

Massachusetts Drought Management Task Force – Meeting Summary July 11, 2022, conducted remotely via Zoom

Attendees:

Vandana Rao	EEA, DMTF Co-Chair	John Gregoire	MWRA
Sara Zalieckas	MEMA, DMTF Co-Chair	John Scannell	DCR DWSP
Anne Carroll	DCR OWR	Katharine Lange	Mass Rivers Alliance
Vanessa Curran	DCR OWR	Karyn Lothrop	DCR
Viki Zoltay	DCR OWR	Kurt Gaertner	EEA
Erin Graham	DCR OWR	Mandy Hart	WSCAC
Kara Sliwoski	DCR OWR	Marcos Pareto	DPU
Alex Belote	DCR Fire	Meg Blanchet	DPH
Britt Westergard	NWS Albany	Mike Souza	MEMA
Chris Bruet	USGS	Miriam Wasser	WBUR
Dave Celino	DCR Fire	Nicole Belk	NWS
David Hilgeman	DEP	Pallavia Mande	
Duane LeVangie	DEP	Rodney Chai	NWS Boston
Fernando Cervantes	WGBH	Ronald Horwood	NWS River Forecast Center
Gardner Bent	USGS	Samantha Drysdale	State House
Gary Moran	EEA	Sarah Bower	Mass Rivers Alliance
Gerald Clarke	Dover Board of Health	Steve Pilis	MDAR
Heather Miller	CRWA	Sylvia Reeves	NOAA - DEWS
Jason Brewer	WFXT-TV	Todd Melanson	Chelmsford Water District
Jason Pollender	USGS	Tom Trainer	Sherborn Open
Jimmy Powell	Jones River Watershed Assoc	Troy Wall	EEA
Jennifer Pederson	MWWA	Tevin Wooten	NBC

Introductions

Rao called the meeting to order at 1:05pm, introduced co-chair Sara Zalieckas from MEMA, Michael Souza also from MEMA, Gary Moran Undersecretary for Environment and Climate Resilience at EEA, and welcomed task force members and other attendees. Meeting attendees were asked to type their name and affiliations in the Zoom chat window for attendance purposes.

VOTE: To continue remote participation by the DMTF

Rao conducted a formal vote for remote participation for all future meetings; the vote was unanimous of those present.

Overview of the MA Drought Management Plan

Viki Zoltay reviewed the MA Drought Management Plan (DMP) indices, index severity levels, drought levels, drought regions with counties and with major river watersheds.

Updates on Current Conditions and Impacts from Members of the Task Force

USGS hydrologic conditions update – Jason Pollender and Chris Bruet

- General progression of drought related to surface water over last 3 months
- 3 Slides with maps of June conditions and current conditions
- Presented several slides with NWS River Forecast stations and flow statistics over the last 5 years
- Presented new graphs plotting flows vs nearby groundwater levels at some areas of concern
- Several maps with current groundwater conditions and June conditions
- 7 datasets for specific wells around the state with statistics for last 12 months.

NOAA-NWS River Forecast Center overview – Ron Horwood

- Current river flows are below to much below normal across most of the Commonwealth. Record low flows for 10 July were observed along the North Nashua River at Fitchburg, the North Nashua River near Leominster and the South River at Conway. Flows were marginally better across Berkshire County and portions of far southeastern Massachusetts.
- Rain chances are not promising over the next 10 days. As a result, river flows shown for the Shawsheen River at Wilmington, the Taunton River near Bridgewater, the North Nashua River at Fitchburg and the Westfield River at Westfield have little chance of improvement into late July. Flows on these rivers were already well below median mid-July levels.
- There is currently no sign of widespread significant rainfall across the Commonwealth.
- Unusually low dewpoints for July (40s and lower 50s) are a possibility across especially northern Massachusetts later this week and into the weekend. This could lead to higher-than-normal evapotranspiration rates which could intensify drought conditions if rainfall remains below normal.

NOAA-NWS Boston – Nicole Belk

Observed Precipitation: June 2022 rainfall was below normal across most of the Commonwealth. The exception was across southeast MA, the Cape and Islands, where rainfall was closer to normal. Rainfall totals ranged from 2 to 3 inches across northeast and north central MA, much of western MA, and Nantucket. This was 1 to 3 inches below normal, except closer to normal on Nantucket. Rainfall totals ranged from 3 to 4.5 inches across south central and southeast MA, the Cape and Martha's Vineyard. This was generally 0.5 inch above normal to around an inch below normal. June temperatures averaged within a degree of normal. July month-to-date rainfall ranged from 0.3 to 0.75 inch across most of the region, with localized higher and lower totals. For most of the Commonwealth, this was 0.5 to 1 inch below normal. July month-to-date temperatures have been near normal.

In terms of the forecast, through Sunday July 17th shows below normal rainfall. The best chances for rainfall are during Tuesday-to-Tuesday night, and on Thursday. There is also a low chance for showers on Sunday. Rainfall is forecast to range from 0.1 to 0.5 inch for most of the area, though localized higher totals are possible. High temperatures are expected to average above normal, in the 80s to low 90s, except cooler in the Berkshires, Cape Cod and the Islands. Tuesday and Wednesday will be muggy. Overnight lows will be near normal, mainly in the 60s, except for lows in the mid to upper 50s during Wednesday night through Friday night in the Berkshires. The 8-to-14-day Outlook for July 18-24, from the Climate Prediction Center, indicates temperatures leaning above normal, and near normal rainfall. The seasonal outlook for July, August and September, calls for temperatures averaging above normal, and rainfall leaning towards above normal.

MassDEP – Water Management Program– Duane LeVangie

Most WMA permits require reductions in nonessential water uses when one or more of the following are triggered from 5/1 through 9/30: specific streamflow triggers; groundwater elevations on Cape, Islands and parts of SE Mass; drought declaration or 7-day low flow. DEP utilizes USGS streamflow gages

and monitoring wells for trigger values. There are 54 streamflow gages and 6 monitoring wells tracked. Between mid-May and mid-June, there were at least two regions in a declared drought status and by early July gages had hit 7-day low flow values. By 7/5, there were 6 voluntary restrictions, 50 mandatory restrictions of 3 days or more, and 58 mandatory restrictions of 2 days or less.

Massachusetts Water Resources Authority (MWRA)– John Gregoire

MWRA has 29 fully supplied and 18 partially-supplied. There are 3 fully-supplied in the Chicopee Valley Aqueduct (CVA) communities directly from Quabbin Reservoir, 3 raw water supplied and 3 non-community systems. MWRA communities as they relate to the MA Drought Regions: In the CT RV there are 3, in C there are 4, in the SE there are 9 and in the NE there are 37. So, one can see why clear drought messaging is so important to MWRA in these regions. Quabbin Reservoir remains well within normal operations at nearly 96.4% full. Since the last DMTF, the reservoir has dropped 1.32,' which represents ~10.5 BG. They are getting well into high demand season and seasonal Quabbin transfer to Wachusett Reservoir is fully underway. Gregoire has previously discussed how the transfer works. Wachusett Reservoir which is holding fairly well at the trial lower band of 389' +/-; the prior operating band was 390' – 391.5'. After this season they may adjust that downward for WQ enhancement. At the emergency Sudbury System, they maintain operating bands as well. This system is more representative of a local response to drought and precipitation conditions. Presently they are at the lower end of their operating bands which is reflective of the drought conditions. They don't normally add water to Sudbury System and let it ride the conditions they have.

Massachusetts Water Works Association (MWWA) – Jennifer Pederson

Nothing notable to report

MassDPU – Marco Pareto

No updates to report since last month. Added that Aquarion Water Company placed mandatory watering restrictions due to drought: Millbury – non-essential water usage allowed only on alternating days (based on address) from May 1st until Sept 30th. Dover/Plymouth – non-essential water usage allowed only on Saturday or Sundays (also based on address) until Sept 30th.

MassDEP – Wetlands Program - David Hilgeman

Nothing to report

Mass Rivers Alliance – Katharine Lange

Low water conditions in rivers around the state shown in photos

MDAR Agricultural Impact – Steve Pilis

Field Production is in full swing as early crops are at harvest-end (strawberries/asparagus) and transplanting and seeding continue for seasonal and fall harvest crops. Farms in general are already feeling the impacts of the drought and are irrigating more heavily. Farmers, especially in the CT River Valley, are reporting deficits in soil moisture due to the lack of precipitation, high heat and unusually high winds in the region. Surface water sources, such as ponds, rivers and tributaries used for agricultural water (irrigation, chemical application), are currently maintaining adequate levels for pull and distribution across most regions with the exception of the Northeast region. Northeast region farms are already experiencing crop loss and degradation of surface water sources with impacts ranging from crop destruction to lack of germination for seed crops.

DCR Engineering and Infrastructure – John Scannell

Nothing to report

DPH Public Health – Meg Blanchet

Nothing to report

Presentation of Index Severity Levels as per DMP – Viki Zoltay

January through March had variable precipitation, and scattered, minimal impacts on streamflow and groundwater. April saw areas of continued low precipitation and impacts on streamflow and groundwater. In May there was continued low precipitation plus increased ET especially in NE and SE; and potentially a flash drought in NE with 2 category jump.

USDM map through June 28, 2022 shows a significant increase in D1 (moderate drought, or MA DMP level 2) area across most of the state. SPI (1 month) shows an improvement in southern central region, northeast region and entire southeast region, with only western and CT river valley regions having an elevated index severity level (level 2). Streamflow conditions worsened slightly in CT river valley and central regions, while remaining the same in western, northeast, Cape, and islands regions. The southeast region had a noticeable improvement. Groundwater conditions worsened slightly in western, CT river valley, northeast, cape, and island regions, while improving slightly in central and southeast regions.

Pederson asked about number of wells shown on GW percentile versus the total number reporting for the western region. Zoltay explained that those shown are within an index severity level and the others are above the 30th percentile.

Evapotranspiration: the CMI map shows normal conditions across the state, while the 2-month EDDI map shows drought categories ED2 and ED1 across most of the state, with ED0 areas in the southeast. KBDI map showed western and CT river valley regions joining central, northeast and southeast regions at index severity level 1. Cape and islands regions remain at level 0.

DCR Fire Danger – Dave Celino

Switched back to Fire Danger presentation as Celino had technical difficulties earlier in the meeting. Celino noted that the number of fires is related to the increasing KBDI, which are driven by drought induced conditions. Rao asked if because streams/ponds around the state have low water levels, is that of concern for them knowing they utilize them for fire control efforts, which Celino confirmed.

Fire Statistics - 20 wildfires in last 2 weeks. Decrease in overall frequency due only to green up vegetation stage. 558 Fires YTD for 1,084 Acres burned. Drought Impacts on Fire Behavior and Suppression-KBDI steadily increasing across state. Most noticeable across Northern Tier / Central to Norfolk Counties. All Districts showed increase in control challenges. Fires were burning in up to 8" especially North Central areas. Live fuels have been in green up through June. Noticeable drought stress on foliage in shrubs and grasses, increasing fuel availability. All Prescribed Fire operations are now on hold for shrub and timber litter fuel types. 1 priority incident: Old City Fire, Townsend in extended operations due to drought induces fire behavior. 15 Acs at 75% Contained. Smoke effects from extended drought fires will increase. Pederson noted that Townsend Water has provided water for fire control efforts in that Celino was detailing. Melanson, also Chair of the Board of Water Commissioners in Townsend, added that staff ran wells to maintain tank storage height to provide water for the efforts.

CONTINUED: Presentation of Index Severity Levels as per DMP – Viki Zoltay

Lakes and impoundments showed central region at index severity level 1 and northeast region at level 2, with all other regions at level 0. No sites reported for western region in time for this meeting.

Discussion of Drought Level Recommendations

Rao oriented all to the recommendation table and it's provided information for understanding. Conditions have worsened and moved further west, with slight alleviation provided to the Cape and southeast.

Cape Cod region: staff recommendation is level 0. DMTF members agreed with level 0. Horwood noted that conditions east of Hyannis are decreasing again.

Islands region: though this region saw improvements since the prior month, staff recommendation is level 1. Pederson noted that operators there are not concerned with water levels and suggested level 0. Rao and Pederson discussed the continued goal of expanding the network for all indices, while balancing budgetary constraints. All other DMTF members agreed with keeping level 1.

Western region: staff recommendation is level 1. Pederson asked about streamflow gages in this region as half were below normal and half were normal. DMTF members agreed with level 1; Pederson suggested level 0 and waiting until the following month.

Northeast & southeast regions: staff recommendation is level 2. Horwood and Pederson discussed the slight groundwater recovery from recent rain in the southeast. DMTF members agreed with level 2 for both regions.

CT River Valley & central regions: staff recommendation is level 2. DMTF members agreed with level 2; Horwood notes that messaging should include the agricultural risk.

Recommendations for Drought Level Response Actions

Rao talked about general drought related impacts across the state with no relief in the forecast, either short or long term. Rao noted that an interagency mission group convenes when level 2 (or above) drought is present, cochaired by EEA and MEMA, that meets more regularly than DMTF, for additional response actions by state agencies.

Pederson commented on using appropriate graphics and coordinated messaging for social media posts. Reeves noted that DEWS updates on a two-week cycle.

Next Steps

Rao will brief the Secretary and the next DMTF meeting was scheduled for August 8, 2022.

The meeting was adjourned at 3:13pm.