

Massachusetts Drought Management Task Force – Meeting Summary

April 09, 2024, 10:00 am – 11:30 am 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)
Joe Dellicarpini, National (NWS) Weather Service, Northeast River Forecast Center
Rob Megnia, National (NWS) Weather Service, Northeast River Forecast Center
Gardner Bent, U.S. 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)
Jennifer Pederson, Massachusetts Water Works Association (MWWA)
Julia Blatt, Massachusetts Rivers Alliance
Michael Botelho, Massachusetts Department of Agricultural Resources (MDAR)

Other Attendees:

Jason Duff, DCR OWR	Michael Souza, MEMA
Anne Carroll, DCR OWR	Elizabeth McCann, MassDEP
Erin Graham, DCR OWR	Neal Strauss, NRFC
Kara Sliwoski, DCR OWR	Sam Banas, USGS
Adam Kautza, MassWildlife	Karyn Lothrop, DCR
Britt Westergard, NWS Albany	William Chapman, Edgartown Water

1. Introductions: EEA, MEMA & Announcements

Rao called the meeting to order at 10:05am, introduced herself, and introduced Sara Zalieckas of MEMA as the co-chair of the task force. She asked everyone to put their name and affiliation in the chat window for attendance purposes.

2. Approval of March 8, 2024 DMTF Meeting Notes

Rao asked for a motion to approve the March 8, 2024 meeting notes. Pederson made the motion to approve with a second by Blatt. There was no discussion. The motion passed unanimously of those voting. Rao reminded everyone that the notes will be available on the Drought Management Task Force webpage.

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

Carroll provided a quick review 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 with focus on Islands and Cape regions from Members of the DMTF

Presentations for the two updates below can be found on the mass.gov drought task force meetings website; a summary of each presentation is below.

Weather & Forecast: Rob Megnia - National Weather Service, Boston/Norton

Megnia gave an update on precipitation conditions, focusing on the Islands. The Islands received 3-5 inches of precipitation in March (0.5-1.5 inches above normal). The entire Commonwealth received above normal precipitation over the last 3 months, while Nantucket was near normal to slightly above normal. Looking back 6 months shows a longer period of dryness over the Cape and Islands, Nantucket in particular. Nantucket received 1-1.5 inches of precipitation in the beginning part of April. The Islands are expected to receive additional substantial precipitation according to the 7-day forecast. The 8-14 day, 3-4 week, and seasonal outlooks point toward above normal temperatures and near normal precipitation.

Hydrologic: Gardner Bent - USGS

Bent provided a summary of streamflow and groundwater conditions, focused on the Islands. Overall, groundwater conditions improved throughout January, February, and March. Nantucket was still below-normal at the end of March. Groundwater levels in the Martha's Vineyard and Nantucket wells continued to rise during March and were in the normal and below normal range, respectively, for the month.

Rao asked Bent if USGS could add the 30% mark on the groundwater graphs to show the difference between USGS "normal" and MA "normal". Bent said he could manually add that to the graphs in the future.

Pederson commented that the water supplier on Nantucket is interested in learning more about the wells used by USGS because they seem to behave differently than the ones they are monitoring. Bent said he would communicate with the water supplier and offer to do a site visit or provide additional information.

No other updates/comments.

5. Presentation of Index Severity Levels as per MA DMP

Carroll provided a summary on recently hydrologic history that has resulted in the current conditions. June through September most of the state was having above normal precipitation, but the Islands was intermittently in the normal range, as previous months had been below normal. Overall, there was consistently declining and below normal groundwater on the Islands and some of the Cape. October and November had below normal precipitation across the state, which further declined the groundwater on the Islands and parts of the Cape. December was back to normal precipitation, but not enough to erase the 2- and 3-month look back periods for the precipitation deficits for the Islands and the Cape, the well below normal groundwater on the Islands, and the normal, slightly below and well below normal groundwater on the Cape. January was above normal precipitation for most of the state, but not on the Islands, though Martha's Vineyard fared better than Nantucket. Groundwater also improved during January, with Edgartown moving into the below normal range and Nantucket recovering as well, but more slowly and still was in the below 5th percentile range. In February, there was below-normal to normal precipitation on the Islands, and below to well below precipitation across the state, especially the Northeast. Groundwater improved on Martha's Vineyard, but there was not as much improvement on Nantucket. There was above-normal precipitation in March which led to continued groundwater improvement.

Carroll also reviewed the US Drought Monitor for the end of February and March. By the end of March, Martha's Vineyard had recovered, but Nantucket was still at USGS D1 (equivalent to MA DMP level 2).

Precipitation: The 6-month lookback shows that precipitation deficits on the Islands is improving due to the last few months of rainfall.

Groundwater: Levels have improved in both the Cape and Islands regions, but still below-normal for the Islands.

6. Discussion of Drought Level Recommendations

Islands Region:

Rao explained that because of the recovery in groundwater on the Islands, the initial staff recommendation is to downgrade the Islands from Drought Level 2 to Level 1.

Pederson commented that the groundwater index for Nantucket is very close to normal, and Martha's Vineyard has completely recovered. She recommended either moving the whole Islands region out of drought or having a declaration at the county level for Nantucket and moving Martha's Vineyard out of drought.

Megnia agreed with either moving both islands out of drought or doing a county level declaration. Souza recommended moving the whole region out of drought due to the expected recovery in the coming months.

Rao explained her concern that the last time we pulled a region out of drought prematurely, conditions did not improve. She agreed that the Islands region is known to have a lag-time for groundwater recharging. Carroll commented that she understands pulling Martha's Vineyard out of drought, but if the DMP says groundwater needs to clear and it hasn't cleared on Nantucket, how could that decision be communicated? She stated that she would prefer to designate by county rather than pull the entire region out. Rao said she feels comfortable breaking the designation down by county given the circumstances.

Pederson explained that best professional judgement needs to play a role and that two meteorologists agree with the decision to remove the drought declaration. She also reminded the task force of the regulatory implications to the water suppliers considering watering restrictions would start coming into effect next month if drought is still declared. LeVangie agreed that the regulations would require Wannacomet to implement two day per week watering restrictions starting May 1st if the drought is still declared for Nantucket and the groundwater levels are below their permit trigger for more than 60 consecutive days.

LeVangie stated that there are two data points to look at, precipitation and groundwater. He noted that public perception is that it's wet because of all the recent precipitation, and the groundwater levels are rising. Rao agreed that groundwater has improved and it does seem like it will continue to improve. She also commented that she understands the concerns over the impacts to water suppliers and that precipitation has improved a lot, but noted her concern that it can take a while for the precipitation to make it into the groundwater.

Pederson commented that the Cape was lifted out of drought in a similar situation last year, to which Rao responded that the "elbow" region of the Cape did not recover as expected after that decision was made.

Chapman stated that he questions the accuracy of the monitoring wells for Edgartown, because they are seeing different levels for their wells. He also recommended that lifting the drought for both regions would

help reinforce the decision-making process to the public. Rao responded that this is common feedback, but that the task force and staff review a lot more information than what the public sees on a daily basis to evaluate the real drought conditions. She thanked Chapman for being there and providing a perspective for the water supply community.

Blatt commented that she thinks the data supports keeping Nantucket at Level 1, but removing Martha's Vineyard. She also explained that without streams on Nantucket to consider, groundwater takes an outsized role in evaluating conditions there. She asked if someone from one of the agencies could speak to other possible environmental impacts from groundwater withdrawals on Nantucket.

Kautza said the MassWildlife biologists aren't usually on the Islands, so he hasn't heard any concerns lately. Maguire said MassDEP also hasn't heard anything from the Nantucket or Martha's Vineyard commissions in terms of environmental concerns.

Souza commented that the current decision is being based on one data point. Maguire asked if there was a way to get the groundwater level readings from other wells on the Islands. Souza repeated that recent and forecasted conditions point toward groundwater improving soon, and that the decision will be poorly received by the public if drought remains while they see wet conditions.

An additional map was presented which displayed groundwater levels based on other available data from Nantucket. This additional map showed a cluster of wells below normal. Pederson commented that some of the wells were also showing above normal levels. Bent explained that wells a few miles from each other could show dramatically different levels depending on various factors. Maguire pointed out that this map shows that it's not just one data point showing below-normal groundwater levels for Nantucket.

Pederson commented that the water supplier on Nantucket is not concerned about their wells based on historical comparisons. Duane added the permit triggers for Wannacomet's WMA permit for reference.

Carroll recommended adding to the narrative that the groundwater index is on the verge of recovery to note that it has not cleared yet. She acknowledged that the conditions are very close to getting back to normal, so she would be okay with removing both Islands from drought and adding some specific explanation to the narrative. She also explained that the last time a region was prematurely removed from drought, the conditions did not recover as expected which caused issues. Pederson responded that in the previous situation it was only one part of the Cape that didn't recover, which demonstrated the need to look at more granular levels than the current larger drought regions. Rao commented that without a more expansive monitoring network, that more granular level of evaluation isn't possible.

LeVangie commented that he agrees with returning both Islands to normal. Carroll added that she is more comfortable with that decision because there aren't any concerns from the water suppliers or the environmental community. Rao added that the Islands are expected to get substantial rainfall in the next few weeks. Cohen stated that she reviewed the DMP and the plan says that precipitation in the spring and fall should be weighed more heavily than other times of year when evaluating "end of drought."

Overall, the discussion led task force members to agree to remove both Islands from drought with a mentioning in the narrative of actual current conditions on Nantucket.

Summary of Recommendations:

Western: level 0

Cape Cod: level 0

Islands: level 0

Connecticut River Valley, Central, Northeast, and Southeast Regions: level 0

7. Recommendations for Drought Level Response Actions

The recommendation to the Secretary will be to downgrade the Islands to Level 0 with a special reference to the actual conditions on Nantucket not having recovered fully yet, but that groundwater is on the verge of recovering. An updated map will also be published, as the map has not changed for the past three months due to conditions remaining static. The improving conditions on the Islands will be highlighted in the press release and other messaging.

8. Next Steps

The recommendation will be made to the Secretary. There will be no task force meeting scheduled unless conditions decline.

Meeting Ended

The meeting adjourned at 11:02am.