

**Massachusetts Drought Management Task Force – Meeting Summary**  
**December 5, 2024, 10:00 am – 12:00 pm conducted remotely via Zoom**

**Attendees, Drought Management Task Force Members:**

Vandana Rao, Co-Chair, Executive Office of Energy and Environmental Affairs (EEA)  
Benjamin Hiltunen, Co-Chair, Massachusetts Emergency Management Agency (MEMA)  
Neal Strauss, National Weather Service (NWS), Northeast River Forecast Center  
Brian Loving, United States Geological Survey (USGS)  
Duane LeVangie, Department of Environmental Protection (MassDEP), Water Management Act  
Tom Maguire, MassDEP, Wetlands  
Irena Draksic, Department of Public Health (DPH)  
Anne Carroll, Department of Conservation & Recreation (DCR)  
Viki Zoltay, DCR  
Kate Bentsen, Department of Fish and Game (DFG)  
Jennifer Pederson, Massachusetts Water Works Association (MWWA)  
Lydia Olson, Massachusetts Rivers Alliance (MRA)  
Dave Celino, DCR Fire  
Matthew Walsh, Massachusetts Water Resources Authority (MWRA)  
Moussa Siri, Water Supply Citizens Advisory Committee (WSCAC)  
Adam Kautza, DFG, MassWildlife

**Other Attendees:**

Aisha Revolus	EEA
Alex Taylor	DPU
Anne Carroll	DCR OWR
Becca Dahl	State of CT - Office of Policy and Management
Brad Chase	DMF
Britt Westergard	NWS Albany
Caitlin Spence	EEA
Christine Hatch	UMass Amherst
Danielle Burney	EEA
Deanna Marks	NWS Albany
Elizabeth McCann	MassDEP
Emilia Fiora	CRWA
Erin Graham	DCR OWR
Frank Hess	Sherborn Water Commission
Jason Duff	DCR OWR
Jimmy Powell	Jones River Watershed Association
Joe Dellicarpini	NWS Boston
John Scannell	DCR
Katharine Lange	Mass Rivers Alliance
Marcos Pareto	DPU
Michael Botelho	MDAR
Michael Souza	MEMA

Pine DuBois	Jones River WA
Purvi Patel	EEA
Sam Banas	USGS
Sara Cohen	DCR OWR
Sylvia Reeves	NOAA NIDIS
Thomas Trainor	Sherborn Groundwater Protection Committee
Toni Stewart	DCR OWR
Vanessa Curran	DCR OWR

**1. Introductions: EEA, MEMA & Announcements**

Rao called the meeting to order at 10:05 am and introduced herself and her co-chair from MEMA, Ben Hiltunen. Hiltunen noted that MEMA had not received any additional concerns regarding water supply since the last meeting.

Rao gave an update on the statewide stakeholder calls that were held with Municipal Officials and Public Water Suppliers. The calls were held to inform various stakeholders on topics such as current drought conditions, how state agencies are responding, and what resources are available. Staff are finalizing a Q&A document that summarizes the questions and responses for all the calls and it will be distributed once it is finished. DPH also organized a call with local boards of health. Two additional calls are planned with Conservation Commissions and Environmental Groups. She thanked all task force members who have been involved in these efforts.

Rao also explained that a new contract with a graphic design consulting firm was just signed to update and develop new drought-related outreach materials. She encouraged task force members to reach out with any suggestions on messaging that would be most helpful.

Rao asked everyone to put their name and affiliation in the chat window for attendance purposes and said the meeting was being recorded for the purpose of meeting notes.

**2. Approval of November 6 and November 18, 2024 DMTF Meeting Notes**

Rao asked for a motion to approve the November 6 meeting notes. Pederson made the motion and LeVangie seconded the motion. Pederson requested a minor edit which was to change the mentioning of Aquaria to Aquarion. Rao asked for a motion to accept the notes with that correction. Pederson made the motion and LeVangie seconded. The vote passed unanimously.

Rao asked for a motion to accept the November 18 meeting notes. Pederson made a motion to accept which was seconded by LeVangie. The vote passed unanimously with the exception of Zoltay who abstained because she was not present at that meeting.

**3. Update on interagency Drought Mission Group**

Rao gave updates on recent meetings of the interagency drought mission group. The group has been instrumental in organizing the statewide stakeholder calls. The group has also had an in-depth discussion

on whether an emergency declaration was warranted, as well as a lot of discussion on outreach and messaging surrounding drought during the winter months. The group is meeting almost weekly.

#### **4. Updates on Current Conditions and Impacts**

Presentations for the updates below can be found on the mass.gov website [here](#); a summary of each presentation is below.

##### **Weather & Forecast: Joe Dellicarpini - National Weather Service**

November was a warm and dry month. Precipitation totals averaged 2 to 4 inches throughout most of the Commonwealth but there was an area of 4 to 5 inch totals in the I-495 corridor in Middlesex County. These totals for the month were between 1.5 inches and 3.5 inches below normal, with the greatest departures near Cape Cod and the Islands. Temperatures in November averaged 2 to 5 degrees above normal across the Commonwealth. Three-month precipitation departures were mostly between 40 and 60 percent of normal, but were as low as 20 to 40 percent in much of western Massachusetts and closer to normal (60 to 80%) closer to Cape Cod and the Islands. Six-month precipitation departures were mostly between 60 and 80 percent of normal, but were lowest on the North Shore (40 to 60 percent of normal) and parts of interior Essex County. So far in December, a dry and colder than normal weather pattern emerged.

##### **Hydrologic: Brian Loving - USGS**

The precipitation event of November 22-23 greatly improved streamflow conditions relative to seasonal norms, and late November conditions were a little better than late October. Still, nearly all USGS streamgages in Massachusetts reported flows below the 25<sup>th</sup> percentile for November. Groundwater levels lag in response to climatic conditions, and generally continue to decline relative to normal seasonal trends. During November, conditions improved very slightly in the Connecticut River and Southeast Regions but were stable to slightly worse in the other regions.

Rao commented on how curious it is that some wells are showing the lowest levels ever, even compared to the drought of the 1960s which was a multi-year drought. She noted that USGS is likely already looking into this phenomenon.

##### **Hydrologic: Neal Strauss, Northeast River Forecasting Center (NERFC)**

During November, river flows showed some improvement across most of the Commonwealth but generally remained below normal. Some of the lowest flows by late November remained in portions of Middlesex and Worcester counties including areas of eastern and central Massachusetts. Some snow was available up to an inch or so for melt runoff focused across northwestern portions, primarily northern Berkshire and Franklin County high terrain areas. Runoff from snow melt and precipitation is forecasted to increase early next week. The weather pattern looks more active heading into next week. Ensemble data indicates the possibility for hydrologically significant rainfall during the next 10 days but with spread in timing and amounts. The NERFC river forecast ensemble data as a result indicates an increase in river flows heading into mid-December.

##### **Water Supply: Duane LeVangie – MassDEP**

LeVangie checked in with the two suppliers that have emergency declarations, Ipswich and Attleboro. Ipswich is up to 60% full with over 30% usable, which is an improvement from the last task force meeting. Attleboro is purchasing water from Mansfield and going through the testing process to get water from Pawtucket. Their source in the Taunton River is active and currently productive. Their sources in the Ten

Mile Basin are still historically low, but they are trending up. DuBois commented that Silver Lake is not okay and that the Jones River is suffering. Rao acknowledged this concern.

**Water Supply: Matthew Walsh – MWRA**

Walsh presented on current conditions in the MWRA system. The Quabbin is at 85.5% which is below normal for this time of year. Levels have not changed much since the last meeting and most of the change is due to the release into the Swift River. Wachusett has dropped approximately three feet because they shut off Oakdale on November 1. They are anticipating putting Oakdale back online on December 9<sup>th</sup>. The watersheds experienced more precipitation in November than September/October, but are still below the 5, 10, and 40-year averages. The Sudbury is still undergoing a dam repair and is artificially lowered. Foss is within the lower operation band due to the lower-than-normal precipitation. The MWRA website has information about water conservation for residents.

**Water Supply: Jen Pederson– MWWA**

Pederson did not have any additional water supply reports. LeVangie previously covered the concerns for Ipswich and Attleboro.

**Private Water Supply: Marcos Pareto- DPU**

All Aquarion's locations are in serious drought conditions. The company has implemented a ban on all non-essential outdoor water use until the declaration is lifted, with a few exceptions. Dover, Sheffield, and Plymouth customers are allowed to manually water ornamentals and flower gardens. However, the residents of Milbury and Oxford were asked to completely shut down their irrigation for the season. Rao mentioned there should not be a lot of outdoor watering going on and encouraged Pareto to share our indoor efficiency outreach materials with the companies.

**Wetlands: Tom Maguire- DEP**

MassDEP has still been getting calls with concerns from conservation commissions, but streamflows have been improving. Maguire reiterated that a call is being held for conservation commissions next week due to widespread concerns across the Commonwealth about how to apply riverfront and pond regulations.

**Fish and Game: Kate Bentsen- DER**

Bentsen shared recent data for Browns Brook and Parkers Brook in the Central Region. The charts showed streamflows in these two streams during this drought compared to prior droughts. Neither of these two are as bad as prior droughts. She also showed a photo with evidence of dry streams in the Nashua River Basin before the recent rainfall and noted that she would gather more photos from other streams in that area that were observed to be dry. Bentsen also mentioned concerns over fish populations such as brook trout not being able to utilize the small streams because of dry conditions.

Chase noted that DMF is concerned about river herring migrations. They are trying to find locations where they can do stream maintenance to help get juvenile herring out of spawning ponds and nursery habitats. He commented that juveniles are being held in spawning and nursery habitats much longer than normal. There may be impacts into the future because of the effects that have already occurred.

DuBois asked for clarification on when DEP declares emergency in water supplies and expressed concern regarding Brockton's exclusive use of Silver Lake despite it being much below normal and river herring getting stranded in the lake. LeVangie responded that emergency declarations are based on Public Water Suppliers contacting MassDEP with petitions that they are experiencing serious supply concerns. Water

Management Act Regulations (310 CMR 36.40-42) outline the process by which Public Water Suppliers may petition MassDEP for a Declaration of Water Supply Emergency and the steps they may take to address the problem.

**Massachusetts Rivers Alliance: Lydia Olson**

Olson mentioned a concern from Don Keeran, the Assistant Director of the Association to Preserve Cape Cod (APCC). APCC has been receiving reports from residents of Cape Cod who are concerned about dry conditions even though there had not been a declaration in that part of the state. People have been saying that their streams are tidal and therefore may not show as much impact as inland streams. Residents have also questioned whether the different geomorphology of their region might impact the drought indices. She requested any information that the task force could provide to help explain the situation to APCC. Chase added that DMF has similar concerns to those expressed by Olson for Cape Cod streamflow conditions. Juvenile river herring are not able to leave all ponds despite the date and recent rain. This is late and seems out of pace with drought metrics. Rao replied that task force staff also got contacted by APCC with similar concerns and are going to reach out to learn more about what they are seeing on the Cape.

Lange commented that maybe there should be a separate way of looking at impacts to fish and wildlife considering how long-term the repercussions can be, especially for river herring populations which are an essential part of the ecosystem. Rao replied that she agrees it is important to track the impacts to fish and to consider what else we can do to help reduce the impacts. Bentsen added that this is another reason why barrier removal (e.g., dam removal, culvert replacement of undersized structures) is key to allowing fish and other aquatic biota to access additional habitat including flow and thermal refugia during times of drought.

Lange noted that the statistics for wildfires this fall have been attention-grabbing for people and suggested including some wildlife stories and statistics in EEA's press releases in order to enhance communication on this aspect of drought.

**Water Supply Citizens Advisory Committee: Moussa Siri**

Siri noted that WSCAC has been working with MWRA on conservation initiatives. They are holding their first sub-committee meeting to guide members on how to provide advice in terms of water conservation. He also mentioned that anyone interested in joining the WSCAC water conservation subcommittee to contact them at [info@wscac.org](mailto:info@wscac.org).

**Agricultural: Michael Botelho- DAR**

No representatives from MDAR were present at the meeting.

**Fire Danger: Dave Celino**

Celino explained that fire season is basically over. He described the abnormalities between this year and previous years, mostly that there was so much activity from October 1<sup>st</sup>-November. Another abnormality was having 4,575 acres burned for the year and 4,000 of those acres getting burned between October 1<sup>st</sup>-December 5<sup>th</sup>. He noted that 73% of all fires were still under a half-acre in size, which is a testament to the rapid response at the local level preventing most fires from spreading. Celino also described that through October and November there were about 480 homes threatened by wildfires, with four that were either destroyed or heavily damaged. There were also about 120 other structures like sheds and similar outbuildings that were threatened, with 30 of those reportedly destroyed.

**Engineering:** John Scannell- DCR

No updates to report.

**Public Health:** Irena Draksic

DPH is participating in the interagency drought mission group. As a result of discussions within the mission group, they developed a new resource guide for wildfire smoke, air quality, and public health impacts. DPH's new resource guide is located here: [wildfire smoke, air quality, and public health](#)

Rao reminded the task force about the drought impact reporter ([www.mass.gov/wir](http://www.mass.gov/wir)), which is a way for people to report to boards of health impacts they are seeing as a result of the drought.

There were no other updates.

**5. Presentation of Index Severity Levels as per MA DMP**

Zoltay reviewed recent hydrologic history that led to current conditions. The precipitation deficit causing the current drought conditions started in mid-August and continually got worse through mid-October, leading to record low streamflows across much of the state. There was some precipitation toward the end of November which brought some temporary relief.

The 1-month Standardized Precipitation Index (SPI) for November is showing precipitation going back into the normal range across a lot of the state, but the actual levels were on the low end of normal. The 2, 3 and 6-month SPI are still showing level 2 and 3 for most regions. The Evapotranspiration Index is showing record high evapotranspiration for most of the state, but because of the time of year the actual impact is very minimal. Streamflows are still at record or near-record lows across much of the state despite the temporary relief from the recent precipitation. The Streamflow Index is still showing level 3 or 4 in all regions except Cape Cod, which is approaching below-normal flows as well. The anticipated delayed effects of the low precipitation on groundwater are now being seen. The Groundwater Index is now showing level 2 for all regions except the Southeast and Islands which are at level 1, and Cape Cod which is still in the normal range. KBDI has come down, with most regions in either level 0 or level 1, with the exception of the Central Region which is still at level 2. There is a lot of variability with Lakes and Impoundments, with the Western and Cape Cod Regions at level 0, CTRV at level 1, Central and Southeast at level 2, and Northeast at level 3. The Drought Indices by Region are now showing Level 3 – Critical Drought for the Western, CTRV, Central, Northeast, and Southeast and Level 1 – Mild Drought for the Cape and Islands.

Maguire asked for confirmation that the streamflow for the Cape is only based on two stream gages. Zoltay confirmed that that was correct. Maguire then noted that the Herring River is still below normal and the other gage is just above normal, so it is surprising that the average for the region is 31. Zoltay responded that the data is showing that the region is drying compared to last month, but just has not yet reached below normal.

Pederson asked if the Quinsigamond streamflow gage will be removed just for this month's analysis or removed permanently. Zoltay said they were just alerted to the issues with that well, so there needs to be more consideration. Pederson expressed concern because these monitoring sites are supposed to represent near-natural conditions and sites that are manipulated should not be included. Pederson also asked for clarification on tidal influence of streams that are in the network on the Cape. Zoltay confirmed

that they are not tidally influenced. Getting above the tidal influence is one of the challenges with adding streams to the network on the Cape.

## **6. Discussion of Drought Level Recommendations**

Western, Central, Northeast, and Southeast- Recommendation was to keep at Level 3. All members agreed to keep these Regions at Level 3.

CTRV- The staff recommendation was to keep at Level 3 despite some worsening conditions. There was discussion regarding ET and KBDI and the need to evaluate these indices differently this time of year because they do not have significant impacts. Pederson asked why ET and KBDI are being considered when they were not considered at the same time of year last year. Rao replied that ET and KBDI get presented as the data is available and that next month we likely will not be considering either of these indices, which Celino confirmed. The shoulder months on either side of winter are now getting warmer and therefore ET and KBDI might need to be considered later into the fall and earlier in the spring. Pederson noted that she thinks the evaluation of indices should be kept consistent. LeVangie commented that he agrees with keeping it consistent across other regions at Level 3 because conditions have not gotten much worse over the past two weeks. All task force members agreed to keep the CTRV at Level 3.

Islands- Conditions have gotten worse, so the staff recommendation was to move to Level 1. Bentsen commented that the conditions actually show a Level 2, but agreed that because of the time of year changing the importance of ET and KBDI a Level 1 is appropriate. The majority of task force members agreed to move to Level 1.

Cape Cod- There was discussion on which lookback period for precipitation to use. Maguire reminded task force members that there was one big rainstorm on the Cape that is likely impacting the 3-month lookback. He agreed the 2-month lookback is appropriate. Pederson asked which lookback was used for the Islands. Zoltay responded that the Cape and the Islands are in the onset period of drought and therefore might require a shorter lookback period than the other Regions. Carroll stated support for using the 2-month period and noted that several groups on the Cape are concerned over dry conditions.

Pederson expressed concern over consistency regarding using different lookbacks for different regions. Rao explained that consistency should be considered in terms of where Regions are in the timeline of their drought (onset, middle, coming out), with longer lookback periods used when a region is coming out of a drought and shorter lookback periods used when a region is at the onset of a drought. Pederson agreed that this approach makes sense but requested that the process be consistent. Maguire noted that at a previous meeting the task force did not recommend a drought declaration for the Deerfield River Basin despite the conditions warranting it for that basin, to which Rao responded that a different lens is used when looking at individual basins compared to entire drought region because they are at such different scales. LeVangie commented that the Cape is very groundwater-driven and groundwater is doing fine currently, but he acknowledges the concerns over low streamflows and potential ecological impacts.

Carroll added that the U.S. Drought Monitor is also showing the Cape now in drought, which would make the optics better for a declaration. Pederson commented that she thinks the Cape needs to be broken by lens, to which Rao responded that would be challenging with unavailability of monitoring locations and data at that scale, but that the task force could consider whether the arm of the Cape could be evaluated separately or a similar breakdown. The approach could be akin to when individual basins are evaluated.

After discussion, the majority of task force members recommended moving the Cape to Level 1, but a few task force members voted to keep it at Level 0.

**Summary of Recommendations:**

Western, Central, Northeast, and Southeast – Level 3

Islands – Level 1

Cape Cod – Level 1 or Level 0 (the main discussion points will be brought to the Secretary)

**7. Recommendations for Drought Level Response Actions**

The discussion on Level 0 vs. Level 1 for the Cape would be brought to the Secretary. The recommendations for the other Regions would also be brought to the Secretary for consideration. Hatch suggested including messaging regarding an explanation that one storm doesn't "fix" a drought. There were no additional suggestions for different response actions or messaging.

**8. Next Steps**

Rao explained the task force could go back to monthly meetings because the drought is holding steady. The press release should come out tomorrow. The next task force meeting will be scheduled for early January.

**Meeting Ended:** The meeting adjourned at 12:00 pm.