



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

Meeting Minutes for June 10, 2021

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

Minutes approved September 9, 2021

Members in Attendance:

Vandana Rao	Designee, Executive Office of Energy and Environmental Affairs (EEA)
Linda Balzotti	Designee, Department of Housing and Community Development (DHCD)
Anne Carroll	Designee, Department of Conservation and Recreation (DCR)
Kathleen Baskin	Designee, Department of Environmental Protection (MassDEP)
Hotze Wijnja	Designee, Department of Agricultural Resources (DAR)
Kate Bentsen	Designee, Department of Fish and Game (DFG)
Thomas Cambareri	Public Member
Kenneth Weismantel	Public Member
Samantha Woods	Public Member

Members Absent

Marcela Molina	Public Member
Vincent Ragucci	Public Member
Todd Callaghan	Designee, Massachusetts Office of Coastal Zone Management (CZM)

Others in Attendance:

Erin Graham	DCR/Office of Water Resources
Marilyn McCrory	DCR/ Office of Water Resources
Vanessa Curran	DCR/ Office of Water Resources
Sara Cohen	DCR/ Office of Water Resources
Viki Zoltay	DCR/Office of Water Resources
Johanna Stacy	Northampton DPW
Jennifer Pederson	Mass Water Works Association
Thomas Cue	BCB
Lynn Gilliland	US EPA
John Frost	Citizen
Ron Horwood	Northeast River Forecast Center
Lexi Dewey	Water Supply Citizens Advisory Committee
Andreae Downs	Wastewater Advisory Committee
Katie Ronan	Massachusetts Water Resources Authority
Katherine Lange	Mass Rivers Alliance

Rao called the meeting to order at 1:08 p.m.

Agenda Item #1: Welcome and Introductions

Rao welcomed the attendees and Commissioners and announced that the meeting was being recorded for the purpose of the minutes 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. Members and attendees introduced themselves.

Agenda Item #2: Executive Director's Report

Rao updated the WRC regarding the Drought Management Task Force which met on Tuesday, June 8. A press release should be coming out shortly and will show some improvement in areas where we received substantial precipitation in May. Rao also noted that Beth Card has rejoined the EEA Team as Undersecretary of Environmental Policy and Climate Resilience to replace Dan Sieger. Many of us know Beth and have worked with her in the past, and we look forward to working with her moving forward. Additionally, Rao announced that Jen Sulla has left EEA to join the team at Department of Fish and Game as General Counsel. Jen has been a pleasure to work with over the years.

Baskin announced that DEP has posted online the draft WMA regulation update, which includes restrictions on nonessential water use during a drought. Several public hearings are upcoming: July 7 and 16 at 10 am. There are several other ongoing regulatory updates. The wetlands regulations include several big changes around stormwater management and standards. A sixth stakeholder meeting was held today to discuss proposed changes. Also developing performance standards for land subject to coastal storm flowage. This is a resource area where there were never any performance standards, so it is needed and is part of DEP's resilience package. Rao responded that both proposals are exciting and will enhance our ability to respond to the drought and flood side during extreme events. Rao also noted that the WMA regulations will be coming to the WRC as a draft in July and later in the year for approval which is required by statute.

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

Graham provided an update on the hydrologic conditions for May. Regionally precipitation was above normal across the state and all regions are at level zero for the 1- through 6-month look back periods. Streamflow varied throughout May with a dry stretch in the middle of the month causing some gages to fall below normal, but most recovered by the end of the month. Two gages on the Cape with 30 years of record were added following review and approval from the DMTF Technical Review Committee. Groundwater was largely normal, although the median continues to decline on the Cape. Many reservoir systems are 100% full, the pond on the Cape being an exception as it is very low. KBDI and Crop Moisture are both at level zero for the month of May. The EEA drought press release has not yet been published but the U.S. Drought Monitor (USDM) shows expansion of D0 (D-zero) condition across the base of the Cape.

Cambareri noted that he appreciated the two Cape stream gages being added to the MA Drought Plan dataset. Additionally, he confirmed that the groundwater levels on the Cape are concerningly low.

Woods noted that they had been observing lower fish migration runs in the Southeast Region and wondered if others were seeing this. Bentsen responded that she had noted during the DMTF meeting this same observation by Brad Chase from DMF. Chase noted that the recent late-May rains helped with the low flows that had occurred in the middle of May. Zoltay noted that sometimes the useful amount of precipitation (i.e., precipitation that is beneficial to the hydrology and seeps into the ground) that falls is not the same as the total. We are looking into this and how it could be evaluated for the next revision of the MA Drought Plan.

The full hydrological conditions report can be found at <https://www.mass.gov/info-details/water-data-tracking#hydrologic-conditions-reports>.

Wijnja arrives at 1:30 pm.

Agenda Item #4: Vote on the Minutes of March and April 2021

Rao invited motions to approve the meeting minutes for March and April of 2021. Weismantel noted that he appreciated the language on page 3 that PWS's will be targeted for help.

V O T E	A motion was made by Cambareri with a second by Weismantel to approve the meeting minutes for March 11, 2021.
	The roll call vote to approve was unanimous of those present.

V O T E	A motion was made by Cambareri with a second by Weismantel to approve the meeting minutes for April 8, 2021.
	The roll call vote to approve was unanimous of those present.

Agenda Item #5: VOTE: WRC Work Plan for FY2022

Carroll noted that there was an extensive presentation and discussion on the workplan at the May WRC meeting, so today she would just review the highlights. She noted that staff expect to expend a significant portion of time on drought management and support to the MA Drought Management Task Force. Staff are also planning outreach on the new water conservation website. Additionally, we plan to give the WRC a full overview of water needs forecasting status sometime in the coming year. And, we are planning to reach out to 5th grade classes for MA ECO Program since this grade has the water cycle in their curriculum.

Woods asked about water needs forecasting- what will be entailed. Carroll summarized that DEP has begun to issue 20-year WMA permits. WRC staff provide forecasts to accompany these permits. Many of these forecasts were previously completed but some may need a new forecast if there was a significant unanticipated change in water use, or if they received an interim allocation due to insufficient data. We have met with DEP staff to review needs for the next year and anticipate approximately 15 to 20 systems may need a revised forecast.

Woods then asked about regulations noted in the workplan and McCrory clarified that these are the DEP irrigation regulations. Baskin explained that DEP is in the process of drafting regulations based on legislation that was filed. WRC staff have provided technical assistance to review irrigation efficiency devices such as moisture sensors and interruption devices. DEP hopes to have the regulations available for public review later this year.

Pederson asked whether changes in the 2020 Census would result in changes to our water needs forecasts. McCrory responded that we rely on the Regional Planning Agencies to update population projections. They are on a five-year cycle, so those updates are not currently available. The census count was made in April 2020, but results are not published all at once-

they have not yet rolled out the city and town level data, but it is expected in August 2021. If a water supplier wants us to look at these we can and will adjust if needed.

V	A motion was made by Weismantel with a second by Woods to approve the FY2022
O	Workplan.
T	
E	The roll call vote to approve was unanimous of those present.

Agenda Item #6: Presentation: The 2020 Drought in New England

Rao introduced Ron Horwood from the Northeast River Forecast Center (NERFC). She noted that we recently invited the NERFC to be part of our DMTF as they have very helpful insights on streamflow, including some prediction capacity.

Horwood started with some background on himself. He attended Penn State with a Bachelor's in Meteorology. He joined the National Weather Service in 1990 and moved to the NERFC in 1999 and has been there ever since. His areas of expertise include QPF (quantitative precipitation forecasting) and flood forecasting. In 2000 he received the US Department of Commerce Gold Medal for developing new software system called CHIPS (Community Hydrologic Prediction System) which is now in operation at all 14 NRF Centers.

Horwood started with the onset of the 2020 drought. By the end of April Massachusetts had almost no snow on the ground; but streamflow and groundwater were normal. May featured near normal temps, but below normal rainfall, in some cases several inches below normal. June in 2020 was very warm and dry. Temperatures above normal and precipitation below normal. July continued the pattern of above normal temps and below normal precipitation. Severe drought conditions started to develop in August in northern New England due to a third month of above normal temps and below normal precipitation. September continued with above normal temperatures and below normal precipitation, resulting in significant streamflow declines across New England and in Massachusetts. October brought some relief with precipitation above normal. Temperatures in November dropped, and significant precipitation in December helped to clear almost all drought conditions from Massachusetts. The peak of the drought in the state was in October, which shows the lag time following months of above normal temperature and below normal precipitation.

Balzotti departs (2:09 pm).

Horwood continued to the second part of his presentation which focused on the relatively new concept of a flash drought. Drought.gov defines flash drought as “the rapid onset or intensification of drought...”. This is a rapidly advancing field. Rao asked whether the drought of 2020 was a flash drought? Horwood used the Chen et al, 2019 paper to define flash drought based on three primary characteristics and assessed whether Massachusetts met these conditions. From mid-July to mid-August there was a 2-category degradation in conditions which does indicate flash drought conditions were experienced, but this is an evolving field.

Horwood ended by discussing the challenges of predicting drought in New England. Dependable climate indices in other parts of country don't work well in New England (e.g., El Niño). Also, we

receive numerous and variable sources of precipitation. The Bermuda High is very important in determining our weather patterns.

Comments, questions, and responses:

Weismantel asked about the outlook on the Bermuda High- should it be used as a predictor for monthly forecasting? Horwood responded that Bermuda High doesn't usually become dominant until July through September. Will need to watch it and look for a large-scale upper layer ridge which can usually be forecasted several weeks in advance. Pederson asked about how the seasonal outlook is predicting no drought even though we are experiencing drought currently. Horwood replied that the product is produced at a national scale. Cape Cod is a micro area within the regional trends that they are looking at, so at the local level we can drill down but they don't have these resources for a national-level product. We do try to shape their product with local input when we can.

Cambareri thanked Horwood for the insightful presentation. He likes the concept of flash drought. He agrees that drought prediction is extremely challenging.

Rao thanked Horwood for the presentation and for his time and for his expertise and input on the MA Drought Management Task Force.

(see full presentation at <https://www.mass.gov/doc/presentation-the-2020-drought-in-new-england/download>).

Meeting adjourned, 2:52 pm.

Documents or Exhibits Used at Meeting:

ATTACHMENTS:

1. WRC Meeting Minutes:
 - a. March 11, 2021
 - b. April 8, 2021
2. WRC Work Plan, FY2022
3. Interbasin Transfer Act project status report, June 4, 2021
4. Hydrologic Conditions in Massachusetts, May 2021 (available at <https://www.mass.gov/info-details/water-data-tracking>)

Compiled by: (AC)

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.