

**Massachusetts Drought Management Task Force – Meeting Summary**  
**July 06, 2023 10 a.m. – 12 p.m. conducted remotely via Zoom**

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

Vandana Rao, Executive Office of Energy and Environmental Affairs (EEA)  
Sara Zalieckas, Massachusetts Emergency Management Agency (MEMA)  
Ronald Horwood, National (NWS) Weather Service, Northeast River Forecast Center (NRFC)  
Viki Zoltay, Department Conservation and Recreation (DCR) Office Water Resources (OWR)  
Duane LeVangie, Department Environmental Protection (MassDEP), Water Management Act  
Dave Celino, DCR Bureau of Forestry and Fire Control  
John Scannell, DCR, Division Water Supply Protection (absent)  
Christina Wu, MassDEP, Wetlands  
Gardner Bent, United States Geological Survey (USGS)  
Michael Botelho, Massachusetts Department of Agricultural Resources (MDAR)  
Marcos Pareto, Department of Public Utilities (DPU)  
Meg Blanchet, Department of Public Health (DPH)  
Lexi Dewey, Water Supply Citizens Advisory Committee (WSCAC)  
Kate Bentsen, Department of Fish and Game (DFG)  
Joe Dellicarpini, NWS Boston  
John Gregoire, Massachusetts Water Resources Authority (MWRA)  
Jennifer Pederson, Massachusetts Water Works Association (MWWA)  
Julia Blatt, Mass Rivers Alliance

**Other Attendees:**

Katharine Lange, Mass Rivers Alliance  
Sara Cohen, DCR  
Erin Graham, OWR  
Adam Kautza, MassWildlife  
Jiedine Phanbuh, WRC Summer Fellow  
Elise Tarnauskas, Springfield Water and Sewer Commission  
Anna Renkert, Mass Rivers Alliance  
Scott Vesey, Danvers Water & Sewer Superintendent  
Vanessa Curran, DCR OWR  
Jason Duff, DCR OWR  
Britt Westergard, National Weather Service, Albany NY (serving Berkshire Co)  
Don Cooper, Seekonk Water District  
Stephen Olson, Wellesley Water  
Tim Pasakarnis, Cape Cod Commission  
Paul Anderson, Superintendent Brewster Water  
Tom Trainor, Sherborn Groundwater Protection Committee  
Jen Durso, MassDEP  
Chris Bruet, USGS  
Sylvia Reeves, NOAA NIDIS Northeast DEWS  
Anne Carroll, DCR OWR  
Michael Souza, Agency Meteorologist MEMA  
Chris Bruet, USGS

Clayton Weglarz, Easthampton Water Dept.  
Don Cooper, Seekonk Water District  
Elise Tarnauskas, Springfield Water and Sewer Commission  
Todd Melanson, Chelmsford Water District  
Zeus Smith, Charles River Watershed Association  
Aaron Miller, Natick Water Department  
Jaclyn Hamel, MEMA  
Ian Henderson, Northampton Water Department

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

Rao called the meeting to order at 10:06 AM, introduced herself and thanked and welcomed task force members and other attendees. Rao introduced Sara Zalieckas from MEMA as co-chair and let her introduce herself. Rao announced that the meeting was being recorded for meeting notes and asked those who wished to speak or comment to put their name in the chat. She asked all attendees to put their name and affiliation in the chat for attendance purposes.

**2. Approval of June 8, 2023 DMTF Meeting Notes**

Rao explained that we are now doing notes for DMTF meetings and members will be asked to vote to accept notes. She asked for a motion to accept the June notes and Duane LeVangie made a motion, with Sara Zalieckas seconding the motion. The final vote to accept the June notes was unanimous.

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

Zoltay provided an overview of the six MA drought indices, the number of stations that report, the index severity levels, and the drought regions.

**4. Updates on Current Conditions and Impacts from Members of the DMTF**

These updates with presentations can be found on the [www.mass.gov/drought-management](http://www.mass.gov/drought-management) website. A summary of each presentation is below.

**Weather & Forecast: Joe Dellicarpini - National Weather Service, Boston/Norton**

Dellicarpini gave an update on precipitation and temperature conditions through the month of June and into July. Precipitation ranged from an inch below normal to 4+ inches above normal. Temperatures were slightly below normal for most of the state. Overall, it was a fairly wet month, and observed rainfall through Jul 4<sup>th</sup> showed wet conditions continuing with 1 to 4 inches of rainfall through the morning of the 4<sup>th</sup> and an additional 1 to 2 inches of rainfall across portions of southeastern MA on the afternoon of the 4<sup>th</sup>. The 7-day precipitation forecast shows more rain in the forecast, with 1-2 inches of new rainfall possible through Tuesday. The 8-14 day outlooks show temperatures near normal or above normal and precipitation mostly above normal. The 3-4 week temperature outlook shows equal chances for most of the state for above/below normal, while the eastern part of the state is leaning towards above normal. The 3-4 week precipitation outlook shows above normal conditions likely. Lastly, the season temperature outlook is leaning towards above normal for the whole state, while the seasonal precipitation outlook is showing equal chances for above and below normal.

**Hydrologic: Gardner Bent - USGS**

Bent discussed streamflow and groundwater averages across the state and for each of the drought regions. Comparisons to historical records show it was a fairly wet June. Conditions were slightly below normal at

the beginning of June, but from mid-June to late-June the 7-day averages show streamflows were normal to above normal. Looking at the last four months, average conditions are also normal to above normal with the exception of Herring River on the Cape. For the last seven days, streamflows across the state were mostly normal or above normal, and a similar pattern is seen when looking at the last 14 days. The 7-day average for Herring River on the Cape was showing below normal during the first part of the month, but in the last part of the month conditions were back to normal.

Most of the streamflow gages representing the different drought regions showed a similar pattern of being below normal for the first half of June, and then moving into the normal or above normal range for the second half of the month. Groundwater conditions were mostly in the normal range, with some exceptions on the Islands and parts of the Cape.

**Hydrologic: Ron Horwood -NERFC (NOAA)**

Horwood gave an overview of early July rainfall, a snapshot of MA river flows, and the NERFC River Forecast Outlooks. Major points were: 1) River flows have increased dramatically across the Commonwealth over the past month and are now mostly above to much above normal; 2) The weather pattern looks fairly active for July with several chances for rainfall over the next 10 days. As a result, the NERFC river forecast ensembles call for rivers and streams to remain above to much above July median levels as we head into the end of the month; 3) Southeastern portions of Massachusetts could end up a little drier and see flows recede down closer to median levels by mid-month.

**Water Supply: Duane LeVangie – MassDEP**

LeVangie provided a summary of the Water Management Act program. He explained that WMA permits include requirements to restrict nonessential water use. Triggers for implementing restrictions include streamflow, calendar, groundwater, and drought declarations or 7-day low flow. WMA registrations now include requirements to restrict nonessential uses during declared droughts. Restriction requirements are consistent with the MA Drought Management Plan requirements. Registrants get up to 24 months after issuance of the Registration Statement to begin implementing restrictions. Public Water System (PWS) surface water suppliers with significant storage may develop a system-specific drought management plan.

LeVangie presented current restriction trigger levels which showed that there were a lot of suppliers that had previously been under the 3-day low flow value, but as of July 4<sup>th</sup> gages and wells were showing much better conditions and restrictions likely were not going to be in place in the next few days. He explained that restrictions trended up in June, but it was likely due to increased reporting rather than conditions. There have been no emergency declarations yet this season.

**Water Supply: John Gregoire, MWRA**

Gregoire gave an update on conditions within the MWRA supply network. Quabbin Reservoir remains within normal operations at nearly 94% full. The reservoir is following the normal seasonal pattern. The current metropolitan Boston demand is approximately 220 MGD and the current Chicopee Valley demand is approximately 10 MGD. Quabbin water is being transferred at 150 MGD for seasonal water quality reasons, reduced recently because of rain. They are also releasing 20 MGD from Quabbin based on Connecticut River flows. The operating band at Wachusett Reservoir has been modified from 389 to 391.5. Gregoire showed how MWRA releases water from Wachusett and explained outreach to downstream communities if large releases are necessary. He reiterated what others had already described about June

being a wet month overall, with June being above the long-term average for rainfall. Gregoire also described flood control efforts for the Sudbury system in response to the recent rainfall.

**Water Supply: Jen Pederson, MWWA**

Pederson provided a sample from specific members, all of which reported no capacity concerns. She also mentioned the difficulties with messaging and enforcement on restrictions when there aren't obvious capacity issues.

**Water Supply: Marcos Pareto, DPU**

Pareto gave an update on private water suppliers. He said there were no significant changes this month except Sheffield, which has gone into level one drought with restrictions.

**Environmental: Christina Wu, MassDEP (Wetlands)**

Wu explained that all regions reported wet conditions, with the western region reporting stormwater issues rather than drought issues.

**Environmental: Kate Bentsen, DFG**

Bentsen presented conditions at two EPA reference monitoring sites, which were not showing any issues.

Adam Kautza (MassWildlife) also added that field work has been challenging at times because the water has been so high.

**Environmental: Julia Blatt, Mass Rivers Alliance**

Blatt gave an update on conditions across their member network. She reiterated what a lot of others had already said about June being an overall wet month. She said members have responded with normal or above normal conditions.

**Environmental: Lexi Dewey, WSCAC**

From the members who replied and the observations Dewey made, flows have been terrific. No other updates.

**Agricultural: Michael Botelho, DAR**

No updates except a few farms reporting flooding.

**Fire Danger: Dave Celino, DCR Fire Control**

No updates. MA is sending resources to Canada because we have the capacity. There are no current fire hazards with the recent amount of precipitation that we have received.

**Engineering/Infrastructure/Forestry: John Scannell, DCR**

Not present at meeting.

**Public Health: Kate Adams, DPH**

No updates except that DPH is worried about wildfire smoke, but the smoke is coming from Canada.

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

Zoltay gave a recap and overview of drought conditions. Hydrological conditions from February through April were variable in terms of temperature and precipitation, which led to variable streamflow and groundwater fluctuations. In May the Secretary declared drought conditions in the Western and Cape Cod regions. In June, precipitation has been above normal statewide. Temperatures have been mostly normal to

below normal, and streamflows have been much improved, especially in the latter half of the month. There are some lingering impacts on groundwater.

Zoltay showed the U.S. drought monitor which showed from the end of May to the end of June abnormally dry conditions for the Berkshires, but as of that morning it had cleared. The drought monitor also cleared the Southeast region of any drought concerns for May-June, and the Central region had cleared as of that morning as well. It was still showing concerns on the Cape and Islands.

The Standardized Precipitation Index showed dry conditions in April in the Southeast, Cape, and Islands, and then in May the dry conditions were more for the Western region with scattered dryness throughout the state. June has shown much improved precipitation conditions across most of the state.

Accumulated Precipitation Departure is showing improvement. Zoltay explained that Edgartown is still down because there is a missing data point, but they're expected to continue to improve.

The Spring Bloom Index Anomaly percentiles are also looking really good overall.

Streamflow in April for the eastern half of the state in particular was low, with some recovery in May. There was also more dryness in the Central, Western, and Cape Cod regions. The first half to three quarters of June showed low streamflows in certain areas, but improved later in the month. The Western and Cape Cod regions are still just below the 30% percentile, but all other regions are in good shape.

Zoltay explained that groundwater has been more variable. Conditions have been pretty good in May and June across the state. The Cape and Islands are a little lower at just above the 30<sup>th</sup> percentile.

Crop Moisture Index values are falling within the slightly dry/favorably moist categories. Two-month EDDI is looking normal, except Cape and Islands are looking dryer than the rest of the state. Potential evaporation departure shows two spikes in April and May; with cloudiness in June it's trending back toward normal.

KBDI is showing that precipitation has been sufficient to maintain moisture in the top 8 inches of soil.

Lakes and impoundments are showing no significant issues. Ashumet Pond has recovered to normal levels.

Comparing all indices to last month, the Cape, Islands, and Western regions previously had more than one index elevated. In June, conditions were much improved. The only regions that had more than one index elevated were the Cape and the Islands.

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

**Western Region:** With conditions improving since last meeting, the recommendation was 0. Zoltay voiced concerns about streamflow levels in this region, but she was ultimately fine with level 0. Pederson reminded her that DEP isn't concerned with streamflows at this time. She also commented on the fact that she feels sometimes the task force discusses the Wetlands Protection Act and development impacts more than it should considering drought priorities.

**Cape Cod Region:** Rao stated that the Cape Cod region improved a lot since the previous meeting. She asked members for their opinions on whether or not the level 1 declaration should be removed considering the improvements. Horwood commented that the Cape is very groundwater driven and doesn't see the need for level 1 at this time. Both Gregoire and Melanson commented on the difficulty in communicating

drought levels when they go back and forth so much. Rao explained that we have been working on messaging and outreach on these important points. All members agreed that level 0 makes sense due to the amount precipitation in recent weeks and the forecast for the next couple of months showing above normal precipitation likely.

**Islands Region:** The Islands were at level 0 last month, and conditions are now similar to the Cape. With groundwater levels still showing below normal, Rao asked task force members for opinions on a drought level recommendation. Horwood commented that the Islands are likely in a “meteorological drought”. He said he expects a continued downward trend in the wells on the islands for the next couple of weeks, but that humidity is likely going to be high and so evapotranspiration will be low, so he thinks a level 0 for another month will be fine.

Pederson asked Horwood what a meteorological drought means. He explained that he doesn’t look at the SPI but instead looks at running totals. He said the past 90 days leading up to July 5<sup>th</sup> showed rainfall 3-4+ inches below normal on the islands, but that the Islands are so groundwater driven that the below normal rainfall isn’t as much of an issue there. Rao added that the groundwater index has declined fairly substantially from last month to this month on the Islands.

Wu asked how much water use has an impact on groundwater levels on the Islands. Zoltay explained that the monitoring wells are supposed to reflect the least impacted areas. She said she thinks the Islands have a delay in response to low precipitation over the past couple of months, and so the question is whether it will continue to decline or start to rise with the increased precipitation recently.

Gregoire asked if there should be a water department representative from the Islands on the task force considering how frequently they come into conversation during discussions on drought levels. Rao responded by saying that we do get that data from feedback from Pederson. She said we can continue looking at other ways of pulling their data in to discussions, and that this topic validates the separating out of the Islands as its own region.

Pederson explained that Edgartown regularly comments on the gauge that DCR monitors not necessarily representing what they see for their district. She added that they are describing levels that are better than their 10-year averages, so a level 0 is more appropriate to avoid further back and forth on drought declarations. Rao stated that the task force considers the data and the conditions, and it has to make decisions based on the data available. Pederson voiced a concern about not looking at real time data and instead looking at the previous month’s data, and Rao explained that although there isn’t real time data, the data is consistent across regions and it is the best information available for decision making as of now. Souza added that he thinks level 0 is appropriate considering the forecast for good precipitation and low evapotranspiration in that region.

Bent echoed what Zoltay said about the wells on the Islands not having much human influence, and that although the conditions are variable, he supports a level 0. All members agreed that level 0 for the Islands is appropriate.

Blatt asked if it was possible to have a shorter task force meeting to make a determination on just one region if necessary, to which Rao said that was definitely a possibility, but that hopefully it won’t be necessary.

**Connecticut River Valley, Central, Northeast, and Southeast Regions:** There was not much discussion on these regions because most indices are showing normal to above normal conditions. The recommendation for level 0 for all four regions was unanimous.

**Summary of Recommendations:**

Western: Level 0, Normal

Cape Cod: Level 0, Normal

Islands: Level 0, Normal

Connecticut River Valley, Central, Northeast, and Southeast Regions: Level 0, Normal

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

A recommendation will be made to pull all regions out of drought and the hope is that conditions will continue to improve along with the anticipated rainfall in coming weeks. Messaging will highlight how productive the recent rains have been for improving conditions across the state.

**8. Next Steps**

Rao will brief Secretary Tepper on the Task Force's recommendation. A press release will come out shortly. Rao explained that task force members would soon be getting an updated version of the DMP for their review as well.

**Meeting Ended**

Motion to adjourn by Pederson with a second by Gregoire. The meeting was adjourned at 11:58 a.m.