

# Massachusetts Drought Management Task Force – Meeting Summary

August 6, 2024, 1:00 pm – 2:30 pm conducted remotely via Zoom

## Attendees, Drought Management Task Force Members:

Vandana Rao, Executive Office of Energy and Environmental Affairs (EEA)  
Benjamin Hiltunen, Massachusetts Emergency Management Agency (MEMA)  
Joe Dellicarpini, National Weather Service(NWS), Northeast River Forecast Center  
Brian Loving, United States Geological Survey (USGS)  
Viki Zoltay, Department of Conservation and Recreation (DCR) Office Water Resources (OWR)  
Duane LeVangie, Department of Environmental Protection (MassDEP), Water Management Act  
Tom Maguire, MassDEP, Wetlands  
Dalene LaPointe, Department of Public Health (DPH)  
John Scannell, Department of Conservation & Recreation (DCR)  
Kate Bentsen, Department of Fish and Game (DFG)  
Michael Botelho, Department of Agriculture Resources (DAR)  
Jennifer Pederson, Massachusetts Water Works Association (MWWA)  
Moussa Siri, Water Supply Citizens Advisory Committee (WSCAC)  
Lydia Olson, Mass Rivers Alliance (MRA)

## Other Attendees:

Aisha Revolus	EEA	Marcus Pareto	DPU
Britt Westergard	NOAA	Michael Souza	MEMA
Brittany Segill	MassDEP	Neal Strauss	NOAA
Caitlin Spence	EEA	Pine duBois	Jones River Watershed Association
Chris Bruet	USGS		
Deanna Marks	NOAA	Purvi Patel	EEA
Elizabeth McCann	MassDEP	Richard LaTour	MEMA
Erin Graham	DCR OWR	Ron Horwood	NWS
Jason Pollender	USGS	Sara Cohen	DCR OWR
Kara Sliwoski	DCR OWR	Stephen Olson	Wellsley Water Dept
Katharine Lange	Mass Rivers Alliance	Vanessa Curran	DCR OWR

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

Rao called the meeting to order at 1:00 pm, introduced herself, and introduced Benjamin Hiltunen of MEMA as the co-chair of the task force, who reminded everyone to stay safe and dry during Hurricane Debby. She asked everyone to put their name and affiliation in the chat window for attendance purposes.

### 2. Approval of July 10, 2024 DMTF Meeting Notes

Rao asked for a motion to approve the July 10, 2024 meeting notes. Pederson made the motion to approve. Bentsen noted that Kauza's affiliation should be MassWildlife; Pederson noted that Lenox was misspelled. LeVangie seconded the motion. The motion passed unanimously of those voting. Rao reminded everyone that the notes will be on the Drought Management Task Force webpage.

### **3. Brief Overview of MA Drought Management Plan (MA DMP): OWR Staff**

Zoltay provided a quick review of the six MA drought indices, the number of stations that report, the index severity levels, the drought regions, the task force deliberation and recommendation process, as well as early indicators, late recovering indices, and the occasional use of subregions for declarations.

### **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**

July rainfall was below average in much of eastern MA where only 1 to 3 inches of rain fell during the month. Areas from Boston to the North Shore received 25 to 50% of normal rainfall in July. Elsewhere, rainfall was near to above normal, including the Islands and most of Cape Cod. Rainfall totals averaged 2 to 4 inches and as much as 5 to 7 inches between the Mass Pike and Route 2 corridors in western and north central MA.

Temperatures averaged 1 to 3 degrees above normal for the month across the Commonwealth. Three-month departures in rainfall have shown a decline in northeast MA, now between 50 and 75 percent of normal, and six-month departures are now on the lower end of the normal range in that region. Elsewhere, three- and six-month departures are near or slightly below normal.

For the first few days of August, rainfall was minimal on the South Coast, Cape Cod, and the Islands but near to above normal elsewhere thanks to more frequent showers and thunderstorms. Two rounds of heavy rainfall are possible this week: showers and thunderstorms may bring 1-2" of rain Wednesday, then the remnants of Debby could bring widespread totals of another 2-3" (or more) of rain sometime Friday into early Sunday. Flooding of some rivers, streams, and urban areas is possible, especially later in the week. The longer-range weather pattern is expected to favor above normal temperatures and precipitation as we head through the end of summer and into the fall.

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

Streamflow conditions were improving at the beginning of July, but conditions became drier as the month progressed. With precipitation late in the month, conditions returned to mostly normal. The Housatonic River has been below normal but was in the normal range at the end of July which is an improvement. The Parker River has continued to experience drier conditions and has been below normal.

Groundwater levels generally moved into the normal to above normal range across Massachusetts during July after having below normal levels at several climate response wells in the northern part of the state in June. It has recovered at all but four sites (three in the northeast region and one in the southeast) across the state.

#### **Hydrologic: Ron Horwood, Northeast River Forecasting Center**

Prior to Horwood's presentation, Rao congratulated Horwood on his upcoming retirement after 30+ years with the RFC and thanked him on behalf of Secretary Tepper for his service to the DMTF.

Over the past month, flows relative to normal have held steady or increased across the state except for Essex and Barnstable counties where they have decreased slightly. We are heading into what will be cooler and wetter weather which will extend into mid-August, which should reduce evapotranspiration

rates significantly. Rainfall is forecast to be above to much above normal over the next 10 days across all areas in the state. Depending on the exact track of Hurricane Debby's remnants this weekend, flooding could develop along some of the state's river systems, some of which has the potential to be significant.

**Water Supply: Duane LeVangie – MassDEP**

LeVangie reviewed the Water Management Act program, including the system for registrations and permits. He also reviewed the triggers for restrictions for PWS permits. As of August 1<sup>st</sup>, PWS reported water use restrictions included 6 voluntary, 74 mandatory of 2 days or more, and 12 mandatory of 1 day or less. Additionally, there is one emergency declaration that is not climate related, but water quality driven by E. coli.

**Water Supply: John Gregoire – MWRA**

Gregoire was not present to provide an update.

**Water Supply: Jen Pederson– MWWA**

Pederson reported that she has no issues to report, inclusive of the northeast region.

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

Aquarion Water – All territories except Sheffield are at Level 0: Normal. For Sheffield, which is at Level 1, all non-essential uses of outdoor water are restricted to no more than one day per week. For Millbury, Dover, Ponds of Plymouth, Pinehills, which are Level 0, no drought, but non-essential outdoor water usage restricted to alternating days. Handheld watering allowed at any time.

**Wetlands: Tom Maguire- DEP**

Receiving reports of low streamflow in the northeast region, where water levels in the Parker River at Byfield are below the 99% flow duration. He expressed his concern about parties making observations of no flow and using those for future permitting purposes.

Pederson inquired if the low flow reports have been coming from Conservation Commissions; Maguire said they were from engineering companies and DEP staff.

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

No updates to provide from the field. Bentsen noted she did receive an inquiry from a realty company in the Berkshires about perennial versus intermittent flow status, which Rao asked her to share with Maguire.

**Massachusetts Rivers Alliance: Lydia Olson - No updates.**

**Water Supply Citizens Advisory Committee: Moussa Siri - No updates.**

**Agricultural: Michael Botelho- DAR**

No updates or impacts to report, but did note that some growers mentioned preferring a mild drought instead of excessive moisture. This is because it is easier to control irrigation

**Engineering: John Scannell- DCR - No updates.**

There were no other updates from task force member agencies.

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

Zoltay provided an overview of the recent hydrologic history that led to current conditions. Starting in late May/early June, the weekly monitoring began showing below normal conditions for more than one index in the Western Region. However, there's been an intensification of dry conditions in the northeast region. The US Drought Monitor shows the drought in northeastern Massachusetts also extends into other neighboring states.

**Precipitation:** Standard precipitation index fluctuated through May and June, while in July showed drying on the eastern half of the state, with all gauges below normal in the northeast region. However, the western region received sufficient rain to return to normal, while the southeast is a little bit impacted.

**Evapotranspiration:** This is a big factor and plays a huge role in conditions. All regions, except the southeast, are at index severity levels 1 or 2. In July, evapotranspiration accumulated to greater than one inch for some regions. The evapotranspiration departure graph allows for inches of deficit to be easily shown, and when added to the precipitation deficit, shows how many inches of water are missing from the environment.

**Streamflow:** A progression of impacts from May to June was observed slightly for the Parker, but is now well below normal after July. However, the Western region has just barely recovered into the normal designation. The rest of the state is around the median and doing well.

**Groundwater:** This is a mixed story and has been all summer. The Western region recovered during July, with scattered below normal sites elsewhere around the state. The Northeast region has quite a few wells that are below normal.

**KBDI:** Conditions are dry out there, even though some drenching storms were enough to wet the top 8 inches of soil. Most regions across the state are below and well below normal.

**Lakes & Impoundments:** All are normal, with the Western region in the 56<sup>th</sup> percentile and the Northeast being the lowest at 34<sup>th</sup>.

Pederson asked why the precipitation table did not have data for after the 3-month period, why Edgartown had a dotted line on the departure graph, and if those things were related; Zoltay replied it was a glitch that caused the data to not populate, the dotted line indicates missing data, and these things were not connected. Zoltay summarized that in June almost all indices for the Western region were elevated at level 1 or higher, whereas in July, evapotranspiration and KBDI were of concern in all regions, but the Northeast region also had precipitation elevated at level 1. These three indices are early onset indices. However, the impacts on streamflow and groundwater regionally is not yet evident, but there are some areas of concern in the northeast.

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

Rao explained that the staff recommendation is Level 0 for the Western region because precipitation conditions have improved, though evapotranspiration and KBDI are high, all other indices are level 0. All task force members present were in agreement. Rao explained that the CT River Valley, Central, Southeast, Cape Cod, and Islands regions could all be discussed together as conditions were similar across them, with the staff recommendation being Level 0. All task force members were in agreement.

For the Northeast, Rao explained that precipitation and evapotranspiration are both just below normal, with high KBDI. She expressed concern at a more a localized impact level within the Northeast region, particularly the Parker River basin where the streamflow is extremely low. She encouraged discussion about a potential separate recommendation just for the Parker River basin or at the county level. Pederson advocated waiting and watching instead of flip-flopping declarations each month, but also that the task force doesn't often use county level declarations. Rao acknowledged the challenges in making this decision. Pederson noted that many of the water suppliers in that area may already have good restrictions due to streamflow, which LeVangie said there are three (Georgetown, Byfield and Rowley).

Horwood commented not in favor of designating the entire county as the Ipswich River is above the monthly median; however, he noted that locally the Parker River basin could be called out. Maguire noted that wetlands regulations for drought look backwards not forwards, so though there is precipitation in the forecast, parties may have been out already observing no streamflow that they can use to remove riverfront area designations on properties for real estate purposes. Rao said that it is important to think about whether conditions truly reflect at least a level 1 mild drought, and making that call protects our riverfront areas. Zoltay added there is no precipitation gauge in the Parker basin, but instead looking at maps that are extrapolations of stations where you can see it is below normal.

Pederson expressed concern about looking at things on a microscale each time there is low streamflow, then this discussion will continue to happen. Maguire noted that the Parker River is below the 99% flow duration, which rarely happens. Rao said it may be too soon to think about why this has happened, but that it doesn't make sense to call the whole region or even the county in a drought. Olson noted they wanted to support Maguire's comment that extreme low flow values should designate some sort of drought. Souza noted that even with forecasted rainfall, it may not be enough to fully remove the existing deficit in the northeast. For the Parker River basin, there were nine votes supporting a Level 1 declaration, and three votes supporting a Level 0 declaration. Pederson noted that if this declaration is made, the press release should indicate it is due to wetlands regulations.

Rao expressed her appreciation to everyone for their discussion and input, and acknowledged these decisions are tough.

#### **Summary of Recommendations:**

Western, Cape Cod, Islands, Connecticut River Valley, Central, and Southeast: Level 0 - Normal  
Northeast: Level 0 – Normal;                    Parker River Basin: Level 1 – Mild Drought

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

The recommendation to the Secretary will be to move the Western Region to Level 0 Normal conditions and the Parker River Basin to Level 1, with messaging regarding the low streamflow conditions that led to the mild drought in this region.

#### **8. Next Steps**

The task force will meet again on Monday September 9<sup>th</sup> at 10:00 AM and will update recommendations accordingly.

#### **Meeting Ended**

The meeting adjourned at 2:35 pm.