NFIP and how it was reauthorized through 9-30-23. She said there are a lot of reforms that should be considered but they have changed the way premiums are rated, in a positive way. She described some of the issues with the program that should be addressed, including: increasing debt, mapping appropriations being too slim, and lack of mandatory flood risk disclosures.

Hatch asked about NFIP maps being out of date or missing and how future conditions come into play in the mapping process. Duperault said FEMA flood maps don't include future conditions, although they have done some future condition mapping on a case-by-case basis depending on funding. She explained many other state and federal agencies are doing more extensive mapping, such as USGS flood inundation mapping.

Duperault went on to discuss several other issues that FEMA is trying to address regarding the NFIP, including: affordability associated with new "true risk" ratings, need for increased benefits under the policy for code compliance, and need for increased maximum coverage options. She said Congress will hopefully be considering these issues this year during the reform period.

Duperault continued by explaining the work that they do within the FHMP that supports other state work. She said they have worked over the last 4-5 years to support higher standards in the 10<sup>th</sup> edition of amendments to the Massachusetts building code. They have also been involved in updating the state hazard mitigation and climate adaptation plan, providing comments in MEPA proposals for floodplain development, reviewing MEMA grants, serving as a co-lead to the MA Silver Jackets team (U.S. Army Corps of Engineers (USACE) initiative on fighting floods), and supporting building codes appeal board hearings through expert testimony for variances to floodplain building codes.

Rao added that the commission will start seeing letters in their meeting packets that will be sent to MEPA on behalf of the WRC as the designated state entity implementing the NFIP. The letter

regarding the Town of Falmouth in this meeting's packet is an example, and future letters will follow the same process when comments to MEPA are necessary for projects.

Duperault described upcoming projects that they are looking at, including: FEMA grant funding to develop guidance for local "higher standards" to allow for higher floodplain management standards than building codes allow, collaboration with UMass Amherst to map social vulnerability and flood risk, reviewing updates to FEMA "Substantial Damage Desk Reference", training local officials on required NFIP documentation for permit files, and working on a statewide floodplain management framework in collaboration with federal and state agencies. Rao added that the statewide floodplain management framework initiative would be brought to the commission and voted on if needed.

Weismantel asked the question in the chat: "given that dam spillways have impacts on IBT (for example Hopkinton State Park lowers water level at the start of hurricane season), is there increased funding for dam improvements in the federal infrastructure bill?". He further explained the example of the WRC approving the interbasin transfer for Ashland and that they lower the reservoir every year by about a foot which causes them to require an interbasin transfer. He said if the spillway was modernized to handle hurricane conditions there wouldn't be a need for an interbasin transfer. Rao said that EEA has a grant program that helps with dam repair and that the program got additional funding through the federal infrastructure bill. Duperault added that a good step is to try to get the USACE to help with a feasibility study of the dam. Rao further explained that the USACE typically requires a 25% match for these studies, but they provide expertise and technical support so it is a great deal.

Hatch asked Duperault if there was a possibility that FEMA might include fluvial geomorphologic hazard in future flood maps. Duperault said she didn't know but could provide the name of the FEMA person to contact. Rao and Hatch discussed the Deerfield watershed as an example in which there is an overlay district that can go over standard maps for geomorphology purposes, and this might be the only one that exists in the state. Rao mentioned the possibility of someone from the Deerfield project coming to present at a future WRC meeting to explain their process.

#### **Agenda Item #6: Presentation: Quarterly Update on WRC Special Projects**

Rao introduced the idea of WRC staff providing quarterly updates on ongoing projects. Rao began by describing the project she is leading which is the "Climate Hydro" project in collaboration with USGS, Tufts, and Cornell. This project aims to develop new downscaled climate projections and to apply them to develop a model to predict future streamflows at a level useable by communities. The project is in two phases, a pilot project and then applying the modelling to the entire Commonwealth. They currently are nearing the end of phase 1 and have funding in place for phase 2 and hope to start soon. Rao shared her screen to show the state's main climate data page to show the climate change projections dashboard which USGS created and a map viewer which allows you to look at various projections as it relates to different locations. She provided the link to the Massachusetts Climate Data Portal: <https://resilientma.mass.gov/home.html>. Rao ended by explaining they plan on creating a stakeholder group for Phase 2, including internal agency staff and external experts and if anyone on the WRC is interested in being involved to let her know.

Hatch added a comment in the chat in response to Rao's demonstration of the resilience tool: "There are some similar products prepared by the USGS which include temperature and precipitation (with climate change) but not streamflow for the entire Northeast: <https://www.usgs.gov/apps/ecosheds/ice-northeast/> and the Deerfield Watershed which expands these data to include bridge/ culvert condition, FGM hazard, and more data: <https://sce.ecosheds.org>" and then added that she loves the product with the streamflow predictions.

Carroll further explained that the project updates that will be given will be higher-level and that if any commissioners want more details about a particular project to let her know. Zoltay went on to explain her projects that she's currently involved in, including: 1) USGS low-flow study calculating low-flow statistics at gage sites and using regressions to calculate low-flow statistics at no-gage sites; 2) UMass Amherst groundwater flooding vulnerability mapping; 3) Assessment of least-impacted sites and distribution of characteristics across networks for stream and groundwater networks; 4) National groundwater monitoring network grant work to replace equipment at real-time sites to reduce operation and maintenance costs; and 5) Updates to drought dashboard in collaboration with Cornell (once new version is completed it will be brought to the WRC to demonstrate improvements). Zoltay thanked Kate Bentsen from DER and Julie Butler from DEP for assistance on the low-flow study.

Graham explained her project next, which is evaluation of lakes and impoundments drought index for the MA drought management plan in collaboration with USGS. She explained that the newer method for this index has not yet been evaluated and that there are some quirks that need to be ironed out with the method. For example, skewed distribution of certain waterbodies, some being regulated and some not, and lack of stage storage curves. Graham has been helping to track down data to provide to USGS and prioritizing site evaluations. Rao reiterated that this is an exciting project because we have been grappling with some issues for this index for some time and hopefully this project will allow fine-tuning of the methods.

Pederson asked if Cambareri's suggestion to use some more ponds on Cape Cod in the lakes and impoundments metric is something that could be folded into this project. Graham said there wasn't enough money to evaluate the other potential sites, but part of the project would be setting criteria for sites that could be added.

Cohen then explained a project she's working on to develop guidance for local water suppliers on developing local drought management plans. The idea is to create source specific triggers for water systems that can be tied to different stages of drought, and then tie each stage to appropriate responses. She said this effort was restarted this past summer with additional \$75,000 funding from EEA. A steering committee has so far helped develop a scope of work because a consultant will be hired to assist in this effort. The RFQ was posted in mid-December and the current deadline for the project is June 30<sup>th</sup>, 2023.

Duff then explained that he's helping to develop a new drought retrospective for the drought periods in 2020-2021 which will be very similar to the 2016-2017 drought retrospective that the state released. It will incorporate a timeline of the drought and some of the data patterns for the various drought indices during those years. He also explained that he's helping update drought

outreach materials which will eventually be available for download on our website, as well as starting to work on creating a video series on what drought really is and how we measure it.

Woods acknowledged Cohen for assistance in facilitating discussion of water supply resiliency on the south shore. She said her professional facilitation skills have been very helpful in these discussions. Rao reiterated that the combination of Cohen’s water resource knowledge with her facilitation skills is very valuable. Rao also thanked Pederson and water supplier representatives who provided feedback on the first round of drought outreach materials and said that the final products will be shared with the WRC once they are completed.

Weismantel added a general comment about how he is interested in tracking progress on how many water suppliers are meeting our two key conservation requirements (65 rgpcd and 10% UAW) and what could be done to get more suppliers to make progress faster. Rao explained that the state is actually doing pretty well with rgpcd and although there are some communities that are using more than others, the statewide average is below 65. She acknowledged that there is a lot more variability in the UAW, but that a lot of it relates to leaks that require significant money to address. Rao said she hopes that increased infrastructure funding through the federal government will help make progress toward this goal. LeVangie commented that he agrees that rgpcd compliance is much better than UAW, although there have been two droughts in the last three years which has caused a lot of the variation in rgpcd. LeVangie also stated that a lot of systems aren’t subject to DEP conditions currently, so if more of those communities implemented restrictions it would help drive rgpcd even further down. He agreed that UAW is a much longer-term issue and that a larger discussion is needed on getting necessary funding.

Pederson said she wanted to remind people that UAW isn’t all water lost, some of it is on paper in response to things like billing system and metering upgrades. She also cautioned that increased funding through the infrastructure act doesn’t favor pipe replacement as much as it favors contaminant issues, therefore it probably won’t address as many water loss projects as necessary. Pederson also said cost is increasing by 30% for most projects, sometimes more and used Springfield as an example. She said EPA says nationwide average is 100 rgpcd, so MA is doing well with this metric. Rao agreed and said the 65 standard that was put in place a long time ago by the Commission has helped a lot.

Woods added a comment explaining that she thinks getting money for upgrading meters should be a priority, as well as developing water pricing that reduces reliance on summer demand as a revenue stream. Rao stated that Cohen’s work on rate structures is intended to provide technical assistance to communities on helping to reduce this demand on summer revenue. Pederson added a comment in the chat: “SRF project rankings can be viewed here: <https://www.mass.gov/doc/2023-draft-drinking-water-intended-use-plan/download>”

V O T E	A motion was made by Weismantel with a second by LeVangie to adjourn the meeting.
	The roll-call vote to approve was unanimous of those present.

Meeting adjourned at 2:49 pm.

**Documents or Exhibits Used at Meeting:**

1. WRC Meeting Minutes: October 13<sup>th</sup>, 2022
2. Hydrologic Conditions in Massachusetts, December 2022
3. Updates from the Flood Hazard Management Program presentation

*Compiled by: (JD)*

*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, 8<sup>th</sup> floor, Boston, MA 02114.*